

OIL ANALYSIS REPORT

Sample Rating Trend





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

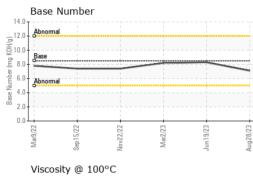
Fluid Condition

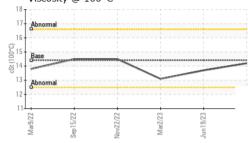
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		Mar2022		Mar2023 Jun2023	Aug2023	
SAMPLE INFORM	/ ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0844953	WC0827049	WC0790600
Sample Date		Client Info		28 Aug 2023	19 Jun 2023	02 Mar 2023
Machine Age	mls	Client Info		83080	71626	71995
Oil Age	mls	Client Info		6000	0	6000
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	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	7	8	11
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	<1	2
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	12	<1	1
Tin	ppm	ASTM D5185m	>15	<1	0	<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 250	current 18	history1 11	history2 8
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	250	18	11	8
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	18 2	11 0	8
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	18 2 76	11 0 68	8 0 63
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	18 2 76 <1	11 0 68 0	8 0 63 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	18 2 76 <1 217	11 0 68 0 380	8 0 63 <1 316
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	18 2 76 <1 217 1935	11 0 68 0 380 1881	8 0 63 <1 316 1769
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	250 10 100 450 3000 1150	18 2 76 <1 217 1935 1007	11 0 68 0 380 1881 1043	8 0 63 <1 316 1769 970
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	18 2 76 <1 217 1935 1007 1257	11 0 68 0 380 1881 1043 1314	8 0 63 <1 316 1769 970 1182
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250	18 2 76 <1 217 1935 1007 1257 3550	11 0 68 0 380 1881 1043 1314 4078	8 0 63 <1 316 1769 970 1182 3247
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	250 10 100 450 3000 1150 1350 4250 <i>limit/base</i>	18 2 76 <1 217 1935 1007 1257 3550 current	11 0 68 0 380 1881 1043 1314 4078 history1	8 0 63 <1 316 1769 970 1182 3247 history2
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	250 10 100 450 3000 1150 1350 4250 kimit/base >25 >158	18 2 76 <1 217 1935 1007 1257 3550 current 6	11 0 68 0 380 1881 1043 1314 4078 history1 6	8 0 63 <1 316 1769 970 1182 3247 history2 7
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	250 10 100 450 3000 1150 1350 4250 kimit/base >25 >158	18 2 76 <1 217 1935 1007 1257 3550 current 6 6	11 0 68 0 380 1881 1043 1314 4078 history1 6 4	8 0 63 <1 316 1769 970 1182 3247 history2 7 0
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	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20	18 2 76 <1 217 1935 1007 1257 3550 current 6 6 6 <1	11 0 68 0 380 1881 1043 1314 4078 history1 6 4 2	8 0 63 <1 316 1769 970 1182 3247 history2 7 0 <1
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	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 limit/base >3	18 2 76 <1 217 1935 1007 1257 3550 current 6 6 6 <1 current	11 0 68 0 380 1881 1043 1314 4078 history1 6 4 2 2 history1	8 0 63 <1 316 1769 970 1182 3247 history2 7 0 <1 *1
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	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >158 >20 Iimit/base >3 >20	18 2 76 <1 217 1935 1007 1257 3550 current 6 6 6 <1 current 0.4	11 0 68 0 380 1881 1043 1314 4078 history1 6 4 2 history1 0.4	8 0 63 <1 316 1769 970 1182 3247 history2 7 0 <1 kistory2 0.4
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	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >158 >20 Iimit/base >3 >20	18 2 76 <1 217 1935 1007 1257 3550 current 6 6 6 <1 current 0.4 9.2	11 0 68 0 380 1881 1043 1314 4078 history1 6 4 2 <u>history1</u> 0.4 9.4	8 0 63 <1 316 1769 970 1182 3247 history2 7 0 <1 ×1 history2 0.4 8.8
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	250 10 100 450 3000 1150 1350 4250 binit/base >25 >158 >20 binit/base >3 >20 >3	18 2 76 <1 217 1935 1007 1257 3550 <u>current</u> 6 6 6 <1 <u>current</u> 0.4 9.2 19.2	11 0 68 0 380 1881 1043 1314 4078 history1 6 4 2 2 history1 0.4 9.4 21.1	8 0 63 <1 316 1769 970 1182 3247 history2 7 0 <1 kistory2 0.4 8.8 20.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 imit/base >25 >158 >20 imit/base >3 >20 >30 < imit/base	18 2 76 <1 217 1935 1007 1257 3550 Current 6 6 6 <1 Current 0.4 9.2 19.2 Current	11 0 68 0 380 1881 1043 1314 4078 history1 6 4 2 history1 0.4 9.4 21.1 history1	8 0 63 <1 316 1769 970 1182 3247 history2 7 0 0 <1 history2 0.4 8.8 20.0 history2

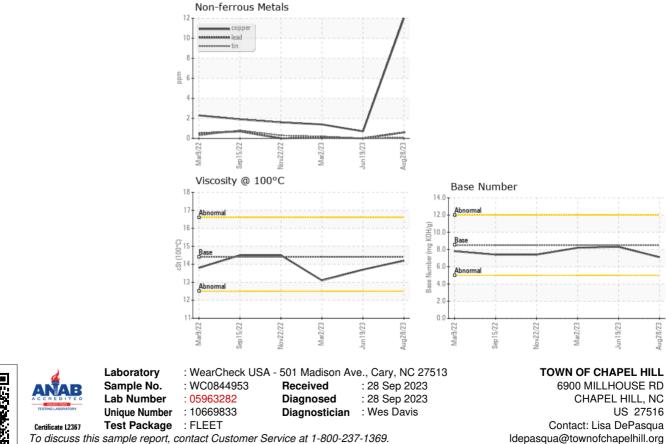


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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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 PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	14.2	13.7	13.1
Visc @ 100°C GRAPHS	cSt	ASTM D445	14.4	14.2	13.7	13.1
-	cSt	ASTM D445	14.4	14.2	13.7	13.1
GRAPHS Ferrous Alloys	cSt	ASTM D445	14.4	14.2	13.7	13.1
GRAPHS Ferrous Alloys	cSt	ASTM D445	14.4	14.2	13.7	13.1
GRAPHS Ferrous Alloys	cSt	ASTM D445	14.4	14.2	13.7	13.1
GRAPHS Ferrous Alloys	cSt	ASTM D445	14.4	14.2	13.7	13.1
GRAPHS Ferrous Alloys	cSt	ASTM D445	14.4	14.2	13.7	13.1
GRAPHS Ferrous Alloys	cSt	ASTM D445	14.4	14.2	13.7	13.1
GRAPHS Ferrous Alloys	cSt	ASTM D445	14.4	14.2	13.7	13.1
GRAPHS Ferrous Alloys	cSt	ASTM D445		14.2	13.7	13.1
GRAPHS Ferrous Alloys		ASTM D445	14.4	14.2	13.7	13.1



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)

F:

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