

OIL ANALYSIS REPORT

Sample Rating Trend



Area [20022] Machine Id 80-250 Component

Diesel Engine

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

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	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0836150	WC0793316	WC0601683
Sample Date		Client Info		15 Dec 2023	15 Mar 2023	10 Feb 2022
Machine Age	hrs	Client Info		882	488	233
Oil Age	hrs	Client Info		394	255	233
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	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	26	15	35
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	4
Silver	ppm	ASTM D5185m	>3	0	0	1
Aluminum	ppm	ASTM D5185m	>20	4	3	5
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	2	3	14
Tin	ppm	ASTM D5185m	>15	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
O						
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	0 history1	0 history2
	ppm ppm		limit/base 85	-	-	
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m		current 91	history1 88 0 13	history2 51 7 39
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m		current 91 0	history1 88 0	history2 51 7
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	85 350	current 91 0 26 0 566	history1 88 0 13 2 769	history2 51 7 39
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	85	Current 91 0 26 0 566 1588	history1 88 0 13 2 769 1342	history2 51 7 39 7 1011 948
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	85 350 1800 1000	Current 91 0 26 0 566 1588 1093	history1 88 0 13 2 769 1342 1098	history2 51 7 39 7 1011 948 1003
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	method ASTM D5185m	85 350 1800 1000 1100	Current 91 0 26 0 566 1588 1093 1259	history1 88 0 13 2 769 1342 1098 1268	history2 51 7 39 7 1011 948 1003 1167
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	85 350 1800 1000	Current 91 0 26 0 566 1588 1093	history1 88 0 13 2 769 1342 1098	history2 51 7 39 7 1011 948 1003
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm 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	85 350 1800 1000 1100	Current 91 0 26 0 566 1588 1093 1259	history1 88 0 13 2 769 1342 1098 1268 4697 history1	history2 51 7 39 7 1011 948 1003 1167
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm 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	85 350 1800 1000 1100 3500	Current 91 0 26 0 566 1588 1093 1259 4036	history1 88 0 13 2 769 1342 1098 1268 4697	history2 51 7 39 7 1011 948 1003 1167 3009
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	85 350 1800 1000 1100 3500 limit/base >25	Current 91 0 26 0 566 1588 1093 1259 4036 Current	history1 88 0 13 2 769 1342 1098 1268 4697 history1 7 6	history2 51 7 39 7 1011 948 1003 1167 3009 history2 16 16
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	85 350 1800 1000 1100 3500	current 91 0 26 0 566 1588 1093 1259 4036 current 5	history1 88 0 13 2 769 1342 1098 1268 4697 history1 7	history2 51 7 39 7 1011 948 1003 1167 3009 history2 16
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	85 350 1800 1000 1100 3500 limit/base >25	current 91 0 26 0 566 1588 1093 1259 4036 current 5 4 3 current	history1 88 0 13 2 769 1342 1098 1268 4697 history1 7 6 4 history1	history2 51 7 39 7 1011 948 1003 1167 3009 history2 16 16 9 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	85 350 1800 1000 1100 3500 limit/base >25 >20	current 91 0 26 0 566 1588 1093 1259 4036 current 5 4 3 current 0.1	history1 88 0 13 2 769 1342 1098 1268 4697 history1 7 6 4 history1 0.1	history2 51 7 39 7 1011 948 1003 1167 3009 history2 16 16 9 history2 0.1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	85 350 1800 1000 1100 3500 limit/base >25 >20	current 91 0 26 0 566 1588 1093 1259 4036 current 5 4 3 current 0.1 8.2	history1 88 0 13 2 769 1342 1098 1268 4697 history1 7 6 4 history1 0.1 6.9	history2 51 7 39 7 1011 948 1003 1167 3009 history2 16 16 9 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur Silicon Sodium Potassium INFRA-RED Soot %	ppm 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 91 0 26 0 566 1588 1093 1259 4036 current 5 4 3 current 0.1	history1 88 0 13 2 769 1342 1098 1268 4697 history1 7 6 4 history1 0.1	history2 51 7 39 7 1011 948 1003 1167 3009 history2 16 16 16 9 history2 0.1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm 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 91 0 26 0 566 1588 1093 1259 4036 current 5 4 3 current 0.1 8.2	history1 88 0 13 2 769 1342 1098 1268 4697 history1 7 6 4 history1 0.1 6.9	history2 51 7 39 7 1011 948 1003 1167 3009 history2 16 16 16 9 history2 0.1 7.1
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 91 0 26 0 566 1588 1093 1259 4036 current 5 4 3 current 0.1 8.2 19.0	history1 88 0 13 2 769 1342 1098 1268 4697 history1 7 6 4 history1 0.1 6.9 17.0	history2 51 7 39 7 1011 948 1003 1167 3009 history2 16 16 16 9 history2 0.1 7.1 17.7



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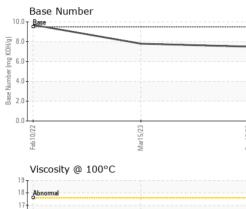
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OIL ANALYSIS REPORT

VISUAL



	VISUAL		methou	inniv base	Current	Thistory I	Thatoryz	
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
	Precipitate		*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	
5/23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
Mar15/23 Dec15/23	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			limit/base	current			
	Visc @ 100°C	cSt	method ASTM D445		13.4	history1 13.3	history2 13.0	
	GRAPHS	001		10.0	10.4	10.0	10.0	
	Ferrous Alloys							
	³⁵ I							
Mar15/23	30 - chromium							
Mari	25 - nickel							
	20							
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	22	53		23				
	Feb 10/22	Mar15/23		Dec15/23				
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	Non-ferrous Meta	ls						
	copper							
	12 - nessesses lead							
	10							
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	0/22	5/23 -		5/23				
	Feb 10/22	Mar15/23		Dec15/23				
	Viscosity @ 100°C			—				
	¹⁹ T			10.0	Base Number			
	18 - Abnormal				Base	ниии и и и и и и и и и и и и и и и и и		
	17-			.0.9				
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	53 14-			<u><u><u></u></u> 4.0-</u>				
	13 Abnormal			ase				
	12 +			° 2.0				
	11							
	Feb 10/22	5/23			Feb10/22	5/23		
	Ee 1	Mar15/23		Dec15/23	Feb 1	Mar15/23		
Laboratory Sample No.	: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0836150 Recieved : 09 Jan 2024 : 06055816 Diagnosed : 10 Jan 2024 : 10821765 Diagnostician : Wes Davis : CONST (Additional Tests: TBN) contact Customer Service at 1-800-237-1369. are outside of the ISO 17025 scope of accreditation.					MANHATTAN ROAD AND BRID 5601 S 122ND E A TULSA, (US 741 Contact: BEN CALDWE kevin.marson@wearcheck.cd T: (918)728-57		

Submitted By: JAMES STEELMON

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