

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Machine Id 300-301-01-GN-01 - WASHINGTON ST (S/N 6CA00865)

Diesel Engine

Fluid DIESEL ENGINE OIL SAE 10W30 (--- 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.

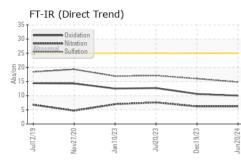
Fluid Condition

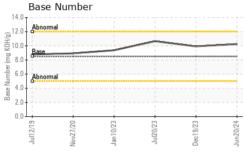
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

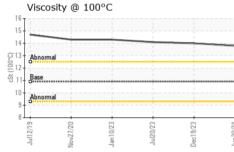
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		RP0034239	RP0030057	RP0031512
Sample Date		Client Info		20 Jun 2024	19 Dec 2023	20 Jul 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
,	_		11 1. 0			
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	7	3	5
Chromium	ppm	ASTM D5185m	>20	0	0	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	2	2
Lead	ppm	ASTM D5185m	>40	5	1	5
Copper	ppm		>330	75	28	91
Tin	ppm	ASTM D5185m	>15	0	0	1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current 30	history1 41	history2 79
	ppm ppm					
Boron		ASTM D5185m	250	30	41	79
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	30 0	41 6 45 0	79 2
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	30 0 49	41 6 45	79 2 89
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	30 0 49 <1	41 6 45 0	79 2 89 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	30 0 49 <1 55	41 6 45 0 46	79 2 89 <1 109
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	30 0 49 <1 55 2349	41 6 45 0 46 1970	79 2 89 <1 109 2271
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	30 0 49 <1 55 2349 1031	41 6 45 0 46 1970 984	79 2 89 <1 109 2271 1060
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	250 10 100 450 3000 1150 1350 limit/base	30 0 49 <1 55 2349 1031 1247 current 10	41 6 45 0 46 1970 984 1040	79 2 89 <1 109 2271 1060 1213
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc CONTAMINANTS	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 limit/base	30 0 49 <1 55 2349 1031 1247 current	41 6 45 0 46 1970 984 1040 history1	79 2 89 <1 109 2271 1060 1213 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc CONTAMINANTS Silicon	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	250 10 100 450 3000 1150 1350 limit/base	30 0 49 <1 55 2349 1031 1247 current 10	41 6 45 0 46 1970 984 1040 history1 5	79 2 89 <1 109 2271 1060 1213 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	250 10 100 450 3000 1150 1350 limit/base >25	30 0 49 <1 55 2349 1031 1247 <u>current</u> 10 29	41 6 45 0 46 1970 984 1040 history1 5 10	79 2 89 <1 109 2271 1060 1213 history2 5 27
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc CONTAMINANTS Silicon Sodium Potassium	ppm ppm 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	250 10 100 450 3000 1150 1350 limit/base >25	30 0 49 <1 55 2349 1031 1247 current 10 29 4	41 6 45 0 46 1970 984 1040 history1 5 10 2	79 2 89 <1 109 2271 1060 1213 history2 5 27 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 imit/base >25 >20 >20 >0.2 imit/base	30 0 49 <1 55 2349 1031 1247 current 10 29 4 NEG	41 6 45 0 46 1970 984 1040 history1 5 10 2 NEG	79 2 89 <1 109 2271 1060 1213 history2 5 27 5 8 27 5 8 NEG
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 20 >25 >20 >0.2 imit/base >20 >0.2	30 0 49 <1 55 2349 1031 1247 current 10 29 4 NEG current	41 6 45 0 46 1970 984 1040 history1 5 10 2 NEG NEG	79 2 89 <1 109 2271 1060 1213 history2 5 27 5 27 5 8 NEG NEG
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc CONTAMINANTS Silicon Sodium Potassium Vater INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 20 >25 >20 >0.2 imit/base >20 >0.2	30 0 49 <1 55 2349 1031 1247 current 10 29 4 NEG current 0.1	41 6 45 0 46 1970 984 1040 history1 5 10 2 NEG history1 0.1	79 2 89 <1 109 2271 1060 1213 history2 5 27 5 27 5 NEG NEG 0.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 20 >25 >20 >0.2 imit/base >3 >20	30 0 49 <1 55 2349 1031 1247 Current 10 29 4 NEG NEG 0.1 6.2	41 6 45 0 46 1970 984 1040 history1 5 10 2 NEG NEG NEG 0.1 6.2	79 2 89 <1 109 2271 1060 1213 history2 5 27 5 27 5 8 27 5 NEG NEG 0.1 7.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc CONTAMINANTS Silicon Sodium Potassium Water INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 *ASTM D7844 *ASTM D7844 *ASTM D7844	250 10 100 450 3000 1150 1350 20 >20 >0.2 imit/base >3 >20 >30 >30 20 >30 20 >30	30 0 49 <1 55 2349 1031 1247 Current 10 29 4 NEG 0.1 6.2 14.8	41 6 45 0 46 1970 984 1040 history1 5 10 2 NEG NEG history1 0.1 6.2 16.0 history1	79 2 89 <1 109 2271 1060 1213 history2 5 27 5 27 5 8 NEG NEG 0.1 7.6 17.1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc CONTAMINANTS Silicon Sodium Potassium Vater INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 imit/base >25 >20 >0.2 imit/base >3 >20 >30 imit/base	30 0 49 <1 55 2349 1031 1247 current 10 29 4 NEG current 0.1 6.2 14.8	41 6 45 0 46 1970 984 1040 history1 5 10 2 NEG history1 0.1 6.2 16.0	79 2 89 <1 109 2271 1060 1213 history2 5 27 5 27 5 NEG history2 0.1 7.6 17.1

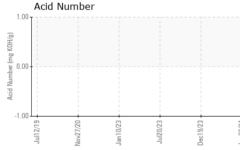


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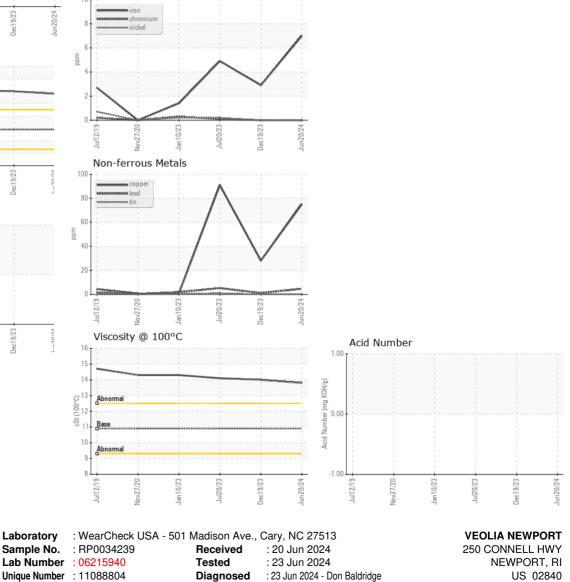




Report Id: SUENEW [WUSCAR] 06215940 (Generated: 06/23/2024 11:17:44) Rev: 1

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	10.9	13.8	14.0	14.1





 Certificate 12367
 Test Package
 : IND 2 (Additional Tests: FT-IR, KV100, TBN)
 Contact

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

 * - 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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Page 2 of 2

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