

OIL ANALYSIS REPORT

Area **MACHINE SHOP** 0-9024-0000 STRADDLE CARRIER

Diesel Engine Fluic

ROYAL PURPLE MOTOR OIL 15W40 (23 QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

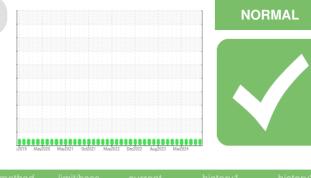
All component wear rates are normal.

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.

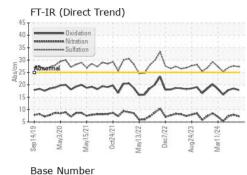


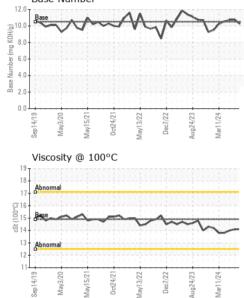
Sample Rating Trend

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0941238	WC0941245	WC0922580
Sample Date		Client Info		10 Jul 2024	25 Jun 2024	19 Jun 2024
Machine Age	hrs	Client Info		7831	7779	7727
Oil Age	hrs	Client Info		7831	7779	7727
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel	N	WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
		WC Method	>0.2	NEG	NEG	NEG
Glycol				NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	10	9	9
Chromium	ppm	ASTM D5185m	>20	0	0	0
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	2	1
Lead	ppm	ASTM D5185m	>40	3	3	4
Copper	ppm	ASTM D5185m	>330	8	9	7
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
				•	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	-	-	-
			0	current	history1	history2
Boron	ppm	ASTM D5185m	0	current 4	history1 4	history2 <1
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	0	current 4 0	history1 4 0	history2 <1 0
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	current 4 0 94	history1 4 0 84	history2 <1 0 85
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 100 60	current 4 0 94 0	history1 4 0 84 <1	history2 <1 0 85 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 100 60	current 4 0 94 0 32	history1 4 0 84 <1 20	history2 <1 0 85 <1 16
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 100 60 3050	Current 4 0 94 0 32 3429	history1 4 0 84 <1 20 3551	history2 <1 0 85 <1 16 3452
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 0 100 60 3050 1050	Current 4 0 94 0 32 3429 1175	history1 4 0 84 <1 20 3551 1159	history2 <1 0 85 <1 16 3452 1172
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 100 60 3050 1050 1200	Current 4 0 94 0 32 3429 1175 1475	history1 4 0 84 <1 20 3551 1159 1421	history2 <1 0 85 <1 16 3452 1172 1445
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	0 0 100 60 3050 1050 1200 12500	Current 4 0 94 0 32 3429 1175 1475 20575	history1 4 0 84 <1 20 3551 1159 1421 20159	history2 <1 0 85 <1 16 3452 1172 1445 20197
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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	0 0 100 60 3050 1050 1200 12500	Current 4 0 94 0 32 3429 1175 1475 20575 Current	history1 4 0 84 <1 20 3551 1159 1421 20159 history1	<1 0 85 <1 16 3452 1172 1445 20197 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	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 method ASTM D5185m	0 0 100 60 3050 1050 1200 12500 limit/base >25	current 4 0 94 0 32 3429 1175 1475 20575 current 4	history1 4 0 84 <1 20 3551 1159 1421 20159 history1 4	<1 0 85 <1 16 3452 1172 1445 20197 history2 4
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 0 100 60 3050 1050 1200 12500 limit/base >25	current 4 0 94 0 32 3429 1175 1475 20575 current 4 2	history1 4 0 84 <1 20 3551 1159 1421 20159 history1 4 3	<1 0 85 <1 16 3452 1172 1445 20197 history2 4 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 0 100 60 3050 1050 1200 12500 255 >25 >20 imit/base	current 4 0 94 0 32 3429 1175 1475 20575 current 4 2 2	history1 4 0 84 <1 20 3551 1159 1421 20159 history1 4 3 2	<1 0 85 <1 16 3452 1172 1445 20197 history2 4 2 0
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 0 100 60 3050 1050 1200 12500 255 >25 >20 imit/base >20	current 4 0 94 0 32 3429 1175 1475 20575 current 4 2 2 current 0 0.3	history1 4 0 84 <1 20 3551 1159 1421 20159 history1 4 3 2 history1 0 3 2 0.3	<1 0 85 <1 16 3452 1172 1445 20197 history2 4 2 0 history2 4 2 0 history2 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 0 100 60 3050 1050 1200 12500 255 >25 >20 imit/base >20	current 4 0 94 0 32 3429 1175 1475 20575 current 4 2 2 current	history1 4 0 84 <1 20 3551 1159 1421 20159 history1 4 3 2 history1	<1 0 85 <1 16 3452 1172 1445 20197 history2 4 2 0 +history2 4 2 0 history2
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 0 100 60 3050 1050 1200 12500 imit/base >25 >20 imit/base >3 >20	current 4 0 94 0 32 3429 1175 1475 20575 current 4 2 2 current 0.3 7.3	history1 4 0 84 <1 20 3551 1159 1421 20159 history1 4 3 2 history1 0.3 7.9	<1 0 85 <1 16 3452 1172 1445 20197 history2 4 2 0 history2 0 history2 0 7.4
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 D7624 *ASTM D7615	0 0 100 60 3050 1050 1200 12500 25 3 220 3 20 3 3 20 3 3 3 20 3 3 3 20 3 3 3 20 3 3 3 20 3 3 3 20 3 3 3 3	current 4 0 94 0 32 3429 1175 1475 20575 current 4 2 current 0.3 7.3 27.3 current	history1 4 0 84 <1 20 3551 1159 1421 20159 history1 4 3 2 history1 0.3 7.9 27.6 history1	<1 0 85 <1 16 3452 1172 1445 20197 history2 4 2 0 history2 0 13452 1445 20197 1445 20197 1445 20197 1345 1445 20197 1445 20197 1445 20197 1445 20197 142 20 1445 27.0 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 0 100 60 3050 1050 1200 12500 255 20 20 imit/base >3 >20 >30	current 4 0 94 0 32 3429 1175 1475 20575 current 4 2 2 current 0.3 7.3 27.3	history1 4 0 84 <1 20 3551 1159 1421 20159 history1 4 3 2 history1 0.3 7.9 27.6	<1 0 85 <1 16 3452 1172 1445 20197 history2 4 2 0 history2 0 16 3452 1172 1445 20197 history2 0 13 1445 20197 1445 20197 1445 20197 1445 2 0 2 0 1445 2 0 142 142 142 143 1445 1445 1445 1445 1445 1445 1445 1445 1445 1445 1445 1445



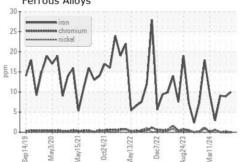
OIL ANALYSIS REPORT



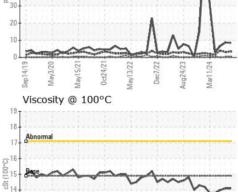


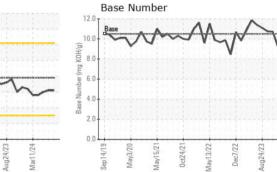
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	14.9	14.1	14.1	14.0
GRAPHS						

Ferrous Alloys









Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 **ALLVAC - MACHINE SHOP** Sample No. : WC0941238 Received : 12 Jul 2024 2020 ASHCRAFT AVE Lab Number : 06235139 Tested : 15 Jul 2024 MONROE, NC Unique Number : 11123973 Diagnosed : 15 Jul 2024 - Wes Davis US 28110 Test Package : IND 2 Contact: mark eilerman Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. mark.eilerman@atimaterials.com T: (704)292-4051 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. F: (704)282-0665

Dec7/22

Mav13/22

Abnor

Sep14/19

Mav3/20 May15/21 0ct24/71

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Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: ALLMONMACH [WUSCAR] 06235139 (Generated: 07/15/2024 10:31:53) Rev: 1

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