

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

3162 Component **Diesel Engine** Fluid CHEVRON DELO 400 XLE 10W30 (--- 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.

		methou	iiiiii/base	current	mistory i	matoryz
Sample Number		Client Info		WC0906874	WC0906907	WC0906937
Sample Date		Client Info		11 Jun 2024	15 Apr 2024	19 Feb 2024
Machine Age	mls	Client Info		240751	212022	159962
Oil Age	mls	Client Info		51221	189530	116069
Oil Changed		Client Info		Changed	Not Change	Changed
Sample Status				NORMAL	NORMAI	ABNORMAL
Campio Claudo	_				HOT WIN LE	, IBITOTIUS IE
CONTAMINATION	١	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	25	13	43
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	7	5	14
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	4	3	8
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	maa	method ASTM D5185m	limit/base	current	history1 28	history2 22
ADDITIVES Boron Barium	ppm	method ASTM D5185m ASTM D5185m	limit/base	current 18 0	history1 28 0	history2 22 0
ADDITIVES Boron Barium Molybdenum	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 18 0 4	history1 28 0 2	history2 22 0 14
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 18 0 4 0	history1 28 0 2 <1	history2 22 0 14 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 18 0 4 0 785	history1 28 0 2 <1 786	history2 22 0 14 <1 787
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 18 0 4 0 785 1420	history1 28 0 2 <1 786 1354	history2 22 0 14 <1 787 1434
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	limit/base 2900 1100	Current 18 0 4 0 785 1420 720	history1 28 0 2 <1 786 1354 771	history2 22 0 14 <1 787 1434 744
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2900 1100 1200	Current 18 0 4 0 785 1420 720 945	history1 28 0 2 <1 786 1354 771 847	history2 22 0 14 <1 787 1434 744 809
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	limit/base 2900 1100 1200 4000	Current 18 0 4 0 785 1420 720 945 2923	history1 28 0 2 <1 786 1354 771 847 3530	history2 22 0 14 <1 787 1434 744 809 2680
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2900 1100 1200 4000 limit/base	Current 18 0 4 0 785 1420 720 945 2923 Current	history1 28 0 2 <1 786 1354 771 847 3530 history1	history2 22 0 14 <1 787 1434 744 809 2680 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185m	limit/base 2900 1100 1200 4000 limit/base >25	current 18 0 4 0 785 1420 720 945 2923 current 8	history1 28 0 2 <1 786 1354 771 847 3530 history1 10	history2 22 0 14 <1 787 1434 744 809 2680 history2 17
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	limit/base 2900 1100 1200 4000 limit/base >25	current 18 0 4 0 785 1420 720 945 2923 current 8 2	history1 28 0 2 <1 786 1354 771 847 3530 history1 10 4	history2 22 0 14 <1 787 1434 744 809 2680 history2 17 5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm 1 ppm 2 ppm 2 ppm 2 ppm 2 ppm 2 ppm 3 ppm 4 ppm 4 ppm 4 ppm 1 ppm 1	method ASTM D5185m	limit/base 2900 1100 1200 4000 limit/base >25 >20	current 18 0 4 0 785 1420 720 945 2923 current 8 2 10	history1 28 0 2 <1 786 1354 771 847 3530 history1 10 4 8	history2 22 0 14 <1 787 1434 744 809 2680 history2 17 5 18
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 2900 1100 1200 4000 limit/base >25 >20	current 18 0 4 0 785 1420 720 945 2923 current 8 2 10	history1 28 0 2 <1 786 1354 771 847 3530 history1 10 4 8 history1	history2 22 0 14 <1 787 1434 744 809 2680 history2 17 5 18 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm 1 ppm 2 ppm 2 ppm 2 ppm 2 ppm 3 ppm 4 ppm 4 ppm 4 ppm 1 ppm 1 ppm 1	method ASTM D5185m	limit/base 2900 1100 1200 4000 limit/base >25 >20 limit/base	current 18 0 4 0 785 1420 720 945 2923 current 8 2 10 current	history1 28 0 2 <1 786 1354 771 847 3530 history1 10 4 8 history1 0	history2 22 0 14 <1 787 1434 744 809 2680 history2 17 5 18 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 ppm	method ASTM D5185m	limit/base 2900 1100 1200 4000 limit/base >25 20 limit/base >3 20	current 18 0 4 0 785 1420 720 945 2923 current 8 2 10 current 1.1 1.1	history1 28 0 2 <1 786 1354 771 847 3530 history1 10 4 8 history1 0.6 10 2	history2 22 0 14 <1 787 1434 744 809 2680 history2 17 5 18 history2 1.2 12.0
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 ppm ppm	method ASTM D5185m	limit/base 2900 1100 1200 4000 limit/base >25 20 limit/base >3 >20	current 18 0 4 0 785 1420 720 945 2923 current 8 2 10 current 1.1 11.3 28 2	history1 28 0 2 <1 786 1354 771 847 3530 history1 10 4 8 history1 0.6 10.2	history2 22 0 14 <1 787 1434 744 809 2680 history2 17 5 18 history2 1.2 13.0 21.0
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	limit/base 2900 1100 1200 4000 225 >20 limit/base >20 s3 >20 >30	current 18 0 4 0 785 1420 720 945 2923 current 8 2 10 current 1.1 11.3 28.3	history1 28 0 2 <1 786 1354 771 847 3530 history1 10 4 8 history1 0.6 10.2 22.3	history2 22 0 14 <1 787 1434 744 809 2680 history2 17 5 18 history2 1.2 13.0 31.0
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	limit/base 2900 1100 1200 4000 limit/base >25 20 limit/base >3 >20 330 limit/base	current 18 0 4 0 785 1420 720 945 2923 current 8 2 10 current 1.1 1.3 28.3	history1 28 0 2 <1 786 1354 771 847 3530 history1 10 4 8 history1 0.6 10.2 22.3 history1	history2 22 0 14 <1 787 1434 744 809 2680 history2 17 5 18 history2 1.2 13.0 31.0 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7414	limit/base 2900 1100 1200 4000 limit/base >25 limit/base >20 limit/base >30 limit/base >25	current 18 0 4 0 785 1420 720 945 2923 current 8 2 10 current 1.1 11.3 28.3 current 22.9	history1 28 0 2 <1 786 1354 771 847 3530 history1 10 4 8 history1 0.6 10.2 22.3 history1	history2 22 0 14 <1 787 1434 744 809 2680 history2 17 5 18 history2 1.2 13.0 31.0 history2 27.9



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	11.9	12.3	11.9	12.3
001010						

Ferrous Alloys 70 60 50 40 20 10 η. Aug17/22 Feb13/23 Mar17/23 v20/23 eb19/24 un11/24 ua30/23 Apr15/74 Non-ferrous Metals 35 30 lead 25 20 10 5 0. Aug17/22 un11/24 Feb13/23 Mar17/2: eh 19/7. Viscosity @ 100°C Base Number 12.0 14 10 Base Number (mg KOH/g) 13 8.0 cSt (100°C) 6.0 4.0 10 Abnorm 2 (0.0 8 Aug17/22 -Jun11/24. Aug17/22 -Feb13/23 Feb13/23 un11/24 Mar17/23 v20/23 Feb 19/24 Mar17/23 ug30/23 w20/73 15/24 Feb 19/24 LTI/MILKY WAY - SUNNYSIDE : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. : WC0906874 Received : 26 Jun 2024 333 MIDVALE RD Lab Number : 06221004 Tested : 27 Jun 2024 SUNNYSIDE, WA Unique Number : 11099201 Diagnosed : 27 Jun 2024 - Wes Davis US 98944



* - 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)

Test Package : FLEET

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Laboratory

Certificate 12367

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