

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

2332 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	1ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0859257	WC0829006	WC0859284
Sample Date		Client Info		23 Apr 2024	02 Feb 2024	20 Nov 2023
Machine Age	mls	Client Info		78290	54596	36162
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	١	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<10	<10	<10
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method	20.2	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron			. 100	17	17	00
Characterium	ррп		>100	17	17	23
Chromium	ppm		>20	4	<	<1
Titopium	ppm		>4	.4	< 1	U
l itanium	ppm	ASTM D5185M	0	<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	<	0
Aluminum	ppm	ASTM D5185m	>20	1	6	8
Lead	ppm	ASTM D5185m	>40	8	/	4
Copper	ppm	ASTM D5185m	>330	2	2	6
Tin	ppm	ASTM D5185m	>15	2	2	1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	nnm	ASTM D5185m		-1	0	0
Oddinidini	ppm	AOTIVI DOTODITI		<1	0	0
ADDITIVES	ppm	method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 242	history1 197	history2 159
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 242 0	history1 197 1	history2 159 3
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 242 0 129	history1 197 1 117	history2 159 3 106
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 242 0 129 1	history1 197 1 117 <1	history2 159 3 106 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 242 0 129 1 693	history1 197 1 117 <1 640	history2 159 3 106 <1 608
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 242 0 129 1 693 1555	history1 197 1 117 <1 640 1422	history2 159 3 106 <1 608 1396
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 ASTM D5185m	limit/base	Current 242 0 129 1 693 1555 864	history1 197 1 117 <1 640 1422 701	history2 159 3 106 <1 608 1396 623
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 ASTM D5185m	limit/base 760 800	Current 242 0 129 1 693 1555 864 916	history1 197 1 117 <1 640 1422 701 829	history2 159 3 106 <1 608 1396 623 773
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	limit/base	Current 242 0 129 1 693 1555 864 916 3235	history1 197 1 117 <1 640 1422 701 829 2317	history2 159 3 106 <1 608 1396 623 773 2607
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 ASTM D5185m ASTM D5185m	limit/base 760 800 3000	Current 242 0 129 1 693 1555 864 916 3235 Current	history1 197 1 117 <1 640 1422 701 829 2317 history1	history2 159 3 106 <1 608 1396 623 773 2607 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ACTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 760 800 3000 limit/base >25	Current 242 0 129 1 693 1555 864 916 3235 Current 11	history1 197 1 117 <1 640 1422 701 829 2317 history1 9	history2 159 3 106 <1 608 1396 623 773 2607 history2 14
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 760 800 3000 limit/base >25	Current 242 0 129 1 693 1555 864 916 3235 Current 11 3	history1 197 1 117 <1 640 1422 701 829 2317 history1 9 3	history2 159 3 106 <1 608 1396 623 773 2607 history2 14 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ACTIM DS185m ASTM D5185m	limit/base 760 800 3000 limit/base >25	Current 242 0 129 1 693 1555 864 916 3235 Current 11 3 9	history1 197 1 117 <1 640 1422 701 829 2317 history1 9 3 9	history2 159 3 106 <1 608 1396 623 773 2607 history2 14 <1 21
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 760 800 3000 limit/base >25 >20	Current 242 0 129 1 693 1555 864 916 3235 Current 11 3 9 Current	history1 197 1 117 <1 640 1422 701 829 2317 history1 9 3 9 3 9 history1	history2 159 3 106 <1 608 1396 623 773 2607 history2 14 <1 21 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 / / / / / / / / / / / / / / / / / / /	Current 242 0 129 1 693 1555 864 916 3235 Current 11 3 9 Current 0.3	history1 197 1 117 <1 640 1422 701 829 2317 history1 9 3 9 history1 0.3	history2 159 3 106 <1 608 1396 623 773 2607 history2 14 <1 21 history2 0.3
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 760 800 3000 limit/base >25 >20 limit/base >3 >20	Current 242 0 129 1 693 1555 864 916 3235 Current 11 3 9 Current 0.3 9.1	history1 197 1 117 <1 640 1422 701 829 2317 history1 9 3 9 history1 0.3 9.4	history2 159 3 106 <1 608 1396 623 773 2607 history2 14 <1 21 history2 0.3 9.8
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	limit/base	Current 242 0 129 1 693 1555 864 916 3235 current 11 3 9 current 0.3 9.1 24.2	history1 197 1 117 <1 640 1422 701 829 2317 history1 9 3 9 3 9 0.3 9.4 24.3	history2 159 3 106 <1 608 1396 623 773 2607 history2 14 <1 21 history2 0.3 9.8 24.3
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 760 800 3000 limit/base >25 20 limit/base >3 >20 >30	Current 242 0 129 1 693 1555 864 916 3235 current 11 3 9 current 0.3 9.1 24.2	history1 197 1 117 <1 640 1422 701 829 2317 history1 9 3 9 history1 0.3 9.4 24.3 history1	history2 159 3 106 <1 608 1396 623 773 2607 history2 14 <1 21 history2 0.3 9.8 24.3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7415 method *ASTM D7414	limit/base 760 800 3000 225 >20 1imit/base >20 1imit/base >3 >20 300 20	Current 242 0 129 1 693 1555 864 916 3235 current 11 3 9 current 0.3 9.1 24.2 current 19.3	history1 197 1 117 <1 640 1422 701 829 2317 history1 9 3 9 history1 0.3 9.4 24.3 history1 19.4	history2 159 3 106 <1 608 1396 623 773 2607 history2 14 <1 21 history2 0.3 9.8 24.3 history2 20.6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA Oxidation Base Number (BN)	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7414 *ASTM D7414	limit/base Iimit/base 760 800 3000 limit/base >25 >20 >30 >20 >30 >20 >30 21 >20 >30 >21 >20 >30 20 >30 21 >20 >30 10	Current 242 0 129 1 693 1555 864 916 3235 current 11 3 9 current 0.3 9.1 24.2 current 19.3 7.3	history1 197 1 117 <1 640 1422 701 829 2317 history1 9 3 9 10.3 9.4 24.3 history1 19.4 6.7	history2 159 3 106 <1 608 1396 623 773 2607 history2 14 <1 21 history2 0.3 9.8 24.3 history2 20.6 6.3



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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	IES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.6	13.0	12.9	12.5

Ferrous Alloys





Certificate 12367

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