

Machine Id **7375** Component **Diesel Engine** Fluid **CHEVRON DELO 400 SAE 10W30 (--- GAL)**

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

Elevated aluminum (AI) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

TestUOMMethodLimit/hoCurrentHistory1History2Sample NumberClient Info05 Jun 2024Machine AgeKmsClient Info05 Jun 2024Machine AgeKmsClient Info0Filter AgeKmsClient Info0Coll AgeClient Info0Filter ChangedClient Info0Filter ChangedClient InfoChangedSample StatusVVRSTM D5186(m)>20ClNickelppmASTM D5186(m)>20ClNickelppmASTM D5186(m)>20ClSilverppmASTM D5186(m)>2019AluminumppmASTM D5186(m)>2019SilconppmASTM D5186(m)>2012SilconppmASTM D5186(m)>2021SultarionppmASTM D5186(m)>2021SultarionppmASTM D5186(m)>2021SultarionppmASTM D5186(m)>2021SultarionppmASTM D5186(m) <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>							
Sample Date Client Info 05 Jun 2024 Machine Age kms Client Info 0 Oil Age kms Client Info 0 Filter Age kms Client Info 0 Oil Changed Client Info Changed Filter Changed Client Info Changed Filter Changed Client Info Changed Sample Status Client Info Changed Iron ppm ASTM D5185(m)<>20 <1 Nickel ppm ASTM D5185(m) >20 Nickel ppm ASTM D5185(m) >20 Aluminum ppm ASTM D5185(m) >20 19 Aluminum ppm ASTM D5185(m) >30 4 Silicon ppm ASTM D5185(m)	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age kms Client Info 0 304157 Oil Age kms Client Info 0 Filter Age kms Client Info Changed Filter Changed Client Info Changed Filter Changed Client Info Changed Sample Status NORMAL Iron ppm ASTM D5185(m) >-0 Nickel ppm ASTM D5185(m) >-2 0 Nickel ppm ASTM D5185(m) >-2 0 Aluminum ppm ASTM D5185(m) >20 19 Lead ppm ASTM D5185(m) >20 19 Vanadium ppm ASTM D5185(m) >20 11 Silicon ppm ASTM D5185(m)	Sample Number		Client Info		WC0553470		
Oil Age Filter Age Oil Changed Kins Client Info O	Sample Date		Client Info		05 Jun 2024		
Filter Age kms Client Info 0 Oil Changed Client Info Changed Filter Changed Client Info Changed Sample Status NORMAL Iron ppm ASTM D5185(m) >90 35 Chromium ppm ASTM D5185(m) >20 <1 Nickel ppm ASTM D5185(m) >2 0 Silver ppm ASTM D5185(m) >2 0 Aluminum ppm ASTM D5185(m) >20 19 Lead ppm ASTM D5185(m) >30 4 Vanadium ppm ASTM D5185(m) >20 12 Silicon ppm ASTM D5185(m) >20 21 Sulfation Abs/cm ASTM D5185(m) >20 12 Soot % %	Machine Age	kms	Client Info		304157		
Oli Changed Client Into Changed Filter Changed Client Into NORMAL Iron ppm ASTM D5185(m) >90 35 Iron ppm ASTM D5185(m) >20 <1 Nickel ppm ASTM D5185(m) >2 0 Titanium ppm ASTM D5185(m) >2 0 Silver ppm ASTM D5185(m) >2 0 Aluminum ppm ASTM D5185(m) >20 19 Lead ppm ASTM D5185(m) >20 19 Vanadium ppm ASTM D5185(m) >330 4 Vanadium ppm ASTM D5185(m) >25 12 Silicon ppm ASTM D5185(m) >20 21 Water WC Method >.0 Glycol WC Method >.0	Oil Age	kms	Client Info		0		
Filter Changed Sample Status Client Info Changed NORMAL Iron ppm ASTM D5185(m) >90 35 Chromium ppm ASTM D5185(m) >20 <1 Nickel ppm ASTM D5185(m) >20 0 Titanium ppm ASTM D5185(m) >20 0 Aluminum ppm ASTM D5185(m) >20 19 Lead ppm ASTM D5185(m) >20 19 Vanadium ppm ASTM D5185(m) >15 0 Silicon ppm ASTM D5185(m) >20 21 Silicon ppm ASTM D5185(m) >20 21 Suifacion ppm ASTM D5185(m) >20 21 Suifacion ppm <t< th=""><th>Filter Age</th><th>kms</th><th>Client Info</th><th></th><th>0</th><th></th><th></th></t<>	Filter Age	kms	Client Info		0		
Sample Status NORMAL Iron ppm ASTM D5185(m) >90 35 Chromium ppm ASTM D5185(m) >20 <1 Nickel ppm ASTM D5185(m) >2 0 Titanium ppm ASTM D5185(m) >2 0 Aluminum ppm ASTM D5185(m) >2 0 Aluminum ppm ASTM D5185(m) >20 19 Lead ppm ASTM D5185(m) >20 19 Vanadium ppm ASTM D5185(m) >20 12 Solicon ppm ASTM D5185(m) >25 12 Sulicon ppm ASTM D5185(m) >20 21 Solicon ppm ASTM D5185(m) >20 21.0 </th <th>Oil Changed</th> <th></th> <th>Client Info</th> <th></th> <th>Changed</th> <th></th> <th></th>	Oil Changed		Client Info		Changed		
Iron ppm ASTM D5185(m) >90 35 Chromium ppm ASTM D5185(m) >20 <1 Nickel ppm ASTM D5185(m) >2 0 Titanium ppm ASTM D5185(m) >2 0 Aluminum ppm ASTM D5185(m) >2 0 Aluminum ppm ASTM D5185(m) >20 19 Lead ppm ASTM D5185(m) >20 19 Vanadium ppm ASTM D5185(m) >30 4 Solicon ppm ASTM D5185(m) >20 12 Solicon ppm ASTM D5185(m) >20 21 Solicon ppm ASTM D5185(m) >20 21 Fuel WC Method	Filter Changed		Client Info		Changed		
Imp ASTM D5185(m) >20 <1	Sample Status				NORMAL		
Imp ASTM D5185(m) >20 <1					05		
Nickel ppm ASTM D5185(m) >2 0 Titanium ppm ASTM D5185(m) >2 0 Silver ppm ASTM D5185(m) >2 0 Aluminum ppm ASTM D5185(m) >20 19 Lead ppm ASTM D5185(m) >20 19 Copper ppm ASTM D5185(m) >330 4 Vanadium ppm ASTM D5185(m) >25 12 Silicon ppm ASTM D5185(m) >20 21 Fuel WC Method >3.0 <1.0 Glycol WC Method >0.2 NEG Sod % % ASTM D71844* >6 0.5 Sulfation Abs/m ASTM D7185(m)	-		. ,				
Titanium ppm ASTM D5185(m) >2 0 Silver ppm ASTM D5185(m) >2 0 Aluminum ppm ASTM D5185(m) >20 19 Lead ppm ASTM D5185(m) >40 0 Copper ppm ASTM D5185(m) >330 4 Copper ppm ASTM D5185(m) >330 4 Vanadium ppm ASTM D5185(m) >15 0 Vanadium ppm ASTM D5185(m) >20 21 Silicon ppm ASTM D5185(m) >20 21 Fuel WC Method >0.2 NEG Glycol WC Method >0.2 NEG Soti % % ASTM D7624' >20 10.7			. ,				
Number of the set of			()		-		
Aluminum ppm ASTM D5185(m) >20 19 Lead ppm ASTM D5185(m) >40 0 Copper ppm ASTM D5185(m) >330 4 Tin ppm ASTM D5185(m) >15 0 Vanadium ppm ASTM D5185(m) >12 Silicon ppm ASTM D5185(m) >20 21 Silicon ppm ASTM D5185(m) >20 21 Fuel WC Method >0.2 NEG Glycol WC Method >0.2 NEG Soot % % ASTM D7844* >6 0.5 Sulfation Abs/:m ASTM D7844* >6 0.5 Sulfation Abs/:m ASTM D7844* >0.2 NEG Sodium			()				
Lead ppm ASTM D5185(m) >40 O Copper ppm ASTM D5185(m) >330 4 Tin ppm ASTM D5185(m) >15 O Vanadium ppm ASTM D5185(m) >15 O Silicon ppm ASTM D5185(m) >25 12 Silicon ppm ASTM D5185(m) >20 21 Potassium ppm ASTM D5185(m) >20 21 Water Q WC Method >3.0 <1.0			. ,		-		
Copper ppm ASTM D5185(m) >330 4 Tin ppm ASTM D5185(m) >15 0 Vanadium ppm ASTM D5185(m) >15 0 Silicon ppm ASTM D5185(m) >20 21 Potassium ppm ASTM D5185(m) >20 21 Fuel WC Method >3.0 <1.0 Water WC Method >0.2 NEG Soot % % ASTM D7844* >6 0.5 Sulfation Abs/rm ASTM D7624* >20 10.7 Sulfation Abs/rm ASTM D7624* >0.2 NEG Sulfation Abs/rm ASTM D5185(m) 21.1 Boron ppm AST			. ,				
Tin ppm ASTM D5185(m) >15 0 Vanadium ppm ASTM D5185(m) >15 0 Silicon ppm ASTM D5185(m) >25 12 Potassium ppm ASTM D5185(m) >20 21 Fuel WC Method >3.0 <1.0			()		-		
Vanadium ppm ASTM D5185(m) 0 Silicon ppm ASTM D5185(m) >25 12 Potassium ppm ASTM D5185(m) >20 21 Fuel WC Method >3.0 <1.0 Water WC Method >0.2 NEG Glycol WC Method >0.2 NEG Soot % % ASTM D7844* >6 0.5 Soot % % ASTM D7624* >20 10.7 Sulfation Abs/cm ASTM D7624* >20 10.7 Sulfation Abs/Imm ASTM D7624* >20 10.7 Sodium ppm ASTM D71585(m) 2 Boron ppm ASTM D5185(m) 0 Malgane		ppm	. ,		-		
Silicon ppm ASTM D5185(m) >25 12 Potassium ppm ASTM D5185(m) >20 21 Fuel WC Method >3.0 <1.0 Water WC Method >0.2 NEG Glycol WC Method >0.2 NEG Soot % % ASTM D7844* >6 0.5 Sulfation Abs/rm ASTM D7624* >20 10.7 Sulfation Abs/rm ASTM D7624* >20 10.7 Sulfation Abs/rm ASTM D7615* >30 21.1 Sodium ppm ASTM D5185(m) 2 NEG Boron ppm ASTM D5185(m) 0 Molybdenum ppm ASTM D5185(m) 0 <td< th=""><th></th><th>ppm</th><th>()</th><th>>15</th><th>-</th><th></th><th></th></td<>		ppm	()	>15	-		
Potassium ppm ASTM D5185(m) >20 21 Fuel WC Method >3.0 <1.0 Water VC Method >0.2 NEG Glycol WC Method >0.2 NEG Soot % % ASTM D7844' >6 0.5 Nitration Abs/cm ASTM D7624' >20 10.7 Sulfation Abs/rm ASTM D7624' >20 10.7 Sulfation Abs/rm ASTM D7624' >20 10.7 Sulfation Abs/rm ASTM D7415' >30 21.1 Sodium ppm ASTM D5185(m) 2 NEG Boron ppm ASTM D5185(m) 0 Molybdenum ppm ASTM D5185(m)	Vanadium	ppm	ASTM D5185(m)		0		
Potassium ppm ASTM D5185(m) >20 21 Fuel WC Method >3.0 <1.0 Water WC Method >0.2 NEG Glycol WC Method >0.2 NEG Soot % % ASTM D7844' >6 0.5 Nitration Abs/cm ASTM D7624' >20 10.7 Sulfation Abs/rm ASTM D7624' >20 10.7 Sulfation Abs/rm ASTM D7415' >30 21.1 Sulfation Abs/rm ASTM D5185(m) 2 Boron ppm ASTM D5185(m) 36 Molybdenum ppm ASTM D5185(m) <1 Maganese ppm ASTM D5185(m) <1 Magnesium	Silicon	maa	ASTM D5185(m)	>25	12		
Fuel WC Method >3.0 <1.0	Potassium		()	>20	21		
Glycol WC Method NEG Soot % % ASTM D7844* >6 0.5 Nitration Abs/cm ASTM D7624* >20 10.7 Sulfation Abs/1mm ASTM D7624* >30 21.1 Sulfation Abs/1mm ASTM D7624* >0.2 NEG Sulfation Abs/1mm ASTM D7624* >0.2 NEG Sulfation bbs/1mm ASTM D7624* >0.2 NEG Sulfation bbs/1mm ASTM D5185(m) 2 Sodium ppm ASTM D5185(m) I 2 Boron ppm ASTM D5185(m) I 0 Malybdenum ppm ASTM D5185(m) I I Magnesium ppm ASTM D5185(m) 1200 <t< th=""><th>Fuel</th><th>1-1-</th><th>· · /</th><th>>3.0</th><th><1.0</th><th></th><th></th></t<>	Fuel	1-1-	· · /	>3.0	<1.0		
Soot % % ASTM D7844* >6 0.5 Nitration Abs/cm ASTM D7624* >20 10.7 Sulfation Abs/.1mm ASTM D7624* >20 10.7 Sulfation Abs/.1mm ASTM D7415* >30 21.1 Emulsified Water scalar Visual* >0.2 NEG Sodium ppm ASTM D5185(m) 2 Boron ppm ASTM D5185(m) 0 Barium ppm ASTM D5185(m) 0 Molybdenum ppm ASTM D5185(m) - <1 Magnesium ppm ASTM D5185(m) <698 Phosphorus ppm ASTM D5185(m) 1298 Zinc ppm AST	Water		WC Method	>0.2	NEG		
Soot % % ASTM D7844* >6 0.5 Nitration Abs/cm ASTM D7624* >20 10.7 Sulfation Abs/.1mm ASTM D7624* >30 21.1 Sulfation Abs/.1mm ASTM D7415* >30 21.1 Emulsified Water scalar Visual* >0.2 NEG Sodium ppm ASTM D5185(m) 2 Boron ppm ASTM D5185(m) 0 Barium ppm ASTM D5185(m) 0 Molybdenum ppm ASTM D5185(m) < <1 Magnesium ppm ASTM D5185(m) 698 Phosphorus ppm ASTM D5185(m) 1208 Zinc ppm ASTM D5185(m) 1400 <td< th=""><th>Glycol</th><th></th><th>WC Method</th><th></th><th>NEG</th><th></th><th></th></td<>	Glycol		WC Method		NEG		
Sulfation Abs/.1mm ASTM D7415* >30 21.1 Emulsified Water scalar Visual* >0.2 NEG Sodium ppm ASTM D5185(m) 2 Boron ppm ASTM D5185(m) 2 Barium ppm ASTM D5185(m) 0 Molybdenum ppm ASTM D5185(m) 0 Manganese ppm ASTM D5185(m) <1 Magnesium ppm ASTM D5185(m) 698 Phosphorus ppm ASTM D5185(m) 1298 Zinc ppm ASTM D5185(m) 1400 642 Sulfur ppm ASTM D5185(m) 1400 746 Sulfur ppm ASTM D5185(m) 2417 Sulfur	Soot %	%	ASTM D7844*	>6	0.5		
Emulsified Water scalar Visual* >0.2 NEG Sodium ppm ASTM D5185(m) 2 Boron ppm ASTM D5185(m) 36 Barium ppm ASTM D5185(m) 0 Molybdenum ppm ASTM D5185(m) 0 Manganese ppm ASTM D5185(m) <1 Magnesium ppm ASTM D5185(m) 698 Phosphorus ppm ASTM D5185(m) 1298 Zinc ppm ASTM D5185(m) 1400 642 Sulfur ppm ASTM D5185(m) 1400 746 Sulfur ppm ASTM D5185(m) 2417 Sulfur ppm ASTM D5185(m) 2417	Nitration	Abs/cm	ASTM D7624*	>20	10.7		
Sodium ppm ASTM D5185(m) 2 Boron ppm ASTM D5185(m) 36 Barium ppm ASTM D5185(m) 0 Barium ppm ASTM D5185(m) 0 Molybdenum ppm ASTM D5185(m) <1 Manganese ppm ASTM D5185(m) <11 Magnesium ppm ASTM D5185(m) <11 Calcium ppm ASTM D5185(m) 698 Phosphorus ppm ASTM D5185(m) 1298 Zinc ppm ASTM D5185(m) 1260 642 Sulfur ppm ASTM D5185(m) 1400 746 Sulfur ppm ASTM D5185(m) 2417 Oxidation Abs/.1mm ASTM D7414*<>25 16.0	Sulfation	Abs/.1mm	ASTM D7415*	>30	21.1		
Boron ppm ASTM D5185(m) 36 Barium ppm ASTM D5185(m) 0 Molybdenum ppm ASTM D5185(m) 0 Molybdenum ppm ASTM D5185(m) <1 Manganese ppm ASTM D5185(m) <1 Magnesium ppm ASTM D5185(m) <11 Calcium ppm ASTM D5185(m) 698 Phosphorus ppm ASTM D5185(m) 1298 Zinc ppm ASTM D5185(m) 1260 6422 Sulfur ppm ASTM D5185(m) 1400 746 Oxidation Abs/.1mm ASTM D5185(m) 2417	Emulsified Water	scalar	Visual*	>0.2	NEG		
Boron ppm ASTM D5185(m) 36 Barium ppm ASTM D5185(m) 0 Molybdenum ppm ASTM D5185(m) 0 Molybdenum ppm ASTM D5185(m) <1 Manganese ppm ASTM D5185(m) <1 Magnesium ppm ASTM D5185(m) <11 Calcium ppm ASTM D5185(m) 698 Phosphorus ppm ASTM D5185(m) 1298 Zinc ppm ASTM D5185(m) 1260 6422 Sulfur ppm ASTM D5185(m) 1400 746 Oxidation Abs/.1mm ASTM D5185(m) 2417							
Barium ppm ASTM D5185(m) 0 Molybdenum ppm ASTM D5185(m) <1 Manganese ppm ASTM D5185(m) <1 Magnesium ppm ASTM D5185(m) <11 Magnesium ppm ASTM D5185(m) <698 Calcium ppm ASTM D5185(m) 1298 Phosphorus ppm ASTM D5185(m) 1260 6422 Zinc ppm ASTM D5185(m) 1400 746 Sulfur ppm ASTM D5185(m) 2417 Oxidation Abs/.1mm ASTM D7414*<>25 16.0	Sodium	ppm	ASTM D5185(m)		2		
Molybdenum ppm ASTM D5185(m) <1	Boron	ppm	ASTM D5185(m)		36		
Manganese ppm ASTM D5185(m) <1	Barium	ppm	ASTM D5185(m)		0		
Magnesium ppm ASTM D5185(m) 698 Calcium ppm ASTM D5185(m) 1298 Phosphorus ppm ASTM D5185(m) 1260 642 Zinc ppm ASTM D5185(m) 1400 746 Sulfur ppm ASTM D5185(m) 2417 Oxidation Abs/.1mm ASTM D7414* >25 16.0	Molybdenum	ppm	ASTM D5185(m)		<1		
Calcium ppm ASTM D5185(m) 1298 Phosphorus ppm ASTM D5185(m) 1260 642 Zinc ppm ASTM D5185(m) 1400 746 Sulfur ppm ASTM D5185(m) 1400 746 Oxidation Abs/.1mm ASTM D7414* >25 16.0	Manganese	ppm	ASTM D5185(m)		<1		
Phosphorus ppm ASTM D5185(m) 1260 642 Zinc ppm ASTM D5185(m) 1400 746 Sulfur ppm ASTM D5185(m) 1400 2417 Oxidation Abs/.1mm ASTM D7414* >25 16.0	Magnesium	ppm	ASTM D5185(m)		698		
Zinc ppm ASTM D5185(m) 1400 746 Sulfur ppm ASTM D5185(m) 1400 2417 Oxidation Abs/.1mm ASTM D7414* >25 16.0	Calcium	ppm	ASTM D5185(m)		1298		
Sulfur ppm ASTM D5185(m) 2417 Oxidation Abs/.1mm ASTM D7414* >25 16.0	Phosphorus	ppm	ASTM D5185(m)	1260	642		
Oxidation Abs/.1mm ASTM D7414* >25 16.0	Zinc	ppm	ASTM D5185(m)	1400	746		
	Sulfur	ppm	ASTM D5185(m)		2417		
Visc @ 100°C cSt ASTM D7279(m) 11.1 10.7	Oxidation	Abs/.1mm	ASTM D7414*	>25	16.0		
	Visc @ 100°C	cSt	ASTM D7279(m)	11.1	10.7		

Contact/Location: Service Manager - RUS77BEL





