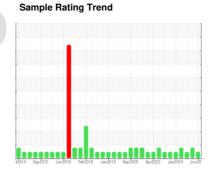


OIL ANALYSIS REPORT









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

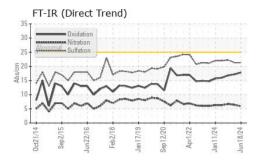
Fluid Condition

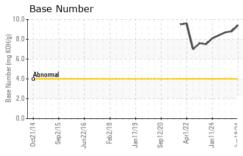
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

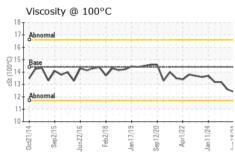
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		ML0002092	ML0001345	ML0000025
Sample Date		Client Info		18 Jun 2024	21 May 2024	08 Apr 2024
Machine Age	hrs	Client Info		29859	29630	29078
Oil Age	hrs	Client Info		229	552	250
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINATION	٧	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	7	12	10
Chromium	ppm	ASTM D5185m	>10	<1	1	1
Nickel	ppm	ASTM D5185m	>10	<1	<1	2
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>10	7	<u> </u>	8
Lead	ppm	ASTM D5185m	>20	0	<1	1
Copper	ppm	ASTM D5185m	>15	<1	1	1
Tin	ppm	ASTM D5185m	>10	0	1	1
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	<1	1
ADDITIVES		method				history2
ADDITIVES		method	IIIIII/base	current	HISTORY	HISTOTYZ
Boron	ppm	ASTM D5185m	IIIIIVDase	58	139	289
	ppm		IIIIIVDASE	58 0		
Boron		ASTM D5185m ASTM D5185m ASTM D5185m	IIIIIIIIIII	58 0 62	139 0 73	289 <1 107
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m	IIIIII Dase	58 0	139 0 73 <1	289 <1 107
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	IIIIIV Dase	58 0 62	139 0 73 <1 593	289 <1 107 1 565
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		58 0 62 0 499 1607	139 0 73 <1 593 1623	289 <1 107 1 565 1503
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 ASTM D5185m		58 0 62 0 499 1607 903	139 0 73 <1 593 1623 828	289 <1 107 1 565 1503 819
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		58 0 62 0 499 1607 903 1119	139 0 73 <1 593 1623 828 1101	289 <1 107 1 565 1503 819 913
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		58 0 62 0 499 1607 903	139 0 73 <1 593 1623 828	289 <1 107 1 565 1503 819
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	58 0 62 0 499 1607 903 1119 2806	139 0 73 <1 593 1623 828 1101 2995 history1	289 <1 107 1 565 1503 819 913 2702 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >20	58 0 62 0 499 1607 903 1119 2806 current	139 0 73 <1 593 1623 828 1101 2995	289 <1 107 1 565 1503 819 913 2702
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >20 >50	58 0 62 0 499 1607 903 1119 2806	139 0 73 <1 593 1623 828 1101 2995 history1 11 <1	289 <1 107 1 565 1503 819 913 2702 history2 8 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >20 >50 >20	58 0 62 0 499 1607 903 1119 2806 current 8 <1	139 0 73 <1 593 1623 828 1101 2995 history1 11 <1 2	289 <1 107 1 565 1503 819 913 2702 history2 8 <1 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >20 >50 >20 >6.0	58 0 62 0 499 1607 903 1119 2806 current 8 <1	139 0 73 <1 593 1623 828 1101 2995 history1 11 <1 2 <1.0	289 <1 107 1 565 1503 819 913 2702 history2 8 <1 1 <1.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >20 >50 >50 >20 >6.0 limit/base	58 0 62 0 499 1607 903 1119 2806 current 8 <1 1 <1.0	139 0 73 <1 593 1623 828 1101 2995 history1 11 <1 2 <1.0 history1	289 <1 107 1 565 1503 819 913 2702 history2 8 <1 1 <1.0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >20 >50 >20 >6.0	58 0 62 0 499 1607 903 1119 2806 current 8 <1 1 <1.0 current 0.3	139 0 73 <1 593 1623 828 1101 2995 history1 11 <1 2 <1.0 history1 0.3	289 <1 107 1 565 1503 819 913 2702 history2 8 <1 1 <1.0 history2 0.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	limit/base >20 >50 >50 >20 >6.0 limit/base	58 0 62 0 499 1607 903 1119 2806 current 8 <1 1 <1.0 current 0.3 5.9	139 0 73 <1 593 1623 828 1101 2995 history1 11 <1 2 <1.0 history1 0.3 6.4	289 <1 107 1 565 1503 819 913 2702 history2 8 <1 1 <1.0 history2 0.3 6.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >20 >50 >50 >20 >6.0 limit/base >3	58 0 62 0 499 1607 903 1119 2806 current 8 <1 1 <1.0 current 0.3	139 0 73 <1 593 1623 828 1101 2995 history1 11 <1 2 <1.0 history1 0.3	289 <1 107 1 565 1503 819 913 2702 history2 8 <1 1 <1.0 history2 0.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	limit/base >20 >50 >50 >20 >6.0 limit/base >3 >20	58 0 62 0 499 1607 903 1119 2806 current 8 <1 1 <1.0 current 0.3 5.9	139 0 73 <1 593 1623 828 1101 2995 history1 11 <1 2 <1.0 history1 0.3 6.4	289 <1 107 1 565 1503 819 913 2702 history2 8 <1 1 <1.0 history2 0.3 6.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624	limit/base >20 >50 >50 >20 >6.0 limit/base >3 >20 >30	58 0 62 0 499 1607 903 1119 2806 current 8 <1 1 <1.0 current 0.3 5.9 21.3	139 0 73 <1 593 1623 828 1101 2995 history1 11 <1 2 <1.0 history1 0.3 6.4 21.3	289 <1 107 1 565 1503 819 913 2702 history2 8 <1 1 <1.0 history2 0.3 6.7 22.2

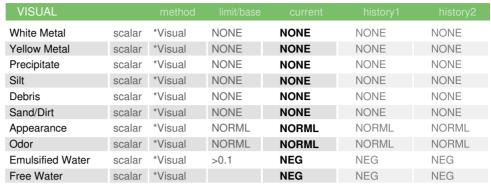


OIL ANALYSIS REPORT



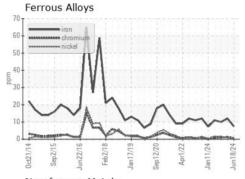


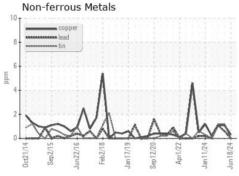


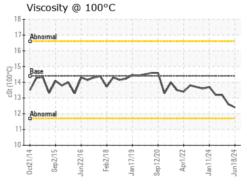


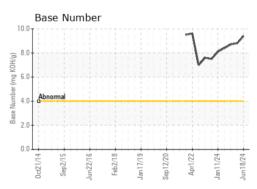
FLUID PROPER	RTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	14.4	12.4	12.6	13.2

GRAPHS













Certificate 12367

Laboratory

Sample No.

: ML0002092 Lab Number : 06216429

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 20 Jun 2024 **Tested** Diagnosed

: 23 Jun 2024 : 23 Jun 2024 - Don Baldridge

MCCLUNG-LOGAN EQUIPMENT CO - BALTIMORE 4601 WASHINGTON BOULEVARD BALTIMORE, MD US 21227

Unique Number : 11089293 Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN) To discuss this sample report, contact Customer Service at 1-800-237-1369.

mciulla@mcclung-logan.com T: (410)242-6500

Contact: MARK CIULLA

 st - 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: (410)242-7835