

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **2400** Component **Diesel Engine** Fluid **CHEVRON DELO 400 SDE SAE 15W40 (--- GAL)**

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.

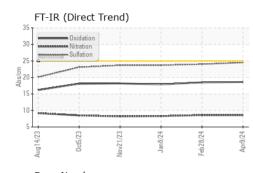
Fluid Condition

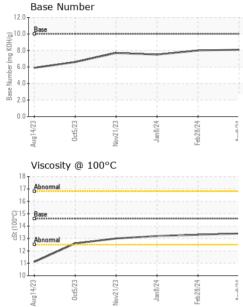
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATI <u>ON</u>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0859266	WC0859292	WC0859301
Sample Date		Client Info		09 Apr 2024	28 Feb 2024	08 Jan 2024
Machine Age	mls	Client Info		18966	92225	74158
Oil Age	mls	Client Info		0	0	0
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		NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	15	16	15
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m	- 1	0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	13	10	13
Lead	ppm	ASTM D5185m	>40	1	1	0
Copper	ppm	ASTM D5185m	>330	0	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m	10	0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES			Para la Arra a ca	e		
		method			history1	history2
	maa		limit/base		history1 259	history2 320
Boron	ppm pom	ASTM D5185m	iimit/base	285 0	259 0	320 0
Boron Barium	ppm		limit/base	285	259	320 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	limit/base	285 0	259 0	320
Boron Barium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		285 0 138	259 0 125	320 0 130
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		285 0 138 <1	259 0 125 <1	320 0 130 0
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	760	285 0 138 <1 780	259 0 125 <1 749	320 0 130 0 675
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		285 0 138 <1 780 1658	259 0 125 <1 749 1705	320 0 130 0 675 1553
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	760	285 0 138 <1 780 1658 834	259 0 125 <1 749 1705 801	320 0 130 0 675 1553 753
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	760 800	285 0 138 <1 780 1658 834 982	259 0 125 <1 749 1705 801 919	320 0 130 0 675 1553 753 870
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	760 800 3000	285 0 138 <1 780 1658 834 982 3194	259 0 125 <1 749 1705 801 919 2762	320 0 130 0 675 1553 753 870 2732
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	760 800 3000 limit/base	285 0 138 <1 780 1658 834 982 3194 current	259 0 125 <1 749 1705 801 919 2762 history1	320 0 130 0 675 1553 753 870 2732 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm 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	760 800 3000 limit/base >25	285 0 138 <1 780 1658 834 982 3194 current 10	259 0 125 <1 749 1705 801 919 2762 history1 7	320 0 130 0 675 1553 753 870 2732 history2 8
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 ASTM D5185m ASTM D5185m	760 800 3000 limit/base >25	285 0 138 <1 780 1658 834 982 3194 <u>current</u> 10 2	259 0 125 <1 749 1705 801 919 2762 history1 7 2	320 0 130 0 675 1553 753 870 2732 history2 8 <
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	760 800 3000 limit/base >25 >20	285 0 138 <1 780 1658 834 982 3194 current 10 2 23	259 0 125 <1 749 1705 801 919 2762 history1 7 2 18	320 0 130 0 675 1553 753 870 2732 history2 8
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	760 800 3000 limit/base >25 >20 limit/base	285 0 138 <1 780 1658 834 982 3194 <u>current</u> 10 2 23 23 <u>current</u>	259 0 125 <1 749 1705 801 919 2762 history1 7 2 18 history1	320 0 130 0 675 1553 753 870 2732 history2 8 < <1 26 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	760 800 3000 limit/base >25 >20 limit/base >3	285 0 138 <1 780 1658 834 982 3194 <u>current</u> 10 2 23 <u>current</u> 0.3	259 0 125 <1 749 1705 801 919 2762 history1 7 2 18 history1 0.3	320 0 130 0 675 1553 753 870 2732 history2 8 < <1 26 history2 0.2
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	760 800 3000 limit/base >25 >20 limit/base >3 >20	285 0 138 <1 780 1658 834 982 3194 current 10 2 23 current 0.3 8.6	259 0 125 <1 749 1705 801 919 2762 history1 7 2 2 18 history1 0.3 8.6	320 0 130 0 675 1553 753 870 2732 history2 8 8702732bistory28<126history20.28.3
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	760 800 3000 imit/base >25 >20 imit/base >3 >20 >3	285 0 138 <1 780 1658 834 982 3194 <u>current</u> 10 2 23 <u>current</u> 0.3 8.6 24.5	259 0 125 <1 749 1705 801 919 2762 history1 7 2 18 history1 0.3 8.6 24.0	320 0 130 0 675 1553 753 870 2732 history2 8 <1 26 history2 0.2 8.3 23.7



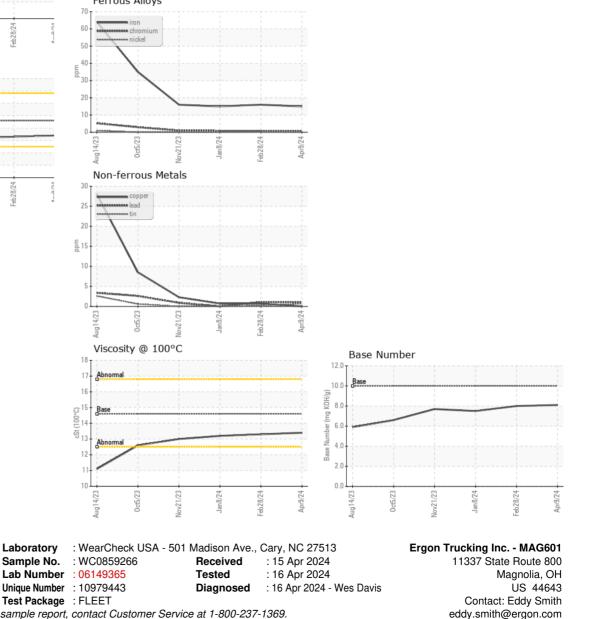
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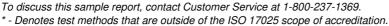




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	ΓIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.6	13.4	13.3	13.2
GRAPHS						

Ferrous Alloys





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

Certificate 12367

Submitted By: Eddy Smith Page 2 of 2

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