

# **OIL ANALYSIS REPORT**

Sample Rating Trend



# Machine Id 122005-617

Component Diesel Engine Fluid AMOCO 300 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	ΛΑΤΙΟΝ	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0110963	GFL0061041	
Sample Date		Client Info		01 Mar 2024	14 Dec 2023	
Machine Age	hrs	Client Info		12801	0	
Oil Age	hrs	Client Info		500	0	
Oil Changed	1110	Client Info		Changed	Not Changd	
Sample Status				NORMAL	NORMAL	
				-	-	
CONTAMINAT	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	59	55	
Chromium	ppm	ASTM D5185m	>20	1	2	
Nickel	ppm	ASTM D5185m	>4	0	0	
Titanium	ppm	ASTM D5185m		0	<1	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>20	8	8	
Lead	ppm	ASTM D5185m	>40	9	6	
Copper	ppm	ASTM D5185m	>330	4	3	
Tin	ppm	ASTM D5185m	>15	2	2	
Vanadium	ppm	ASTM D5185m		0	<1	
Cadmium	ppm	ASTM D5185m		0	<1	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 9	history1 11	history2
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	9	11	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	9 0	11 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	9 0 69	11 0 69	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	9 0 69 <1	11 0 69 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	9 0 69 <1 1043	11 0 69 <1 1019	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	9 0 69 <1 1043 1292	11 0 69 <1 1019 1226	   
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	limit/base	9 0 69 <1 1043 1292 1131	11 0 69 <1 1019 1226 1129	   
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	9 0 69 <1 1043 1292 1131 1312	11 0 69 <1 1019 1226 1129 1366	
Boron 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 ASTM D5185m		9 0 69 <1 1043 1292 1131 1312 2914	11 0 69 <1 1019 1226 1129 1366 3057	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	9 0 69 <1 1043 1292 1131 1312 2914 current	11 0 69 <1 1019 1226 1129 1366 3057 history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	9 0 69 <1 1043 1292 1131 1312 2914 current 9	11 0 69 <1 1019 1226 1129 1366 3057 history1 11	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	limit/base	9 0 69 <1 1043 1292 1131 1312 2914 current 9 3	11 0 69 <1 1019 1226 1129 1366 3057 history1 11 3	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20	9 0 69 <1 1043 1292 1131 1312 2914 current 9 3 17	11 0 69 <1 1019 1226 1129 1366 3057 history1 11 3 17	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base	9 0 69 <1 1043 1292 1131 1312 2914 current 9 3 17 current	11 0 69 <1 1019 1226 1129 1366 3057 history1 11 3 17 history1	     history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	9 0 69 <1 1043 1292 1131 1312 2914 <i>current</i> 9 3 17 <i>current</i> 0.8	11 0 69 <1 1019 1226 1129 1366 3057 history1 11 3 17 history1 0.7	     history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3 >20	9 0 69 <1 1043 1292 1131 1312 2914 <i>current</i> 9 3 17 <i>current</i> 0.8 14.3	11 0 69 <1 1019 1226 1129 1366 3057 history1 11 3 17 history1 0.7 13.5	     history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	limit/base >25 >20 limit/base >3 >20 >30 >30	9 0 69 <1 1043 1292 1131 1312 2914 <i>current</i> 9 3 17 <i>current</i> 0.8 14.3 26.9 <i>current</i>	11 0 69 <1 1019 1226 1129 1366 3057 history1 11 3 17 history1 0.7 13.5 26.0 history1	     history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	Imit/base >25 >20 Imit/base >3 >20 >3 >20 >30	9 0 69 <1 1043 1292 1131 1312 2914 <i>current</i> 9 3 17 <i>current</i> 0.8 14.3 26.9	11 0 69 <1 1019 1226 1129 1366 3057 history1 11 3 17 history1 0.7 13.5 26.0	    history2  history2  history2  history2

Contact/Location: SEE GFLREG8 - MITCH HERSHBERGER - GFL629



7.0

Vumber (mg KOH/g) 0.5 0.6 0.6 0.6 0.6 0.0 0.0 0.0 0.0 0.0

D.2 Mase Mr 1.0 0.0 Dec14/23

18 17 Abno 16 Bas

13 Abr 12

# **OIL ANALYSIS REPORT**

	VISUAL		method	limit/base	current	history1	history2
	White Metal	scalar	*Visual	NONE	NONE	NONE	
	Yellow Metal		*Visual	NONE	NONE	NONE	
	Precipitate		*Visual	NONE	NONE	NONE	
	Silt		*Visual	NONE	NONE	NONE	
	Debris		*Visual	NONE	NONE	NONE	
	Sand/Dirt		*Visual	NONE	NONE	NONE	
Mar1/24 +	Appearance		*Visual	NORML	NORML	NORML	
Mar	Odor		*Visual	NORML	NORML	NORML	
cosity @ 100°C	Emulsified Water		*Visual	>0.2	NEG	NEG	
	Free Water	scalar	*Visual		NEG	NEG	
omal	FLUID PROPE	ERTIES	method	limit/base	current	history1	history2
3	Visc @ 100°C	cSt	ASTM D445	14.4	14.0	13.9	
	GRAPHS						
rmal	Ferrous Alloys						
	60 T						
4 C T	50						
- y y	40						
	톱 30 -						
	20						
	10-						
	0			/24			
	Dec14/23			Mar1/24			
	□ Non-ferrous Meta	ale					
	<sup>10</sup> T	115					
	copper			National Address of the Owner			
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	Dec			M			
	Viscosity @ 100°	С			Base Numbe	er	
	18			7.0	E		
	17 Abnormal			6.0			
	16			(PHO) HO) 4.0 una 4.0 una 4.0			
	2 15 Bare			¥	i 		
	(3) 15 - Base 5; 14 -				1		
	12			2.0			
	Abnormai			6			
	12-			1.0	1		
	114			0.0	23		P.0
	Dec14/23			Mar1/24	Dec14/23		20 IreM
	: WearCheck USA - 50				GFL E	nvironmental - 62	
Laboratory		Receiv Testeo		6 Mar 2024 7 Mar 2024		:	3947 US 131 N Kalkaska M
ANAR Sample No.	· 06100979	rested	a .0/	iviai 2024			Kalkaska, M
Sample No. Lab Number			osed · 08	Mar 2024 - WA	es Davis	1	IS 49646-8429
Sample No. Lab Number Unique Number	r :10913375	Diagn	<b>osed</b> : 08	8 Mar 2024 - W		U ontact: MITCH HE	IS 49646-842 ERSHBERGER
Sample No.	r :10913375 9 :FLEET	Diagno					

Contact/Location: SEE GFLREG8 - MITCH HERSHBERGER - GFL629