

# **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

### **3096** 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.

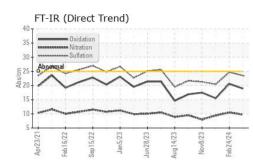
#### Fluid Condition

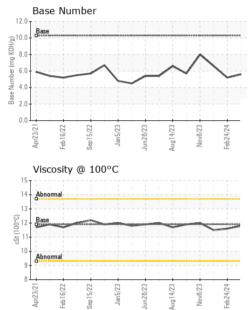
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	1ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0945946	WC0906924	WC0863279
Sample Date		Client Info		07 Jul 2024	24 Feb 2024	19 Dec 2023
Machine Age	mls	Client Info		480640	432966	412305
Oil Age	mls	Client Info		432966	397385	397385
Oil Changed		Client Info		Changed	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
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	13	21	8
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	5	10	4
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	6	3
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	ppm	method ASTM D5185m	limit/base	current 6	history1 19	history2 37
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	6	19	37
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	6 0	19 0	37 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	6 0 0	19 0 <1	37 0 3
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	6 0 0 <1	19 0 <1 <1	37 0 3 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		6 0 0 <1 773	19 0 <1 <1 778	37 0 3 0 826
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900	6 0 0 <1 773 1510	19 0 <1 <1 778 1368	37 0 3 0 826 1462
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	2900 1100	6 0 	19 0 <1 <1 778 1368 776	37 0 3 0 826 1462 775
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900 1100 1200	6 0 2 <1 773 1510 827 892	19 0 <1 <1 778 1368 776 876	37 0 3 0 826 1462 775 905
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base	6 0 2 3 773 1510 827 892 3594	19 0 <1 <1 778 1368 776 876 2972	37 0 3 0 826 1462 775 905 3205
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	2900 1100 1200 4000 limit/base	6 0 0 <1 773 1510 827 892 3594 current	19 0 <1 <1 778 1368 776 876 2972 history1	37 0 3 0 826 1462 775 905 3205 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base >25	6 0 0 <1 773 1510 827 892 3594 <i>current</i> 8	19 0 <1 <1 778 1368 776 876 2972 history1 16	37 0 3 0 826 1462 775 905 3205 history2 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base >25	6 0 0 <1 773 1510 827 892 3594 <u>current</u> 8 3	19 0 <1 <1 778 1368 776 876 2972 history1 16 5	37 0 3 0 826 1462 775 905 3205 history2 8 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base >25 >20	6 0 0 <1 773 1510 827 892 3594 current 8 3 3594	19 0 <1 <1 778 1368 776 876 2972 history1 16 5 19	37 0 3 0 826 1462 775 905 3205 history2 8 2 6 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	ASTM D5185m ASTM D5185m	2900 1100 1200 4000 limit/base >25 >20 limit/base	6 0 0 <1 773 1510 827 892 3594 <b>current</b> 8 3 3 4 <b>current</b>	19 0 <1 778 1368 776 876 2972 history1 16 5 19 history1	37 0 3 0 826 1462 775 905 3205 history2 8 2 6 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	2900 1100 1200 4000 limit/base >25 >20 limit/base >3	6 0 0 <1 773 1510 827 892 3594 <i>current</i> 8 3 3 4 <i>current</i> 0.4	19 0 <1 <1 778 1368 776 876 2972 history1 16 5 19 history1 0.5	37 0 3 0 826 1462 775 905 3205 history2 8 2 6 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	2900 1100 1200 4000 limit/base >25 >20 limit/base >3 >20	6 0 0 <1 773 1510 827 892 3594 <i>current</i> 8 3 3594 <i>current</i> 8 3 4 <i>current</i> 0.4 9.7	19 0 <1 <1 778 1368 776 876 2972 history1 16 5 19 history1 0.5 10.5	37 0 3 0 826 1462 775 905 3205 history2 8 2 6 history2 0.3 9.4
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 D5185m	2900 1100 1200 4000 <b>imit/base</b> >25 >20 <b>imit/base</b> >3 >20 >30	6 0 0 <1 773 1510 827 892 3594 <b>current</b> 8 3 3 4 <b>current</b> 0.4 9.7 23.5	19 0 <1 <1 778 1368 776 876 2972 history1 16 5 19 history1 0.5 10.5 24.7	37 0 3 0 826 1462 775 905 3205 <b>history2</b> 8 2 6 <b>history2</b> 0.3 9.4 20.4



# **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	11.8	11.6	11.5
GRAPHS						

Ferrous Alloys

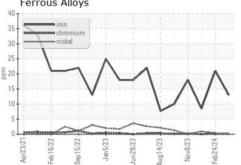
Non-ferrous Metals

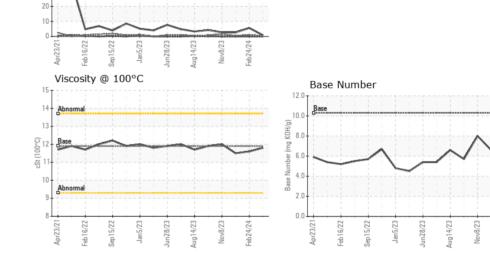
lead

80

70

60 -50 -톱 40 -30 -





LTI/MILKY WAY - SUNNYSIDE Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0945946 Sample No. Received : 15 Jul 2024 333 MIDVALE RD Ĕ Lab Number : 06237412 Tested : 17 Jul 2024 SUNNYSIDE, WA Unique Number : 11126246 Diagnosed : 17 Jul 2024 - Wes Davis US 98944 Test Package : FLEET Contact: Barbara Kluever Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. bkluever@lynden.com T: (509)839-5844 \* - 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) F: (509)839-6556

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Contact/Location: Barbara Kluever - LTISUN

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