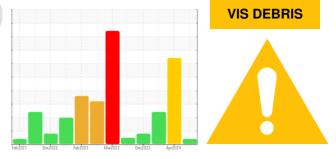


OIL ANALYSIS REPORT

Sample Rating Trend





723022-361626 Diesel Engine

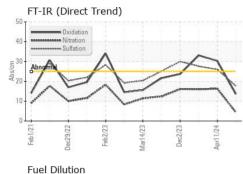
Machine Id

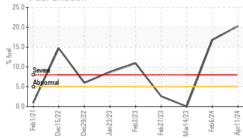
Fluid CHEVRON DELO 400 LE 15W40 (28 QTS)

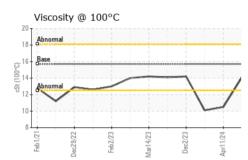
DIAGNOSIS	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
A Recommendation	Sample Number		Client Info		GFL0121782	GFL0106895	GFL0092122
No corrective action is recommended at this time.	Sample Date		Client Info		17 Jun 2024	11 Apr 2024	06 Feb 2024
Oil and filter change at the time of sampling has	Machine Age	hrs	Client Info		19148	19006	18953
been noted. Resample at the next service interval	Oil Age	hrs	Client Info		19148	5235	600
to monitor.	Oil Changed		Client Info		Changed	Changed	Changed
Wear All component wear rates are normal.	Sample Status				ABNORMAL	SEVERE	SEVERE
Contamination	CONTAMINAT	ION	method	limit/base	current	history1	history2
Moderate concentration of visible dirt/debris present	Water			>0.2	NEG	NEG	NEG
in the oil.	Glycol		WC Method		NEG	NEG	NEG
Fluid Condition The BN result indicates that there is suitable	WEAR METAL	S	method	limit/base	current	history1	history2
alkalinity remaining in the oil. The condition of the	Iron	ppm	ASTM D5185m	>80	3	1 07	84
oil is suitable for further service.	Chromium	ppm	ASTM D5185m	>5	<1	<u> </u>	3
	Nickel	ppm	ASTM D5185m	>2	<1	0	<1
	Titanium	ppm	ASTM D5185m		0	<1	<1
	Silver	ppm	ASTM D5185m	>3	<1	0	0
	Aluminum	ppm	ASTM D5185m	>30	2	<u> </u>	7
	Lead	ppm	ASTM D5185m	>30	<1	<1	3
	Copper	ppm	ASTM D5185m	>150	2	0	5
	Tin	ppm	ASTM D5185m		<1	<1	2
	Vanadium	ppm	ASTM D5185m		0	0	<1
	Cadmium	ppm	ASTM D5185m		0	0	0
	ADDITIVES		method	limit/base	current	history1	history2
	Deven				44	1	10
	Boron	ppm	ASTM D5185m		11	I	10
	Barium	ppm ppm	ASTM D5185m ASTM D5185m		0	0	0
	Barium	ppm	ASTM D5185m		0	0	0
	Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m		0 56	0 45	0 45
	Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		0 56 <1	0 45 <1	0 45 <1
	Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1200	0 56 <1 989	0 45 <1 693	0 45 <1 637
	Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 56 <1 989 1181	0 45 <1 693 787	0 45 <1 637 995
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1300	0 56 <1 989 1181 1072	0 45 <1 693 787 746	0 45 <1 637 995 727
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1300 3200 limit/base	0 56 <1 989 1181 1072 1306 3853 current	0 45 <1 693 787 746 884 2256 history1	0 45 <1 637 995 727 911 1980 history2
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1300 3200 limit/base	0 56 <1 989 1181 1072 1306 3853	0 45 <1 693 787 746 884 2256	0 45 <1 637 995 727 911 1980
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1300 3200 limit/base >20	0 56 <1 989 1181 1072 1306 3853 current	0 45 <1 693 787 746 884 2256 history1	0 45 <1 637 995 727 911 1980 history2
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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	1300 3200 limit/base >20	0 56 <1 989 1181 1072 1306 3853 current 8	0 45 <1 693 787 746 884 2256 history1 ▲ 24	0 45 <1 637 995 727 911 1980 history2 14
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1300 3200 limit/base >20 >20	0 56 <1 989 1181 1072 1306 3853 current 8 2	0 45 <1 693 787 746 884 2256 history1 ▲ 24 10	0 45 <1 637 995 727 911 1980 history2 14 11
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1300 3200 limit/base >20 >20	0 56 <1 989 1181 1072 1306 3853 current 8 2 4 4 <1.0	0 45 <1 693 787 746 884 2256 history1 ▲ 24 10 1	0 45 <1 637 995 727 911 1980 history2 14 11 0
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	1300 3200 limit/base >20 >20 >5 limit/base	0 56 <1 989 1181 1072 1306 3853 current 8 2 4 4 <1.0	0 45 <1 693 787 746 884 2256 history1 ▲ 24 10 1 1 20.3	0 45 <1 637 995 727 911 1980 history2 14 11 0 0 ▲ 16.8
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	1300 3200 limit/base >20 >20 >20 >5 limit/base >3	0 56 <1 989 1181 1072 1306 3853 current 8 2 4 4 <1.0 current	0 45 <1 693 787 746 884 2256 history1 ▲ 24 10 1 1 20.3 history1	0 45 <1 637 995 727 911 1980 history2 14 11 0 ▲ 16.8 history2
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m	1300 3200 imit/base >20 >20 >20 >5 imit/base >3 >20	0 56 <1 989 1181 1072 1306 3853 current 8 2 4 4 <1.0 current 0.1	0 45 <1 693 787 746 884 2256 history1 ▲ 24 10 1 20.3 history1 1.6	0 45 <1 637 995 727 911 1980 history2 14 11 0 ▲ 16.8 history2 1.5
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm trs ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m	1300 3200 imit/base >20 >20 >20 >5 imit/base >3 >20	0 56 <1 989 1181 1072 1306 3853 current 8 2 4 2 4 <1.0 current 0.1 4.3	0 45 <1 693 787 746 884 2256 history1 ▲ 24 10 1 1 20.3 history1 1.6 16.3	0 45 <1 637 995 727 911 1980 history2 14 11 0 ▲ 16.8 history2 1.5 16.0
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1300 3200 >20 >20 >20 >5 Iimit/base >3 >20 >30 >30 Iimit/base	0 56 <1 989 1181 1072 1306 3853 current 8 2 4 <1.0 current 0.1 4.3 17.6	0 45 <1 693 787 746 884 2256 history1 ▲ 24 10 1 20.3 history1 1.6 16.3 26.0	0 45 <1 637 995 727 911 1980 history2 14 11 0 ▲ 16.8 history2 1.5 1.5 16.0 27.6
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	1300 3200 >20 >20 >20 >5 limit/base >3 >20 >30 limit/base >25	0 56 <1 989 1181 1072 1306 3853 current 8 2 4 <2 4 <1.0 current 0.1 4.3 17.6 current	0 45 <1 693 787 746 884 2256 history1 ▲ 24 10 1 24 10 1 20.3 history1 1.6 16.3 26.0 history1	0 45 <1 637 995 727 911 1980 history2 14 11 0 ▲ 16.8 history2 1.5 16.0 27.6 history2

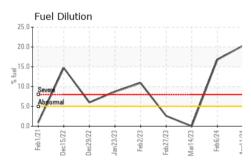


OIL ANALYSIS REPORT



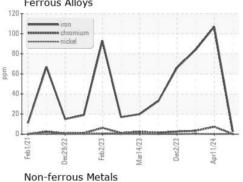


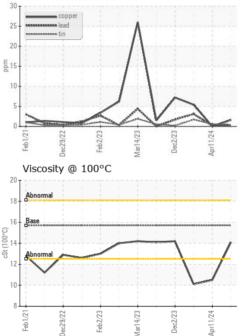


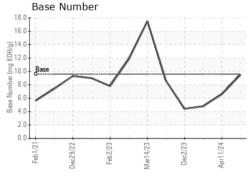


VISUAL		method	limit/base	current	history1	history2
VIOUAL		method	in the base	ourront	motory	motory
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE		NONE	NONE
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
	DTIER					
FLUID PROPE	RHES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7	14.1	1 0.5	▲ 10.1
GRAPHS						

Ferrous Alloys







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 856 - Houston South Sample No. : GFL0121782 Received : 21 Jun 2024 8515 Highway 6 South Lab Number : 06216736 Tested : 24 Jun 2024 Houston, TX Unique Number : 11089600 Diagnosed : 24 Jun 2024 - Sean Felton US 77083 Test Package : FLEET (Additional Tests: PercentFuel) Contact: Apolinar Zacarias Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. pzacariascano@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F:

Mar14/23

Dec2/23

Feb2/23

Dec29/22

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

Report Id: GFL856 [WUSCAR] 06216736 (Generated: 06/24/2024 17:31:35) Rev: 1

Submitted By: Apolinar Zacarias Page 2 of 2