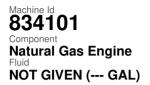


# **OIL ANALYSIS REPORT**

Sample Rating Trend





# DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

#### Wear

Metal levels are typical for a new component breaking in.

### Contamination

Elevated aluminum (Al) 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.

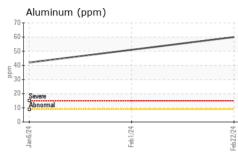
# Fluid Condition

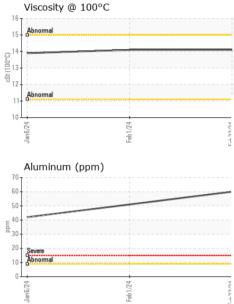
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		Jar	2024	Feb2024 Feb20	24	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0111848	GFL0108262	GFL0108335
Sample Date		Client Info		22 Feb 2024	01 Feb 2024	06 Jan 2024
Machine Age	hrs	Client Info		490	341	156
Oil Age	hrs	Client Info		490	341	156
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	59	49	45
Chromium	ppm	ASTM D5185m	>4	2	2	2
Nickel	ppm	ASTM D5185m	>2	2	2	2
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	60	51	42
Lead	ppm	ASTM D5185m	>30	0	<1	<1
Copper	ppm	ASTM D5185m		19	15	15
Tin	ppm	ASTM D5185m	>4	<1	<1	1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES						
ADDITIVES		method				history2
Boron	ppm	method ASTM D5185m	limit/base	current 17	history1 28	history2 47
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	17	28	47
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	17 11	28 1	47 3
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	17 11 68	28 1 59	47 3 61
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	17 11 68 15	28 1 59 13	47 3 61 13
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	17 11 68 15 707	28 1 59 13 755	47 3 61 13 778
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	17 11 68 15 707 1126	28 1 59 13 755 1071	47 3 61 13 778 1160
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 ASTM D5185m	limit/base	17 11 68 15 707 1126 673	28 1 59 13 755 1071 717	47 3 61 13 778 1160 806
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	17 11 68 15 707 1126 673 864	28 1 59 13 755 1071 717 869	47 3 61 13 778 1160 806 907
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	17 11 68 15 707 1126 673 864 2387	28 1 59 13 755 1071 717 869 2227	47 3 61 13 778 1160 806 907 2409
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 ASTM D5185m	limit/base	17 11 68 15 707 1126 673 864 2387 current	28 1 59 13 755 1071 717 869 2227 history1	47 3 61 13 778 1160 806 907 2409 history2
Boron 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 <b>method</b> ASTM D5185m	limit/base >+100	17 11 68 15 707 1126 673 864 2387 <u>current</u> 34	28 1 59 13 755 1071 717 869 2227 history1 31	47 3 61 13 778 1160 806 907 2409 history2 32
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	limit/base >+100	17 11 68 15 707 1126 673 864 2387 <u>current</u> 34 3	28 1 59 13 755 1071 717 869 2227 history1 31 6	47 3 61 13 778 1160 806 907 2409 history2 32 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >+100 >20	17 11 68 15 707 1126 673 864 2387 current 34 3 162	28 1 59 13 755 1071 717 869 2227 history1 31 6 128	47 3 61 13 778 1160 806 907 2409 history2 32 7 123
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 >+100 >20 limit/base	17 11 68 15 707 1126 673 864 2387 current 34 3 162 current	28 1 59 13 755 1071 717 869 2227 history1 31 6 128 history1	47 3 61 13 778 1160 806 907 2409 history2 32 7 123 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	ASTM D5185m ASTM D5185m	limit/base >+100 >20 limit/base	17 11 68 15 707 1126 673 864 2387 <b>current</b> 34 3 162 <b>current</b> 0	28 1 59 13 755 1071 717 869 2227 history1 31 6 128 history1 0	47 3 61 13 778 1160 806 907 2409 history2 32 7 123 history2 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus 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 >+100 >20 limit/base	17 11 68 15 707 1126 673 864 2387 current 34 3 162 current 0 11.8	28 1 59 13 755 1071 717 869 2227 history1 31 6 128 history1 0 11.2	47 3 61 13 778 1160 806 907 2409 history2 32 7 123 history2 0 8.9
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	limit/base >+100 >20 limit/base >20 >30	17 11 68 15 707 1126 673 864 2387 <u>current</u> 34 3 162 <u>current</u> 0 11.8 22.3	28 1 59 13 755 1071 717 869 2227 history1 31 6 128 history1 0 11.2 20.8	47 3 61 13 778 1160 806 907 2409 history2 32 7 123 history2 0 8.9 20.7
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 D7844 *ASTM D7844 *ASTM D7844	limit/base >+100 >20 limit/base >20 >30 limit/base	17 11 68 15 707 1126 673 864 2387 Current 34 3 162 Current 0 11.8 22.3 Current	28 1 59 13 755 1071 717 869 2227 history1 31 6 128 history1 0 11.2 20.8 history1	47 3 61 13 778 1160 806 907 2409 history2 32 7 123 history2 0 8.9 20.7 history2



# **OIL ANALYSIS REPORT**





		VISUAL		method	limit/base	current	history1	history2
		White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
		Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
1		Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
		Silt	scalar	*Visual	NONE	NONE	NONE	NONE
		Debris	scalar	*Visual	NONE	NONE	NONE	NONE
		Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Feb 1/24	Feb22/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
LL.	Fe	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
		Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
		Free Water	scalar	*Visual		NEG	NEG	NEG
		FLUID PROP		method	limit/base	current	history1	history2
		Visc @ 100°C	cSt	ASTM D445		14.1	14.1	13.9
		GRAPHS						
		Ferrous Alloys						
/24	Υ.	50 - iron						
Feb1/24	664-3	nickel						
		40-						
		<u> 8</u> 30 -						
		20						
		10						
		0	4		4			
		Jan 6/24	Feb 1/24		Feb 22/24			
					ц.			
24 -	10	Non-ferrous Meta	ais					
Feb1/24	6	1						
	3	copper						
	<i>א כו</i> כר א-ד	15 - copper tin						
	L.ak.	15-			_			
	LA	essesses lead						
	E.	15-						
	L	15-						
	L.A.	15 - 변화 월 10						
	LL	15 tin	53		24			
	LA	15 - 변화 월 10	Feb1/24		eb22/24			
	LL	15 tin			Feb22/24	Daga Numba		
	LA	List the sead			Feb25224	Base Numbe	r	
	LA	Viscosity @ 100°			8.0	Base Numbe	r	
	LA	Viscosity @ 100°			8.0	Base Numbe	r	
	LA	Viscosity @ 100°			8.0	Base Numbe		
	LA	Viscosity @ 100°			8.0	Base Numbe	r	
	Γ.Υ.	Viscosity @ 100°			8.0- 7.0 (DHO) 5.0- but 4.0- but 4.0- b	Base Numbe		
	ΓΥΥ	List Line Line Line Line Line Line Line Line			8.0- 7.0- (0ACO) but ya 4.0- ya 4.0- www. 3.0- eg 2.0-	Base Numbe	r	
	ΓΥΥ	15 Ea 10 5 0 47 10 10 10 10 10 10 10 10 10 10			8.0- 7.0- (0)(A(0,0) (0)(A(0,0) (0)(0,0)(0,	Base Numbe		
	LAN	Viscosity @ 100°	C		8.0- 7.0- (b)(HOX 50.0- b)(HOX 50.0- C)(HOX	<u> </u>		
	L.L.L.	15 Ea 10 5 0 47 10 10 10 10 10 10 10 10 10 10			8.0- 7.0- (0)(A(0,0) (0)(A(0,0) (0)(0,0)(0,	Base Numbe	Feb124	
		Viscosity @ 100°	C Feb1/24		8.0 7.0 7.0 6.0,0 800 800 800 800 800 800 800 800 800	Jan6/24	Feb124	
	aboratory	Viscosity @ 100°	C brilley 01 Madisc		8.0 7.0 (0)(1)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)	Jan6/24	http://pg	dericksburg Haulir
	aboratory ample No.	Viscosity @ 100°	C Feb1/24	ived : 26	8.0 7.0 7.0 6.0,0 800 800 800 800 800 800 800 800 800	Jan6/24	http://pg	dericksburg Haulin i4 Houser Driv dericksburg, V
La Sa La Ur	aboratory ample No. ab Number nique Number	Viscosity @ 100° Viscosity @ 100° Viscosity @ 100° Control of the second sec	C b7/199 01 Madisc Recei Teste	ived : 26 ed : 27	8.0 7.0 (0H005 5.0 but 4.0 but	6FL Env	ironmental - 652 - Free 1095 Free	<b>dericksburg Haulir</b> i4 Houser Driv dericksburg, V US 2240
La Sa La Line La La La La La La La La La La La La La	aboratory ample No. ab Number nique Number est Package	Viscosity @ 100° Viscosity @ 100° Viscosity @ 100° Control of the second sec	C briting 01 Madisco Recei Teste Diagr	ived : 26 ed : 27 nosed : 27	8.0 7.0 (0)HOUS 5.0 10, 100 10, 100 10	6FL Env	ironmental - 652 - Free 1095 Free Contact:	<b>dericksburg Haul</b> i i4 Houser Driv dericksburg, V

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Submitted By: TECHNICIAN ACCOUNT