

## **OIL ANALYSIS REPORT**

Sample Rating Trend







Machine Id 429015 Component **Front Differential** Fluic GEAR OIL SAE 75W90 (--- GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) GEAR OIL SAE 75W90. Please confirm.

#### Wear

All component wear rates are normal.

#### Contamination

The water content is negligible. There is no indication of any contamination in the oil.

#### Fluid Condition

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

Iron  ppm  ASTM D518(m)  >500  162     Nickel  ppm  ASTM D518(m)  >10  <1     Nickel  ppm  ASTM D518(m)  >10  <1     Silver  ppm  ASTM D518(m)  >25  4     Auminum  ppm  ASTM D518(m)  >25  4     Copper  ppm  ASTM D518(m)  >100  16     Auminum  ppm  ASTM D518(m)  >10  <1     Antimony  ppm  ASTM D518(m)  >5  0     Vanadium  pm  ASTM D518(m)  >5  0     Antimony  ppm  ASTM D518(m)  0      Adminum  pm  ASTM D518(m)  0	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age  kms  Client Info  883973      Oil Age  kms  Client Info  0      Oil Changed  Client Info  NORMAL      Sample Status  I  NORMAL      WEAR METALS  method  Imit/base  current  History1  History1    Iron  ppm  ASTM 05185(m)  >500  162      Chromium  ppm  ASTM 05185(m)  >10  <1	Sample Number		Client Info		GFL0089768		
Oil Age  kms  Client Info  0      Oil Changed  Client Info  NA      Sample Status  Client Info  NA      WEAR METALS  method  limit/base  current  history1     Chromium  ppm  ASTM 0518(m)  >10  <1	Sample Date		Client Info		01 Aug 2023		
Oil Age  kms  Client Info  0      Oil Changed  Client Info  NA      Sample Status  reltod  limit/base  current  history1     WEAR METALS  method  limit/base  current  history1     Chromium  ppm  ASTM 05186(m)  >10  <1		kms	Client Info		•		
Oil Changed  Client Info  N/A      Sample Status  Imit Dots  NORMAL   Imit Dots  Imit Dots <t< td=""><td>U</td><td>kms</td><td>Client Info</td><td></td><th>0</th><td></td><td></td></t<>	U	kms	Client Info		0		
Sample Status  NORMAL      WEAR METALS  method  limit/base  current  history1  history1    Iron  ppm  ASTM 05185(m)  >500  162      Nickel  ppm  ASTM 05185(m)  >10  <1	-		Client Info		N/A		
Iron  ppm  ASTM D5185(m)  >500  162      Nickel  ppm  ASTM D5185(m)  >10  <1	-				NORMAL		
Dpm  ASTM D5185(m)  >10  <1	WEAR METAL	S	method	limit/base	current	history1	history2
Chromium  ppm  ASTM D5185(m)  >10  <1      Nickel  ppm  ASTM D5185(m)  >10  <1	Iron	ppm	ASTM D5185(m)	>500	162		
Nickel  ppm  ASTM D5185(m)  >10  <1      Titanium  ppm  ASTM D5185(m)  0      Silver  ppm  ASTM D5185(m)  >25  4      Aluminum  ppm  ASTM D5185(m)  >25  1      Lead  ppm  ASTM D5185(m)  >25  1      Copper  ppm  ASTM D5185(m)  >10  <1	Chromium	ppm	ASTM D5185(m)	>10	<1		
Titanium  ppm  ASTM D5188(m)  0      Silver  ppm  ASTM D5188(m)  >25  4      Aluminum  ppm  ASTM D5188(m)  >25  1      Lead  ppm  ASTM D5188(m)  >25  1      Copper  ppm  ASTM D5188(m)  >10  <1	Nickel		ASTM D5185(m)	>10	<1		
Silver  ppm  ASTM D5185(m)  0      Aluminum  ppm  ASTM D5185(m)  >25  4      Lead  ppm  ASTM D5185(m)  >25  1      Copper  ppm  ASTM D5185(m)  >10  <1	Titanium		( )		0		
Aluminum  ppm  ASTM D5185(m)  >25  4      Lead  ppm  ASTM D5185(m)  >25  1      Copper  ppm  ASTM D5185(m)  >10  <1			· · ·				
Lead  ppm  ASTM D5185(m)  >25  1      Copper  ppm  ASTM D5185(m)  >100  16      Antimony  ppm  ASTM D5185(m)  >5  0      Vanadium  ppm  ASTM D5185(m)  >5  0      Vanadium  ppm  ASTM D5185(m)  0       Cadmium  ppm  ASTM D5185(m)  0       ADDITIVES  method  limit/base  current  history1  history2    Barium  ppm  ASTM D5185(m)  200  <1	Aluminum		. ,	>25			
Copper  ppm  ASTM D5185/m  >100  16      Tin  ppm  ASTM D5185/m  >10  <1			1				
Tin  ppm  ASTM D5185(m)  >10  <1      Antimony  ppm  ASTM D5185(m)  >5  0      Vanadium  ppm  ASTM D5185(m)  0      Beryllium  ppm  ASTM D5185(m)  0      ADDITIVES  method  limi/base  current  history1  history2    Boron  ppm  ASTM D5185(m)  200  <1			( )				
Antimony  ppm  ASTM D5185(m)  >5  0      Vanadium  ppm  ASTM D5185(m)  0       Beryllium  ppm  ASTM D5185(m)  0       Cadmium  ppm  ASTM D5185(m)  0       ADDITIVES  method  limit/base  current  history1  history2    Boron  ppm  ASTM D5185(m)  200  <1			· · ·		-		
Vanadium  ppm  ASTM D5185(m)  0      Beryllium  ppm  ASTM D5185(m)  0      Cadmium  ppm  ASTM D5185(m)  0      ADDITIVES  method  limit/base  current  history1  history2    Boron  ppm  ASTM D5185(m)  400  183      Barium  ppm  ASTM D5185(m)  200  <1			. ,				
Beryllium  ppm  ASTM D5185(m)  0      Cadmium  ppm  ASTM D5185(m)  0      ADDITIVES  method  limit/base  current  history1  history2    Boron  ppm  ASTM D5185(m)  400  183      Barium  ppm  ASTM D5185(m)  200  <1      Malganese  ppm  ASTM D5185(m)  12  3      Magnese  ppm  ASTM D5185(m)  12  3      Calcium  ppm  ASTM D5185(m)  12  3      Magnese  ppm  ASTM D5185(m)  125  21      Calcium  ppm  ASTM D5185(m)  125  21      Sulfur  ppm  ASTM D5185(m)  2500  19422      Sulfur  ppm  ASTM D5185(m)  >75 <td>•</td> <td></td> <td></td> <td></td> <th></th> <td></td> <td></td>	•						
Cadmium  ppm  ASTM D5185(m)  0      ADDITIVES  method  limit/base  current  history1  history2    Boron  ppm  ASTM D5185(m)  400  183      Barium  ppm  ASTM D5185(m)  200  <1      Magnese  ppm  ASTM D5185(m)  12  <1      Magnesium  ppm  ASTM D5185(m)  12  3      Calcium  ppm  ASTM D5185(m)  150  77      Calcium  ppm  ASTM D5185(m)  1650  1394      Vilfur  ppm  ASTM D5185(m)  125  21      CONTAMINANTS  method  limit/base  current  history1  history2    Silicon  ppm  ASTM D5185(m)  >75  10      Sodium  ppm  ASTM D5185(m)  >20 <td></td> <td></td> <td>( )</td> <td></td> <th></th> <td></td> <td></td>			( )				
ADDITIVES  method  limit/base  current  history1  history2    Boron  ppm  ASTM D5185(m)  400  183      Barium  ppm  ASTM D5185(m)  200  <1	•						
Boron  ppm  ASTM D5185(m)  400  183      Barium  ppm  ASTM D5185(m)  200  <1	ADDITIVES			limit/base		historv1	historv2
Barium  ppm  ASTM D5185(m)  200  <1      Molybdenum  ppm  ASTM D5185(m)  12  <1		ppm					
Molybdenum  ppm  ASTM D5185(m)  12  <1      Manganese  ppm  ASTM D5185(m)  12  3      Magnesium  ppm  ASTM D5185(m)  12  3      Calcium  ppm  ASTM D5185(m)  150  77      Calcium  ppm  ASTM D5185(m)  1650  1394      Calcium  ppm  ASTM D5185(m)  125  21      Zinc  ppm  ASTM D5185(m)  125  21      Sulfur  ppm  ASTM D5185(m)  22500  19422      Lithium  ppm  ASTM D5185(m)  >75  10      Sodium  ppm  ASTM D5185(m)  >20  1      VISUAL  method  limit/base  current  history1  history2    White Metal  scalar<			( )				
Manganese  ppm  ASTM D5185(m)  12  3      Magnesium  ppm  ASTM D5185(m)  12  3      Calcium  ppm  ASTM D5185(m)  150  77      Phosphorus  ppm  ASTM D5185(m)  1650  1394      Zinc  ppm  ASTM D5185(m)  125  21      Sulfur  ppm  ASTM D5185(m)  22500  19422      CONTAMINANTS  method  limit/base  current  history1  history2    Silicon  ppm  ASTM D5185(m)  >75  10      Sodium  ppm  ASTM D5185(m)  >20  1      VISUAL  method  limit/base  current  history1  history2    White Metal  scalar  Visual*  NONE  NONE      Yellow Metal  scala							
Magnesium  ppm  ASTM D5185(m)  12  3      Calcium  ppm  ASTM D5185(m)  150  77      Phosphorus  ppm  ASTM D5185(m)  1650  1394      Zinc  ppm  ASTM D5185(m)  125  21      Sulfur  ppm  ASTM D5185(m)  22500  19422      Lithium  ppm  ASTM D5185(m)  22500  19422      CONTAMINANTS  method  limit/base  current  history1  history2    Silicon  ppm  ASTM D5185(m)  >75  10      Sodium  ppm  ASTM D5185(m)  >20  1      VISUAL  method  limit/base  current  history1  history2    White Metal  scalar  Visual*  NONE  NONE      Yellow Metal	-		. ,	12			
Calcium  ppm  ASTM D5185(m)  150  77      Phosphorus  ppm  ASTM D5185(m)  1650  1394      Zinc  ppm  ASTM D5185(m)  125  21      Sulfur  ppm  ASTM D5185(m)  125  21      Lithium  ppm  ASTM D5185(m)  22500  19422      Lithium  ppm  ASTM D5185(m)  21      CONTAMINANTS  method  limit/base  current  history1  history2    Silicon  ppm  ASTM D5185(m)  >75  10      Sodium  ppm  ASTM D5185(m)  >20  1      VISUAL  method  limit/base  current  history1  history2    White Metal  scalar  Visual*  NONE  NONE      Yellow Metal  scalar  Visual*	0			10			
PhosphorusppmASTM D5185(m)16501394ZincppmASTM D5185(m)12521SulfurppmASTM D5185(m)2250019422LithiumppmASTM D5185(m)<<1	-						
ZincppmASTM D5185(m)12521SulfurppmASTM D5185(m)2250019422LithiumppmASTM D5185(m)2250019422CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>7510SodiumppmASTM D5185(m)>7510PotassiumppmASTM D5185(m)>201VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONESitscalarVisual*NONENONESitscalarVisual*NONENONESand/DirtscalarVisual*NONENONEQdorscalarVisual*NORMLNORML			. ,				
SulfurppmASTM D5185(m)2250019422LithiumppmASTM D5185(m)2250019422CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>7510SodiumppmASTM D5185(m)>7510PotassiumppmASTM D5185(m)>201VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONESiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORML			( )				
LithiumppmASTM D5185(m)<1CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>7510SodiumppmASTM D5185(m)>751PotassiumppmASTM D5185(m)>201VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONEPrecipitatescalarVisual*NONENONESiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEQdorscalarVisual*NORMLNORML	-						
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>7510SodiumppmASTM D5185(m)1PotassiumppmASTM D5185(m)>201VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONEPrecipitatescalarVisual*NONENONESiltscalarVisual*NONENONEDebrisscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORML				22500	-		
SiliconppmASTM D5185(m)>7510SodiumppmASTM D5185(m)1PotassiumppmASTM D5185(m)>201VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONEPrecipitatescalarVisual*NONENONESiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEQdorscalarVisual*NORMLNORML			ASTM D5185(m)		<1		
SodiumppmASTM D5185(m)1PotassiumppmASTM D5185(m)>201VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONEPrecipitatescalarVisual*NONENONESiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORML	CONTAMINAN	TS	method	limit/base	current	history1	history2
PotassiumppmASTM D5185(m)>201VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONEPrecipitatescalarVisual*NONENONESiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORML		ppm	( )		10		
VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONEPrecipitatescalarVisual*NONENONESiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORML	Sodium	ppm	ASTM D5185(m)		1		
White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONEPrecipitatescalarVisual*NONENONESiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORML	Potassium	ppm	ASTM D5185(m)	>20	1		
Yellow MetalscalarVisual*NONENONEPrecipitatescalarVisual*NONENONESiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORML	VISUAL		method	limit/base	current	history1	history2
PrecipitatescalarVisual*NONENONESiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORML	White Metal	scalar	Visual*	NONE	NONE		
SiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORML	Yellow Metal	scalar	Visual*	NONE	NONE		
DebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORML	Precipitate	scalar	Visual*	NONE	NONE		
Sand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORML	Silt	scalar	Visual*	NONE	NONE		
AppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORML	Debris	scalar	Visual*	NONE	NONE		
Odor scalar Visual* NORML NORML	Sand/Dirt	scalar	Visual*	NONE	NONE		
	Appearance	scalar	Visual*	NORML	NORML		
Emulsified Water scalar Visual* >.2 NEG	Odor	scalar	Visual*	NORML	NORML		
	Emulsified Water	scalar	Visual*	>.2	NEG		
Free Water  scalar  Visual*  NEG      25:43) Rev: 1  Contact/Location: GFL Tech - GFL5	Free Water	scalar	Visual*				

Report Id: GFL582 [WCAMIS] 02574903 (Generated: 08/30/2023 13:25:43) Rev: 1



# **OIL ANALYSIS REPORT**



2	FLUID PROF	PERTIES me	thod limit	/base	current	history1	history2
	Visc @ 40°C	cSt ASTM	D7279(m) 109		87.8		
	SAMPLE IM	AGES me	thod limit	/base	current	history1	history2
23	Color					no image	no image
Aug1/23	Bottom				(max. 59° C)	no image	no image
	GRAPHS						
2	Iron (ppm)			120 T	Lead (ppm)		
1	500 Severe			100-	Severe		
La	000-			80 - Ed 60 -			
	500 - Abnormal		_	40-	Abnormal		
	0			20			
	Aug1/23		Aug1/23 -	5	Aug 1/23		Aug1/23.
	⊲ Aluminum (ppn	n)	4		™ Chromium (pp	m)	4
	120 100 - Severe			30 25	Severe		1
	80 -			20-	<b>1</b>		
	60 40			튭 15 - 10 -	Abnormal		
	20 Abnormal			5			1
	0		/23	٥Ļ	77		/23
	Aug 1/23		Aug1/23		Aug 1/23		Aug1/23
	Copper (ppm)			250 T	Silicon (ppm)		
	200 - Severe			200-	Severe		
E	150			150 -			
	100 + 0			100-	Abnormal		
	50			50-			
	Aug1/23		Aug1/23 -	5	Aug 1/23		Aug1/23.
	⊲ Viscosity @ 40°	C	4		Additives		4
	Abnormal			<sup>1500</sup> T	calcium		*****
				1000 -	nnnnnnnnnn phosphorus zinc		
cst (40)	120 - Base 110 - Base 100 -			튭. 500 -			
	90 -			500			
	80 Abnormal		/23	٥L	/72		/23
	Aug1/23		Aug1/23		Aug 1/23		Aug1/23
CALLA ISO 17025:2017 Accredited Laboratory Accredited Laboratory Unique Number Test Package To discuss this sample report, c	: WearCheck - C8 : GFL0089768 : 02574903 : 5619954 : MOB 1	Received Diagnosed Diagnostician	: 09 Aug 20 : 09 Aug 20 : Wes Davis	23 23	L 5H9 <b>GFL En</b>	3469 A Con	5 <b>82 - Nanaimo</b> qua Terra Rd., Cassidy, BC CA V0R 1H0 tact: GFL Tech no@gmail.com
Test denoted (*) outside scope Validity of results and interpreta	of accreditation, (m)	method modified	l, (e) tested a			wegneer	T: F:

Contact/Location: GFL Tech - GFL582 Page 2 of 2