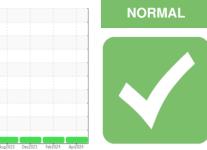


OIL ANALYSIS REPORT

Sample Rating Trend



CONOCO PHILLIPS GUARDOL ECT 15W40 (--- GAL)

SAMPLE INFORMATION method

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Area [22887]

30-77

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

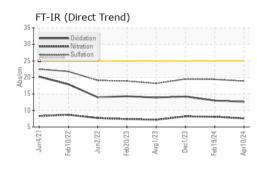
Fluid Condition

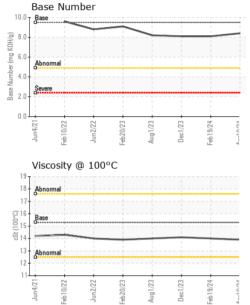
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM		method	limit/base	current	nistory i	nistory2
Sample Number		Client Info		WC0836137	WC0836058	WC0836194
Sample Date		Client Info		10 Apr 2024	19 Feb 2024	01 Dec 2023
Machine Age	hrs	Client Info		4653	4400	4238
Oil Age	hrs	Client Info		253	162	572
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
			11 1. 11			
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>2.1	<1.0	<1.0	<1.0
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>51	15	17	9
Chromium	ppm	ASTM D5185m	>11	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	1	<1	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>31	2	2	2
Lead	ppm	ASTM D5185m	>26	2	0	0
Copper	ppm	ASTM D5185m	>26	<1	1	1
Tin	ppm	ASTM D5185m	>4	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm		limit/base 85	current	history1 66	history2 54
	ppm ppm				· · · · ·	
Boron		ASTM D5185m		72	66	54
Boron Barium	ppm	ASTM D5185m ASTM D5185m		72 0	66 0	54 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		72 0 4	66 0 5	54 0 19
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	85	72 0 4 <1	66 0 5 <1	54 0 19 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	85 350	72 0 4 <1 682	66 0 5 <1 704	54 0 19 0 620
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	85 350 1800	72 0 4 <1 682 1374	66 0 5 <1 704 1370	54 0 19 0 620 1371
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	85 350 1800 1000	72 0 4 <1 682 1374 1002	66 0 5 <1 704 1370 1036	54 0 19 0 620 1371 938
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	85 350 1800 1000 1100	72 0 4 <1 682 1374 1002 1150	66 0 5 <1 704 1370 1036 1174	54 0 19 0 620 1371 938 1199
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	85 350 1800 1000 1100 3500	72 0 4 <1 682 1374 1002 1150 4044 current	66 0 5 <1 704 1370 1036 1174 3675 history1	54 0 19 0 620 1371 938 1199 3425 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	85 350 1800 1000 1100 3500 limit/base >22	72 0 4 <1 682 1374 1002 1150 4044 <i>current</i> 5	66 0 5 <1 704 1370 1036 1174 3675 history1 5	54 0 19 0 620 1371 938 1199 3425 history2 3
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 method ASTM D5185m	85 350 1800 1000 1100 3500 limit/base >22 >31	72 0 4 <1 682 1374 1002 1150 4044 current	66 0 5 <1 704 1370 1036 1174 3675 history1	54 0 19 0 620 1371 938 1199 3425 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	85 350 1800 1000 1100 3500 limit/base >22 >31 >20	72 0 4 <1 682 1374 1002 1150 4044 <i>current</i> 5 4 4	66 0 5 <1 704 1370 1036 1174 3675 history1 5 4 1	54 0 19 0 620 1371 938 1199 3425 history2 3 < 1 4
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	85 350 1800 1000 1100 3500 limit/base >22 >31 >20 limit/base	72 0 4 <1 682 1374 1002 1150 4044 <i>current</i> 5 4 4 4	66 0 5 <1 704 1370 1036 1174 3675 history1 5 4 1 1 history1	54 0 19 0 620 1371 938 1199 3425 history2 3 <1 4 history2
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	85 350 1800 1000 1100 3500 limit/base >22 >31 >20 limit/base >3	72 0 4 <1 682 1374 1002 1150 4044 <i>current</i> 5 4 4 4 <i>current</i> 0.2	66 0 5 <1 704 1370 1036 1174 3675 history1 5 4 1 1 history1 0.3	54 0 19 0 620 1371 938 1199 3425 history2 3 <1 4 history2 0.3
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	85 350 1800 1000 1100 3500 <i>limit/base</i> >22 >31 >20 <i>limit/base</i> >3 >20	72 0 4 <1 682 1374 1002 1150 4044 <i>current</i> 5 4 4 4 <i>current</i> 0.2 7.6	66 0 5 <1 704 1370 1036 1174 3675 history1 5 4 1 5 4 1 1 history1 0.3 8.1	54 0 19 0 620 1371 938 1199 3425 history2 3 <1 4 history2 0.3 8.2
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	85 350 1800 1000 1100 3500 limit/base >22 >31 >20 limit/base >3	72 0 4 <1 682 1374 1002 1150 4044 <i>current</i> 5 4 4 4 <i>current</i> 0.2	66 0 5 <1 704 1370 1036 1174 3675 history1 5 4 1 1 history1 0.3	54 0 19 0 620 1371 938 1199 3425 history2 3 <1 4 history2 0.3
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	85 350 1800 1000 1100 3500 <i>limit/base</i> >22 >31 >20 <i>limit/base</i> >3 >20	72 0 4 <1 682 1374 1002 1150 4044 <i>current</i> 5 4 4 4 <i>current</i> 0.2 7.6	66 0 5 <1 704 1370 1036 1174 3675 history1 5 4 1 5 4 1 1 history1 0.3 8.1	54 0 19 0 620 1371 938 1199 3425 history2 3 <1 4 history2 0.3 8.2
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	85 350 1800 1000 1100 3500 imit/base >22 >31 >20 imit/base >3 >20	72 0 4 <1 682 1374 1002 1150 4044 <u>current</u> 5 4 4 4 <u>current</u> 0.2 7.6 18.9	66 0 5 <1 704 1370 1036 1174 3675 history1 5 4 1 1 history1 0.3 8.1 19.4	54 0 19 0 620 1371 938 1199 3425 history2 3 <1 4 history2 0.3 8.2 19.5
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 *ASTM D7844	85 350 1800 1000 1100 3500 222 >31 >20 imit/base >3 >20 >30 >30	72 0 4 <1 682 1374 1002 1150 4044 <i>current</i> 5 4 4 4 <i>current</i> 0.2 7.6 18.9 <i>current</i>	66 0 5 <1 704 1370 1036 1174 3675 history1 5 4 1 5 4 1 0.3 8.1 19.4 history1	54 0 19 0 620 1371 938 1199 3425 history2 3 < <u>1</u> 4 4 history2 0.3 8.2 19.5 history2

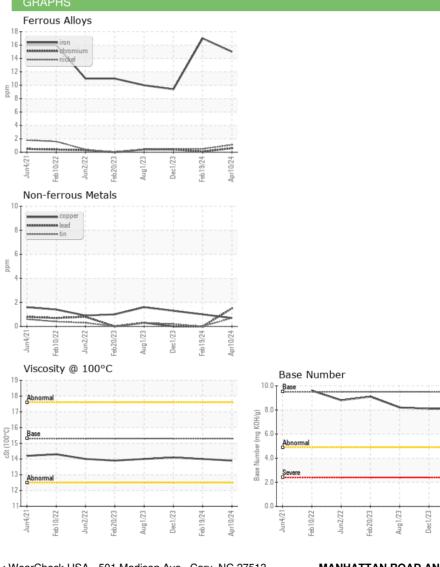


OIL ANALYSIS REPORT





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	>0.21	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.3	13.9	14.0	14.1
CRAPHS						



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 MANHATTAN ROAD AND BRIDGE Sample No. : WC0836137 Received : 12 Apr 2024 5601 S 122ND E AVE Lab Number : 06147968 Tested : 15 Apr 2024 TULSA, OK Unique Number : 10978046 Diagnosed : 15 Apr 2024 - Wes Davis US 74146 Test Package : CONST (Additional Tests: TBN) Contact: BEN CALDWELL Certificate 12367 kevin.marson@wearcheck.com 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. T: (918)728-5749 F:

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

 Report Id: MANTUL [WUSCAR] 06147968 (Generated: 04/15/2024 19:15:11) Rev: 1
 Submitted E

Submitted By: JAMES STEELMON

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