

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 726019

Component Diesel Engine

Fluid

CHEVRON DELO 400 XLE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

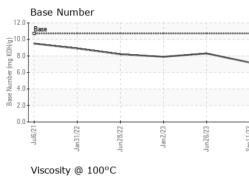
Fluid Condition

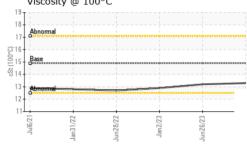
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM		method	limit/base	current	history1	history2
			IIIIII/Dase			
Sample Number		Client Info		GFL0064438	GFL0064482	GFL0055592
Sample Date		Client Info		11 Sep 2023	26 Jun 2023	02 Jan 2023
Machine Age	hrs	Client Info		34065	33906	33524
Oil Age	hrs	Client Info		181	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>2.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	81	73	67
Chromium	ppm	ASTM D5185m	>20	6	7	3
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		10	11	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	6	3	2
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	3	2	2
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		44	85	139
Barium	ppm	ASTM D5185m		0	0	2
Molybdenum	ppm	ASTM D5185m		54	62	120
Manganese	ppm	ASTM D5185m		1	1	<1
Magnesium	ppm	ASTM D5185m		574	648	423
Calcium		ACTIVI DO TOOTTI				
Phosphorus	nnm	ASTM D5185m		-		
	ppm	ASTM D5185m	760	1568	1568	1839
	ppm	ASTM D5185m	760	1568 595	1568 722	1839 826
Zinc	ppm ppm	ASTM D5185m ASTM D5185m	830	1568 595 774	1568 722 874	1839 826 975
Zinc Sulfur	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	830 2770	1568 595 774 3006	1568 722 874 3241	1839 826 975 2712
Zinc Sulfur CONTAMINAN	ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m method	830 2770 limit/base	1568 595 774 3006 current	1568 722 874 3241 history1	1839 826 975 2712 history2
Zinc Sulfur CONTAMINAN ^T Silicon	ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m	830 2770 limit/base	1568 595 774 3006 current 8	1568 722 874 3241 history1 9	1839 826 975 2712 history2 5
Zinc Sulfur CONTAMINAN ^T Silicon Sodium	ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	830 2770 limit/base >25	1568 595 774 3006 current 8 74	1568 722 874 3241 history1 9 60	1839 826 975 2712 history2 5 68
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	830 2770 limit/base >25 >20	1568 595 774 3006 current 8 74 15	1568 722 874 3241 history1 9 60 13	1839 826 975 2712 history2 5 68 16
Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium INFRA-RED	ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	830 2770 limit/base >25 >20 limit/base	1568 595 774 3006 current 8 74 15 current	1568 722 874 3241 history1 9 60 13 history1	1839 826 975 2712 history2 5 68 16 history2
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844	830 2770 limit/base >25 >20 limit/base >3	1568 595 774 3006 current 8 74 15 current 0.4	1568 722 874 3241 history1 9 60 13 history1 0.5	1839 826 975 2712 history2 5 68 16 history2 0.3
Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium INFRA-RED	ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	830 2770 limit/base >25 >20 limit/base >3	1568 595 774 3006 current 8 74 15 current	1568 722 874 3241 history1 9 60 13 history1	1839 826 975 2712 history2 5 68 16 history2
Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844	830 2770 limit/base >25 >20 limit/base >3	1568 595 774 3006 current 8 74 15 current 0.4	1568 722 874 3241 history1 9 60 13 history1 0.5	1839 826 975 2712 history2 5 68 16 history2 0.3
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m hethod *ASTM D7844 *ASTM D7624	830 2770 limit/base >25 >20 limit/base >3 >20	1568 595 774 3006 current 8 74 15 current 0.4 10.1	1568 722 874 3241 history1 9 60 13 history1 0.5 8.9	1839 826 975 2712 history2 5 68 16 history2 0.3 9.1
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7844	830 2770 limit/base >25 >20 limit/base >3 >20 >30	1568 595 774 3006 current 8 74 15 current 0.4 10.1 20.5	1568 722 874 3241 history1 9 60 13 history1 0.5 8.9 21.8	1839 826 975 2712 history2 5 68 16 history2 0.3 9.1 21.7



OIL ANALYSIS REPORT





		Yellow Metal Precipitate	scalar scalar	*Visual *Visual	NONE NONE	NONE NONE	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	
Jan 2/23	Jun26/23 -	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
Jan 2/23	Jun26/23 Sep11/23	Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG	
		Free Water	scalar	*Visual		NEG	NEG	NEG	
		FLUID PRO	PERTIES	method	limit/base	current	history1	history2	
		Visc @ 100°C	cSt	ASTM D445	14.9	13.3	13.2	12.9	
		GRAPHS							
1		Ferrous Alloys							
23	23	80			_				
Jan2/23	Jun 26/23	70- nickel							
	7	60		·					
		50 40	1	 					
		30							
		20 -							
			Construction of the owner						
		Jul6/21	un28/22 - Jan2/23 -	6/23 -	1/23 -				
		Ju Jan3	Jun28/22 Jan2/23	Jun26/23	Sep11/23				
		Non-ferrous Me	etals						
		10 copper 1	I I	1					
		8 - Internet lead							
		6							
		m dd	1 1						
		4-	Innet						
		2-							
		And Description of Long Transmission of Long Transmission of the Long Transmission of		The state of the local division of the local	No. of Concession, Name				
		22	22	/23	/23				
		Jul6/21 Jan31/22	Jun28/22 Jan2/23	Jun26/23	Sep11/23				
		Viscosity @ 100	0°C			Base Number			
		¹⁹ 18		1	12.		1 1	1	
		Abnormal			10.				
					HOX 8.	0			
		() 16 15 8 8 15 15 15 15 15 15 15 15 15 15			.8 .6 .9 .9 .9 .9 .9 .0 H(0) KOH(0) .4	0-			
		₁₄			quinn	0			
		13 Abnormal			ase G				
		12		1	2.	U †			
			22		.0		22	23	
		Jul6/21	Jun28/22 Jan2/23	Jun26/23	Sep11/23	Jul6/21 Jan31/22	Jun28/22 Jan2/23	Jun26/23	
	l aboratory						GFL Environmental - 624 - Elmira Haul		
	Laboratory Sample No.	: WearCheck USA : GFL0064438	Received		ry, NC 2751 Sep 2023	o GFLENV	nonmental - 624	10164 M-3	
CREDITED	Lab Number	: 05952040	Diagnos	ed : 18	Sep 2023			Elmira, I	
150ACC (7025	Unique Number	: 10647999	Diagnost		s Davis			US 497	

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

F: