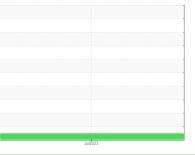


# **OIL ANALYSIS REPORT**

Sample Rating Trend







Machine Id WL0415 Component Gearbox Fluid 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

There is no indication of any contamination in the oil.

#### Fluid Condition

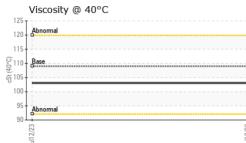
The condition of the oil is acceptable for the time in service.

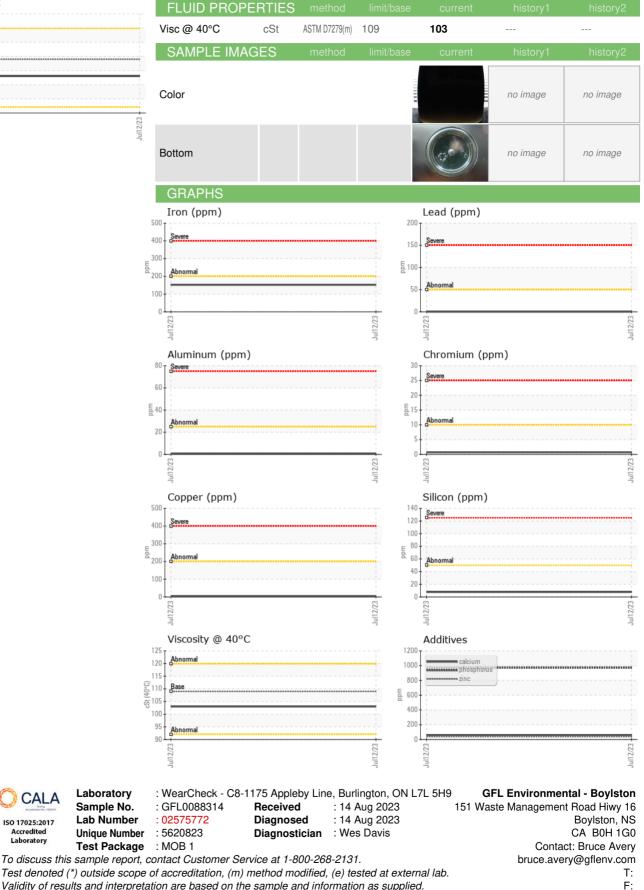
Sample Number         Client Info         I 2 Jul 2023             Machine Age         hrs         Client Info         5138             Oil Age         hrs         Client Info         5138             Oil Age         hrs         Client Info         Changed             Sample Status         Image         Image              WEAR METALS         method         Imit/base         current         history1         history2           Iron         ppm         ASTM 05185(m)         >10         <1             Nickel         ppm         ASTM 05185(m)         >10         <1             Aluminum         ppm         ASTM 05185(m)         >25         <1             Aduminum         ppm         ASTM 05185(m)         >20         3             Aduminum         ppm         ASTM 05185(m)         >5         0             Aduminum         ppm         ASTM 05185(m)         >0	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         5138             Oil Age         hrs         Client Info         1000             Sample Status         I         INORINAL             WEAR METALS         method         Imit/base         current         history1         history2           Iron         ppm         ASTMD5185(m)         >200         152             Nickel         ppm         ASTMD5185(m)         >10         <1             Silver         ppm         ASTMD5185(m)         >200         132             Auminum         ppm         ASTMD5185(m)         >200         3             Copper         ppm         ASTMD5185(m)         >200         3             Auminum         ppm         ASTMD5185(m)         >200         3             Copper         ppm         ASTMD5185(m)         0              Auminum         ppm         ASTMD5185(m)         0        C	Sample Number		Client Info		GFL0088314		
Oil Age         hrs         Client Info         1000             Sample Status         Image         Image	Sample Date		Client Info		12 Jul 2023		
Oil Changed Sample Status         Client Info         Changed NORNAL             WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >200         152             Chromium         ppm         ASTM D5185m         >10         <1             Nickel         ppm         ASTM D5185m         >10         <1             Nickel         ppm         ASTM D5185m         >20         1             Silver         ppm         ASTM D5185m         >50         <1             Copper         ppm         ASTM D5185m         >50         <1             Copper         ppm         ASTM D5185m         >50         0             Antimony         ppm         ASTM D5185m         >50         0             Vanadium         pm         ASTM D5185m         50         0             Vanadium         pm         ASTM D5185m         10 <td< th=""><th>Machine Age</th><th>hrs</th><th>Client Info</th><th></th><th>5138</th><th></th><th></th></td<>	Machine Age	hrs	Client Info		5138		
Sample Status         Internet         NORMAL             WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM05165m         >200         152             Chromium         ppm         ASTM05165m         >10         <1             Nickel         ppm         ASTM05165m         >10         <1             Silver         ppm         ASTM05165m         >25         <1             Auminum         ppm         ASTM05165m         >25         <1             Auminum         ppm         ASTM05165m         >25         <1             Auminum         ppm         ASTM05165m         >20         3             Auminum         ppm         ASTM05165m         >20              Autimony         ppm         ASTM05165m         20              Capper         ppm         ASTM05165m         20 </th <th>Oil Age</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>1000</th> <th></th> <th></th>	Oil Age	hrs	Client Info		1000		
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185(m)         >200         152             Chromium         ppm         ASTM D5185(m)         >10         <1             Nickel         ppm         ASTM D5185(m)         >10         <1             Silver         ppm         ASTM D5185(m)         >20         <1             Aluminum         ppm         ASTM D5185(m)         >50         <1             Lead         ppm         ASTM D5185(m)         >50         <1             Antimony         ppm         ASTM D5185(m)         >50         0             Antimony         ppm         ASTM D5185(m)         >0              Antimony         ppm         ASTM D5185(m)         0              Vanadium         pm         ASTM D5185(m)         0         0             Antimony         ppm         ASTM D5185(m	Oil Changed		Client Info		Changed		
Iron         ppm         ASTM D5185(m)         >200         152             Chromium         ppm         ASTM D5185(m)         >10         <1             Nickel         ppm         ASTM D5185(m)         >10         <1             Titanium         ppm         ASTM D5185(m)         0              Aluminum         ppm         ASTM D5185(m)         >25         <1             Lead         ppm         ASTM D5185(m)         >50         <1             Lead         ppm         ASTM D5185(m)         >50         <1             Antimony         ppm         ASTM D5185(m)         >10         0             Vanadium         pm         ASTM D5185(m)         0              Vanadium         pm         ASTM D5185(m)         0              Cadmium         pm         ASTM D5185(m)         100         105             Boron         pm         ASTM D5185(m) </th <th>Sample Status</th> <th></th> <th></th> <th></th> <th>NORMAL</th> <th></th> <th></th>	Sample Status				NORMAL		
Chromium         ppm         ASTM D5186m         >10         <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel         ppm         ASTM D5185(m)         >10         <1	Iron	ppm	ASTM D5185(m)	>200	152		
Titanium         ppm         ASTM D5185(m)         0             Silver         ppm         ASTM D5185(m)         525         <1             Aluminum         ppm         ASTM D5185(m)         >500         <1             Lead         ppm         ASTM D5185(m)         >500         <1             Copper         ppm         ASTM D5185(m)         >50         0             Antimony         ppm         ASTM D5185(m)         >5         0             Antimony         ppm         ASTM D5185(m)         >5         0	Chromium	ppm	ASTM D5185(m)	>10	<1		
Silver         ppm         ASTM D5185(m)         0             Aluminum         ppm         ASTM D5185(m)         >25         <1	Nickel	ppm	ASTM D5185(m)	>10	<1		
Aluminum         ppm         ASTM D5185(m)         >25         <1             Lead         ppm         ASTM D5185(m)         >50         <1	Titanium	ppm	ASTM D5185(m)		0		
Lead         ppm         ASTM D5185(m)         >50         <1	Silver	ppm	ASTM D5185(m)		0		
Copper         ppm         ASTM D5185(m)         >200         3             Tin         ppm         ASTM D5185(m)         >10         0             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         imit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         200         0             Magnesium         ppm         ASTM D5185(m)         12         -1             Magnesium         ppm         ASTM D5185(m)         12         -1             Calcium         ppm         ASTM D5185(m)         125         40             Sulfur         ppm         ASTM D5185(m)	Aluminum	ppm	ASTM D5185(m)	>25	<1		
Tin         ppm         ASTM D5185(m)         >10         0             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         Imit/base         current         history1            Boron         ppm         ASTM D5185(m)         200         0             Malyddenum         ppm         ASTM D5185(m)         12         0             Magnesium         ppm         ASTM D5185(m)         12              Calcium         ppm         ASTM D5185(m)         125         400             Sulfur         ppm         ASTM D5185(m)         22500         26258             Sulfur         ppm         ASTM D5185(m)	Lead	ppm	ASTM D5185(m)	>50	<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)         400         105             Barium         ppm         ASTM D5185(m)         200         0             Magnaese         ppm         ASTM D5185(m)         12         0             Magnaesium         ppm         ASTM D5185(m)         12         40             Zinc         ppm         ASTM D5185(m)         125         40             Sulfur         ppm         ASTM D5185(m)         2200         262528             Silicon         ppm         ASTM D5185(m)         20         2	Copper	ppm	ASTM D5185(m)	>200	3		
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         105             Maryanese         ppm         ASTM D5185(m)         12         0             Maryanese         ppm         ASTM D5185(m)         12         <1             Maryanese         ppm         ASTM D5185(m)         150         61             Calcium         ppm         ASTM D5185(m)         125         40             Sulfur         ppm         ASTM D5185(m)         22              Sulfur         ppm         ASTM D5185(m)         20         26258             Sulfur         ppm         ASTM D5185(m)         >20         2	Tin	ppm	ASTM D5185(m)	>10	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         0             Barium         ppm         ASTM D5185(m)         200         0             Manganese         ppm         ASTM D5185(m)         12         0             Magnesium         ppm         ASTM D5185(m)         12         <1	Antimony	ppm	ASTM D5185(m)	>5	0		
CadmiumppmASTM D5185(m)0ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185(m)400105BariumppmASTM D5185(m)2000MolybdenumppmASTM D5185(m)120MagneseeppmASTM D5185(m)120MagnesiumppmASTM D5185(m)12<1CalciumppmASTM D5185(m)15061PhosphorusppmASTM D5185(m)12540SulfurppmASTM D5185(m)2250026258LithiumppmASTM D5185(m)>508SodiumppmASTM D5185(m)>202VisualppmASTM D5185(m)>202VisualNONENONENONEVisualNONENONENONESiltscalarVisual*NONENONESiltscalarVisual*NONENONESiltscalarVisual*NONEVLITESiltscalarVisual*NONENONESiltscalarVisual*NONE<	Vanadium	ppm	ASTM D5185(m)		0		
ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185(m)400105BariumppmASTM D5185(m)2000MolybdenumppmASTM D5185(m)120MaganeseppmASTM D5185(m)120MagnesiumppmASTM D5185(m)12<1CalciumppmASTM D5185(m)15061PhosphorusppmASTM D5185(m)12540SulfurppmASTM D5185(m)12540SulfurppmASTM D5185(m)2250026258CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>508PotassiumppmASTM D5185(m)>202VISUALmethodlimit/basecurrenthistory1history2Vhite MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONESiliscalarVisual*NONENONESilitscalarVisual*NONENONEDebrisscalarVisual*<	Beryllium	ppm	ASTM D5185(m)		0		
Boron         ppm         ASTM D5185(m)         400         105             Barium         ppm         ASTM D5185(m)         200         0             Molybdenum         ppm         ASTM D5185(m)         12         0             Manganese         ppm         ASTM D5185(m)         12         <1             Magnesium         ppm         ASTM D5185(m)         12         <1             Calcium         ppm         ASTM D5185(m)         150         61             Phosphorus         ppm         ASTM D5185(m)         150         972             Sulfur         ppm         ASTM D5185(m)         2500         26258             Sulfur         ppm         ASTM D5185(m)         >20         2             Solitum         ppm         ASTM D5185(m)         >50         8             Solitum         ppm         ASTM D5185(m)         >20         2             Visual         NONE<	Cadmium	ppm	ASTM D5185(m)		0		
Barium         ppm         ASTM D5185(m)         200         0             Molybdenum         ppm         ASTM D5185(m)         12         0             Manganese         ppm         ASTM D5185(m)         12         <1             Magnesium         ppm         ASTM D5185(m)         12         <1             Calcium         ppm         ASTM D5185(m)         150         61             Phosphorus         ppm         ASTM D5185(m)         1650         972             Sulfur         ppm         ASTM D5185(m)         125         40             Sulfur         ppm         ASTM D5185(m)         22500         26258             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >50         8             Sodium         ppm         ASTM D5185(m)         >20         2             Visual*         NONE	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185(m)         12         0            Manganese         ppm         ASTM D5185(m)         12         <1	Boron	ppm	ASTM D5185(m)	400	105		
ManganeseppmASTM D5185(m)12MagnesiumppmASTM D5185(m)12<1	Barium	ppm	ASTM D5185(m)	200	0		
Magnesium         ppm         ASTM D5185(m)         12         <1	Molybdenum	ppm	ASTM D5185(m)	12	0		
CalciumppmASTM D5185(m)15061PhosphorusppmASTM D5185(m)1650972ZincppmASTM D5185(m)12540SulfurppmASTM D5185(m)2250026258LithiumppmASTM D5185(m)2250026258CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>508SodiumppmASTM D5185(m)>508PotassiumppmASTM D5185(m)>202VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONESiltscalarVisual*NONEVLITESiltscalarVisual*NONEVLITESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORML	Manganese	ppm	ASTM D5185(m)		2		
PhosphorusppmASTM D5185(m)1650972ZincppmASTM D5185(m)12540SulfurppmASTM D5185(m)2250026258LithiumppmASTM D5185(m)22CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>508SodiumppmASTM D5185(m)>202PotassiumppmASTM D5185(m)>202VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONESiltscalarVisual*NONEVLITESebrisscalarVisual*NONEVLITEAppearancescalarVisual*NONENONE	Magnesium	ppm	ASTM D5185(m)	12	<1		
ZincppmASTM D5185(m)12540SulfurppmASTM D5185(m)2250026258LithiumppmASTM D5185(m)2CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>508SodiumppmASTM D5185(m)>508PotassiumppmASTM D5185(m)>202VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONESiltscalarVisual*NONEVLITESiltscalarVisual*NONEVLITESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORML	Calcium	ppm	ASTM D5185(m)	150	61		
SulfurppmASTM D5185(m)2250026258LithiumppmASTM D5185(m)22CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>508SodiumppmASTM D5185(m)>508PotassiumppmASTM D5185(m)>202VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONESiltscalarVisual*NONENONESiltscalarVisual*NONEVLITESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORML	Phosphorus	ppm	ASTM D5185(m)	1650	972		
LithiumppmASTM D5185(m)2CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>508SodiumppmASTM D5185(m)>201PotassiumppmASTM D5185(m)>202VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONESiltscalarVisual*NONEVLITESiltscalarVisual*NONEVLITEDebrisscalarVisual*NONENONEAppearancescalarVisual*NORMLNORML	Zinc	ppm	ASTM D5185(m)	125	40		
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>508SodiumppmASTM D5185(m)1PotassiumppmASTM D5185(m)>202VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONEPrecipitatescalarVisual*NONENONESiltscalarVisual*NONEVLITESebrisscalarVisual*NONENONEAppearancescalarVisual*NORMLNORML	Sulfur	ppm	ASTM D5185(m)	22500	26258		
SiliconppmASTM D5185(m)>508SodiumppmASTM D5185(m)1PotassiumppmASTM D5185(m)>202VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONEPrecipitatescalarVisual*NONENONESiltscalarVisual*NONEVLITEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORML	Lithium	ppm	ASTM D5185(m)		2		
SodiumppmASTM D5185(m)1PotassiumppmASTM D5185(m)>202VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONEPrecipitatescalarVisual*NONENONESiltscalarVisual*NONEVLITEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NORMLNORML	CONTAMINAN	TS	method	limit/base	current	history1	history2
PotassiumppmASTM D5185(m)>202VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONEPrecipitatescalarVisual*NONENONESiltscalarVisual*NONEVLITEDebrisscalarVisual*NONEVLITESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORML	Silicon	ppm	ASTM D5185(m)	>50	8		
VISUALmethodlimit/basecurrenthistory1history2White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONEPrecipitatescalarVisual*NONENONESiltscalarVisual*NONEVLITEDebrisscalarVisual*NONEVLITESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORML	Sodium	ppm	ASTM D5185(m)		1		
White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONEPrecipitatescalarVisual*NONENONESiltscalarVisual*NONEVLITEDebrisscalarVisual*NONEVLITESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORML	Potassium	ppm	ASTM D5185(m)	>20	2		
Yellow MetalscalarVisual*NONENONEPrecipitatescalarVisual*NONENONESiltscalarVisual*NONEVLITEDebrisscalarVisual*NONEVLITESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORML	VISUAL		method	limit/base	current	history1	history2
PrecipitatescalarVisual*NONENONESiltscalarVisual*NONEVLITEDebrisscalarVisual*NONEVLITESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORML	White Metal	scalar	Visual*	NONE	NONE		
SiltscalarVisual*NONEVLITEDebrisscalarVisual*NONEVLITESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORML	Yellow Metal	scalar	Visual*	NONE	NONE		
DebrisscalarVisual*NONEVLITESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORML	Precipitate	scalar	Visual*	NONE			
Sand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORML	Silt	scalar	Visual*	NONE			
Appearance scalar Visual* NORML NORML	Debris	scalar	Visual*	NONE	VLITE		
	Sand/Dirt	scalar					
	Appearance	scalar					
	Odor	scalar	Visual*	NORML	NORML		
Emulsified Water scalar Visual* >0.2 NEG		scalar		>0.2			
Free Water         scalar         Visual*         NEG             k:49:06) Rev: 1         Contact/Location: Bruce Avery - GFL96		scalar	Visual*			 ocation: Bruco	

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# **OIL ANALYSIS REPORT**





Validity of results and interpretation are based on the sample and information as supplied.

CALA

ISO 17025:2017

Accredited

Laboratory