

OIL ANALYSIS REPORT

SAMPLE INFORMATION method

Sample Rating Trend



Area [23532] 30-81

Diesel Engine

Fluid CONOCO PHILLIPS GUARDOL ECT 15W40 (--- 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.

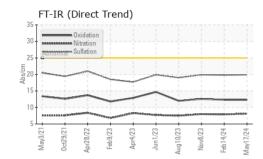
Fluid Condition

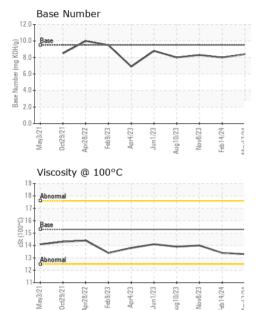
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	AHON	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0923320	WC0836082	WC0836112
Sample Date		Client Info		17 May 2024	14 Feb 2024	08 Nov 2023
Machine Age	hrs	Client Info		6527	6256	5980
Oil Age	hrs	Client Info		271	276	286
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
				Normize		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	8	8	5
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	<1	<1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	<1	0
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
Gaumum	pp	7101111 00100111		U	0	0
ADDITIVES	pp	method	limit/base	current	history1	history2
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 85	current 64	history1 70	history2 58
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m		current	history1	history2
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m		current 64 0 2	history1 70 0 2	history2 58 0
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	85	current 64 0 2 <1	history1 70 0 2 <1	history2 58 0 0 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	85	current 64 0 2 <1 729	history1 70 0 2 <1 691	history2 58 0 0 <1 710
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	85 350 1800	Current 64 0 2 <1 729 1370	history1 70 0 2 <1 691 1284	history2 58 0 0 <1 710 1251
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	85 350 1800 1000	Current 64 0 2 <1 729 1370 1063	history1 70 0 2 <1 691 1284 1002	history2 58 0 0 <1 710 1251 1054
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	85 350 1800	Current 64 0 2 <1 729 1370	history1 70 0 2 <1 691 1284	history2 58 0 0 <1 710 1251
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	85 350 1800 1000 1100	Current 64 0 2 <1 729 1370 1063 1269	history1 70 0 2 <1 691 1284 1002 1106	history2 58 0 0 <1 710 1251 1054 1207
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	85 350 1800 1000 1100 3500	Current 64 0 2 <1 729 1370 1063 1269 4373	history1 70 0 2 <1 691 1284 1002 1106 3552	history2 58 0 0 <1 710 1251 1054 1207 3543
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185m	85 350 1800 1000 1100 3500	current 64 0 2 <1 729 1370 1063 1269 4373 current 4	history1 70 0 2 <1 691 1284 1002 1106 3552 history1 3	history2 58 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method 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 >25	Current 64 0 2 <1 729 1370 1063 1269 4373 Current	history1 70 0 2 <1 691 1284 1002 1106 3552 history1	history2 58 0 0 <1 710 1251 1054 1207 3543 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185m	85 350 1800 1000 1100 3500 limit/base >25	current 64 0 2 <1 729 1370 1063 1269 4373 current 4 1	history1 70 0 2 <1 691 1284 1002 1106 3552 history1 3 4	history2 58 0 0 <1 710 1251 1054 1207 3543 history2 4 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	85 350 1800 1000 1100 3500 limit/base >25 >20	Current 64 0 2 <1 729 1370 1063 1269 4373 Current 4 1 2 2 Current	history1 70 0 2 <1 691 1284 1002 1106 3552 history1 3 4 1 history1	history2 58 0 - 710 1251 1054 1207 3543 history2 4 0 1 history2 4 0 1 history2
ADDITIVES 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	method ASTM D5185m	85 350 1800 1000 1100 3500 limit/base >25 >20 limit/base >3	current 64 0 2 <1 729 1370 1063 1269 4373 current 4 1 2 current 0.6	history1 70 0 2 <1 691 1284 1002 1106 3552 history1 3 4 1 history1 0.6	history2 58 0 - 710 1251 1054 1207 3543 history2 4 0 1 +history2 4 0 1 - 0 1 - 4 0 1 - 0 0 0.6
ADDITIVES 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	method ASTM D5185m	85 350 1800 1000 1100 3500 imit/base >25 >20 imit/base >3 >20	current 64 0 2 <1 729 1370 1063 1269 4373 current 4 1 2 current 0.6 8.1	history1 70 0 2 <1 691 1284 1002 1106 3552 history1 3 4 1 history1 0.6 7.9	history2 58 0 <1 710 1251 1054 1207 3543 history2 4 0 1 history2 4 0 1 history2 4 0 1 history2 0.6 8.0
ADDITIVES 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	method ASTM D5185m ASTM D5185m	85 350 1800 1000 1100 3500 Imit/base >25 20 Imit/base >3 >20 >30	Current 64 0 2 <1 729 1370 1063 1269 4373 current 4 1 2 current 0.6 8.1 19.9	history1 70 0 2 <1 691 1284 1002 1106 3552 history1 3 4 1 history1 0.6 7.9 19.8	history2 58 0 <1 710 1251 1054 1207 3543 history2 4 0 1 history2 4 0 1 history2 0.6 8.0 19.9
ADDITIVES 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	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415 method	85 350 1800 1000 1100 3500 25 25 220 220 imit/base >3 20 20 30 30	Current 64 0 2 <1 729 1370 1063 1269 4373 Current 4 1 2 Current 0.6 8.1 19.9 Current	history1 70 0 2 <1 691 1284 1002 1106 3552 history1 3 4 1 history1 0.6 7.9 19.8 history1	history2 58 0 710 1251 1054 1207 3543 history2 4 0 1 history2 4 0 1 history2 4 0 1 history2 0.6 8.0 19.9 history2
ADDITIVES 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	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415 method *ASTM D7414	85 350 1800 1000 1100 3500 Imit/base >25 20 Imit/base >3 >20 >30	Current 64 0 2 <1 729 1370 1063 1269 4373 current 4 1 2 current 0.6 8.1 19.9	history1 70 0 2 <1 691 1284 1002 1106 3552 history1 3 4 1 history1 0.6 7.9 19.8	history2 58 0 <1 710 1251 1054 1207 3543 history2 4 0 1 history2 4 0 1 history2 0.6 8.0 19.9

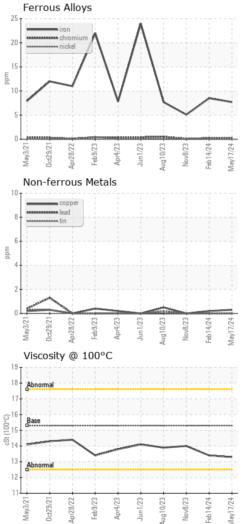


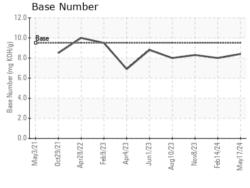
OIL ANALYSIS REPORT





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	15.3	13.3	13.4	14.0
GRAPHS						





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 MANHATTAN ROAD AND BRIDGE Sample No. : WC0923320 Received : 24 Jun 2024 5601 S 122ND E AVE Lab Number : 06217900 Tested : 25 Jun 2024 TULSA, OK Unique Number : 11096097 Diagnosed : 25 Jun 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

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

Report Id: MANTUL [WUSCAR] 06217900 (Generated: 06/25/2024 05:03:05) Rev: 1

Submitted By: JAMES STEELMON

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