

# **OIL ANALYSIS REPORT**

Sample Rating Trend



#### Machine 170832 (S/N M-9132B) Component

**Distribution Gear** Fluid {not provided} (--- GAL)

# DIAGNOSIS

### Recommendation

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample. Please provide more complete information on your next sample.

# Wear

All component wear rates are normal.

# Contamination

There is no indication of any contamination in the oil.

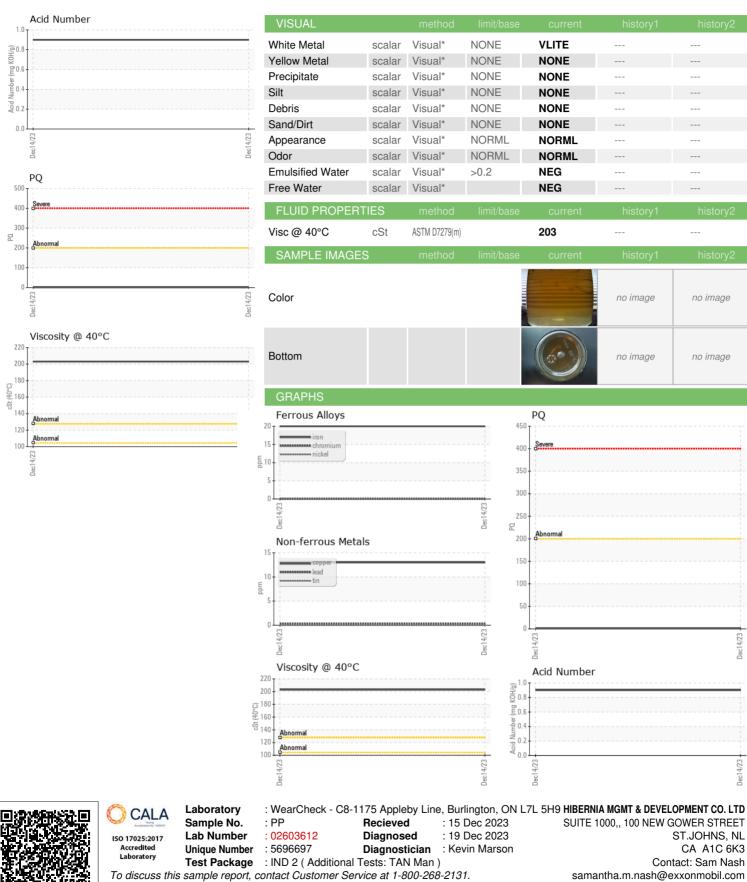
# Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION         method         linkbase         current         history1         history1           Sample Number         Client Info         14 Dec 2023             Sample Date         Client Info         0             Oil Age         hrs         Client Info         0             Oil Age         hrs         Client Info         N/A             Oil Age         hrs         Client Info         N/A             Sample Status         Imethod         Imit/base         current         history1         history2           Water         WC Method         >0.2         NEG             WEAR METALS         method         Imit/base         current         history1         history2           PQ         ASTM 05165600         >10               Iron         ppm         ASTM 0516500         >5         0             Silver         ppm         ASTM 0516500         >5         0            Auminum <td< th=""><th></th><th></th><th><u> </u></th><th></th><th>Dec2023</th><th></th><th></th></td<>			<u> </u>		Dec2023		
Sample Date         Client Info         14 Dec 2023             Machine Age         hrs         Client Info         0             Oil Age         hrs         Client Info         0             Sample Status         Client Info         N/A             Sample Status         Client Info         N/A             CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         >0.2         NEG             WEAR METALS         method         limit/base         current         history1         history2           PQ         ASTM D6184/         >200         1              Iron         ppm         ASTM D6186/m         >10         -1              Iron         ppm         ASTM D6186/m         >10         -1              Iron         ppm         ASTM D6186/m         >35         1             Irininum         pp	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         0             Oil Age         hrs         Client Info         0             Sample Status         Imit Dase         NORMAL             CONTAMINATION         method         Imit Dase         current         history1         history2           Water         WC Method         >0.2         NEG             WAAR METALS         method         limit Dase         current         history1         history2           PQ         ASTM DB184'         >200         1              Chromium         ppm         ASTM DB184'         >200         1             Nickel         ppm         ASTM DB185(m)         >10         -1             Silver         ppm         ASTM DB185(m)         >10         -1             Auminum         ppm         ASTM DB185(m)         >5         0             Ropper         ppm         ASTM DB185(m)         >5         0             <	Sample Number		Client Info		PP		
Oti Age         hrs         Client Info         0             Gil Changed         Client Info         N/A             Sample Status         Imit/base         current         History1         History2           Water         WC Method         >0.2         NEG             WEAR METALS         method         limit/base         current         History1         History2           PQ         ASTM D6186(m)         >185         20             Iron         ppm         ASTM D6186(m)         >5         0             Nickel         ppm         ASTM D5186(m)         >5         0             Silver         ppm         ASTM D5186(m)         >10         <1             Lead         ppm         ASTM D5186(m)         >5         0             Vanadium         ppm         ASTM D5186(m)         >5         0             Copper         ppm         ASTM D5186(m)         >5         0             Vanadium         ppm <td>Sample Date</td> <td></td> <td>Client Info</td> <td></td> <td>14 Dec 2023</td> <td></td> <td></td>	Sample Date		Client Info		14 Dec 2023		
Oil Changed Sample Status         Client Info         N/A             CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         >0.2         NEG             WEAR METALS         method         limit/base         current         history1         history2           PQ         ASTM D6184/m         >200         1             Iron         ppm         ASTM D6184/m         >55         0             Nickel         ppm         ASTM D5185(m)         >10         <1             Silver         ppm         ASTM D5185(m)         >10         <1             Lead         ppm         ASTM D5185(m)         >35         13             Copper         ppm         ASTM D5185(m)         >5         0             Lead         ppm         ASTM D5185(m)         >5         0             Autimony         ppm         ASTM D5185(m)         S         0       <	Machine Age	hrs	Client Info		0		
Sample Status         NORMAL             CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         >0.2         NEG             WEAR METALS         method         limit/base         current         history1         history2           PQ         ASTM D8184/         >200         1             Chromium         ppm         ASTM D5185(m)         55         0             Nickel         ppm         ASTM D5185(m)         >10         <1	Oil Age	hrs	Client Info		0		
CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         >0.2         NEG             WEAR METALS         method         limit/base         current         history1         history2           PQ         ASTM D8164'         >200         1             Iron         ppm         ASTM D5185(m)         >185         20             Nickel         ppm         ASTM D5185(m)         >10         <1             Nickel         ppm         ASTM D5185(m)         >10         <1             Aluminum         ppm         ASTM D5185(m)         >35         <1             Lead         ppm         ASTM D5185(m)         >5         0             Antimony         ppm         ASTM D5185(m)         >5         0             Vanadium         ppm         ASTM D5185(m)         5         0             Vanadium         ppm         ASTM D5185(m)         0	Oil Changed		Client Info		N/A		
Water         WC Method         >0.2         NEG            WEAR METALS         method         limit/base         current         history1         history2           PQ         ASTM D8184'         >200         1             Iron         ppm         ASTM D8184'         >200         1             Ohromium         ppm         ASTM D5185(m)         >10         <1             Nickel         ppm         ASTM D5185(m)         >10         <1             Silver         ppm         ASTM D5185(m)         >10         <1             Aluminum         ppm         ASTM D5185(m)         >35         <1             Lead         ppm         ASTM D5185(m)         >55         0             Copper         ppm         ASTM D5185(m)         >5         0             Vanadium         ppm         ASTM D5185(m)         0              Kottoststim         0	Sample Status				NORMAL		
WEAR METALS         method         limit/base         current         history1         history2           PQ         ASTM D8184'         >200         1             Iron         ppm         ASTM D5185(m)         >185         20             Ohromium         ppm         ASTM D5185(m)         >10         <1             Nickel         ppm         ASTM D5185(m)         >10         <1             Silver         ppm         ASTM D5185(m)         >10         <1             Aluminum         ppm         ASTM D5185(m)         >35         <1             Lead         ppm         ASTM D5185(m)         >35         13             Copper         ppm         ASTM D5185(m)         >5         0             Vanadium         ppm         ASTM D5185(m)         0           E           Copper         ppm         ASTM D5185(m)         0           E           Cadmium         ppm         ASTM D5185(m)         0	CONTAMINATIO	N	method	limit/base	current	history1	history2
PQ         ASTM D8184*         >200         1             Iron         ppm         ASTM D5185(m)         >185         20             Ohromium         ppm         ASTM D5185(m)         >10         <1             Nickel         ppm         ASTM D5185(m)         0              Silver         ppm         ASTM D5185(m)         >10         <1             Aluminum         ppm         ASTM D5185(m)         >35         13             Lead         ppm         ASTM D5185(m)         >35         0             Antimony         ppm         ASTM D5185(m)         >5         0             Antimony         ppm         ASTM D5185(m)         5         0             Antimony         ppm         ASTM D5185(m)         5         0             Antimony         ppm         ASTM D5185(m)         0              Cadmium         ppm         ASTM D5185(m)         0	Water		WC Method	>0.2	NEG		
Iron         ppm         ASTM D5185(m)         >185         20             Chromium         ppm         ASTM D5185(m)         >5         0             Nickel         ppm         ASTM D5185(m)         >10         <1             Silver         ppm         ASTM D5185(m)         0              Aluminum         ppm         ASTM D5185(m)         >10         <1             Lead         ppm         ASTM D5185(m)         >35         <1             Copper         ppm         ASTM D5185(m)         >5         0             Antimony         ppm         ASTM D5185(m)         >5         0             Astm D5185(m)         po               Cadmium         ppm         ASTM D5185(m)         0             Cadmium         ppm         ASTM D5185(m)         0             Berolium         ppm         ASTM D5185(m)         0	WEAR METALS		method	limit/base	current	history1	history2
Chromium         ppm         ASTM D5185(m)         >5         0             Nickel         ppm         ASTM D5185(m)         >10         <1             Silver         ppm         ASTM D5185(m)         0             Aluminum         ppm         ASTM D5185(m)         >10         <1             Lead         ppm         ASTM D5185(m)         >35         <1             Copper         ppm         ASTM D5185(m)         >5         0             Antimony         ppm         ASTM D5185(m)         >5         0             Antimony         ppm         ASTM D5185(m)         >5         0             Antimony         ppm         ASTM D5185(m)         0              Antimony         ppm         ASTM D5185(m)         0              Cadmium         ppm         ASTM D5185(m)         0	PQ		ASTM D8184*	>200	1		
Nickel         ppm         ASTM D5185(m)         >10         <1	Iron	ppm	ASTM D5185(m)	>185	20		
Titanium       ppm       ASTM D5185(m)       0          Silver       ppm       ASTM D5185(m)       <1          Aluminum       ppm       ASTM D5185(m)       >35       <1          Lead       ppm       ASTM D5185(m)       >35       <1          Copper       ppm       ASTM D5185(m)       >35       0          Tin       ppm       ASTM D5185(m)       >5       0          Antimony       ppm       ASTM D5185(m)       >5       0          Vanadium       ppm       ASTM D5185(m)       0           Vanadium       ppm       ASTM D5185(m)       0           Beryllium       ppm       ASTM D5185(m)       0           ADDITIVES       method       limit/base       current       history1       history2         Boron       ppm       ASTM D5185(m)       1           Magnese       ppm       ASTM D5185(m)       0           Magnesium       ppm       ASTM D5185(m)       6        <	Chromium	ppm	ASTM D5185(m)	>5	0		
Silver         ppm         ASTM D5185(m)         <1	Nickel	ppm	ASTM D5185(m)	>10	<1		
Aluminum         ppm         ASTM D5185(m)         >10         <1	Titanium	ppm	ASTM D5185(m)		0		
Lead         ppm         ASTM D5185(m)         >35         <1	Silver	ppm	ASTM D5185(m)		<1		
Copper         ppm         ASTM D5185(m)         >35         13             Tin         ppm         ASTM D5185(m)         >5         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             Cadmium         ppm         ASTM D5185(m)         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         1              Magnesee         ppm         ASTM D5185(m)         0              Magnesium         ppm         ASTM D5185(m)         0              Calcium         ppm         ASTM D5185(m)         4777	Aluminum	ppm	ASTM D5185(m)	>10	<1		
Tin         ppm         ASTM D5185(m)         >5         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         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         2             Barium         ppm         ASTM D5185(m)         0             Magnaese         ppm         ASTM D5185(m)         0             Magnesium         ppm         ASTM D5185(m)         0             Calcium         ppm         ASTM D5185(m)         477             Sulfur         ppm         ASTM D5185(m)         477             Sulfur         ppm         ASTM D5185(	Lead	ppm	ASTM D5185(m)	>35	<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)         2             Barium         ppm         ASTM D5185(m)         0             Molybdenum         ppm         ASTM D5185(m)         0             Maganesse         ppm         ASTM D5185(m)         <<1             Calcium         ppm         ASTM D5185(m)         4777             Zinc         ppm         ASTM D5185(m)         4951             Sulfur         ppm         ASTM D5185(m)         4951             Sulfur         ppm         ASTM D5185(	Copper	ppm	ASTM D5185(m)	>35	13		
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)         2             Barium         ppm         ASTM D5185(m)         1             Molybdenum         ppm         ASTM D5185(m)         0             Maganese         ppm         ASTM D5185(m)         <1             Magnesium         ppm         ASTM D5185(m)         0             Calcium         ppm         ASTM D5185(m)         6             Phosphorus         ppm         ASTM D5185(m)         4777             Sulfur         ppm         ASTM D5185(m)         4951             Sulfur         ppm         ASTM D5185(m)         <11	Tin	ppm	ASTM D5185(m)	>5	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)         2             Barium         ppm         ASTM D5185(m)         1             Barium         ppm         ASTM D5185(m)         0             Molybdenum         ppm         ASTM D5185(m)         0             Maganese         ppm         ASTM D5185(m)         6             Calcium         ppm         ASTM D5185(m)         4777             Zinc         ppm         ASTM D5185(m)         4777             Sulfur         ppm         ASTM D5185(m)         4951             Sulfur         ppm         ASTM D5185(m)         <11	Antimony	ppm	ASTM D5185(m)	>5	0		
CadmiumppmASTM D5185(m)0ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185(m)2BariumppmASTM D5185(m)1MolybdenumppmASTM D5185(m)0ManganeseppmASTM D5185(m)0MagnesiumppmASTM D5185(m)0CalciumppmASTM D5185(m)6PhosphorusppmASTM D5185(m)477ZincppmASTM D5185(m)4951SulfurppmASTM D5185(m)<1CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>11PotassiumppmASTM D5185(m)>200FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	Vanadium	ppm	ASTM D5185(m)		0		
ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185(m)2BariumppmASTM D5185(m)1MolybdenumppmASTM D5185(m)0ManganeseppmASTM D5185(m)0MagnesiumppmASTM D5185(m)0CalciumppmASTM D5185(m)6PhosphorusppmASTM D5185(m)4777ZincppmASTM D5185(m)58SulfurppmASTM D5185(m)4951LithiumppmASTM D5185(m)<1CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>15011PotassiumppmASTM D5185(m)>200FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	Beryllium	ppm	ASTM D5185(m)		0		
Boron         ppm         ASTM D5185(m)         2             Barium         ppm         ASTM D5185(m)         1             Molybdenum         ppm         ASTM D5185(m)         0             Manganese         ppm         ASTM D5185(m)         0             Magnesium         ppm         ASTM D5185(m)         0             Calcium         ppm         ASTM D5185(m)         0             Calcium         ppm         ASTM D5185(m)         6             Phosphorus         ppm         ASTM D5185(m)         4777             Zinc         ppm         ASTM D5185(m)         4951             Sulfur         ppm         ASTM D5185(m)         4951             Lithium         ppm         ASTM D5185(m)         4951             Sulfur         ppm         ASTM D5185(m)         >11             Sodium         ppm         ASTM D5185(m)         >150         1	Cadmium	ppm	ASTM D5185(m)		0		
Barium         ppm         ASTM D5185(m)         1             Molybdenum         ppm         ASTM D5185(m)         0             Manganese         ppm         ASTM D5185(m)         <1             Magnesium         ppm         ASTM D5185(m)         0             Calcium         ppm         ASTM D5185(m)         0             Calcium         ppm         ASTM D5185(m)         6             Calcium         ppm         ASTM D5185(m)         477             Zinc         ppm         ASTM D5185(m)         58             Sulfur         ppm         ASTM D5185(m)         4951             Lithium         ppm         ASTM D5185(m)         <11             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >10             Sodium         ppm         ASTM D5185(m)         >20 <th>ADDITIVES</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185(m)         0             Manganese         ppm         ASTM D5185(m)         <1             Magnesium         ppm         ASTM D5185(m)         0             Calcium         ppm         ASTM D5185(m)         6             Calcium         ppm         ASTM D5185(m)         477             Zinc         ppm         ASTM D5185(m)         477             Zinc         ppm         ASTM D5185(m)         4951             Sulfur         ppm         ASTM D5185(m)         4951             Lithium         ppm         ASTM D5185(m)         <11             Solicon         ppm         ASTM D5185(m)         >150         11             Sodium         ppm         ASTM D5185(m)         >20         0             FLUID DEGRADATION         method         limit/base         current         history1         history2	Boron	ppm	ASTM D5185(m)		2		
Manganese         ppm         ASTM D5185(m)         <1	Barium	ppm	ASTM D5185(m)		1		
Magnesium         ppm         ASTM D5185(m)         0             Calcium         ppm         ASTM D5185(m)         6              Phosphorus         ppm         ASTM D5185(m)         4777              Zinc         ppm         ASTM D5185(m)         4777              Sulfur         ppm         ASTM D5185(m)         4951              Lithium         ppm         ASTM D5185(m)         4951              CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >150         11             Sodium         ppm         ASTM D5185(m)         >20         0             FLUID DEGRADATION         method         limit/base         current         history1         history2	Molybdenum	ppm	ASTM D5185(m)		0		
Calcium         ppm         ASTM D5185(m)         6             Phosphorus         ppm         ASTM D5185(m)         4777             Zinc         ppm         ASTM D5185(m)         58             Sulfur         ppm         ASTM D5185(m)         4951             Lithium         ppm         ASTM D5185(m)         4951             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >150         11             Sodium         ppm         ASTM D5185(m)         >20         0             FLUID DEGRADATION         method         limit/base         current         history1         history2	Manganese	ppm	ASTM D5185(m)		<1		
Phosphorus         ppm         ASTM D5185(m)         477             Zinc         ppm         ASTM D5185(m)         58             Sulfur         ppm         ASTM D5185(m)         4951             Lithium         ppm         ASTM D5185(m)         <11             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >150         11             Sodium         ppm         ASTM D5185(m)         >20         0             FLUID DEGRADATION         method         limit/base         current         history1         history2	Magnesium	ppm	ASTM D5185(m)		0		
Zinc         ppm         ASTM D5185(m)         58             Sulfur         ppm         ASTM D5185(m)         4951             Lithium         ppm         ASTM D5185(m)         <11	Calcium	ppm	ASTM D5185(m)		6		
Sulfur         ppm         ASTM D5185(m)         4951             Lithium         ppm         ASTM D5185(m)         <1             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >150         11             Sodium         ppm         ASTM D5185(m)         >10         1             Potassium         ppm         ASTM D5185(m)         >20         0             FLUID DEGRADATION         method         limit/base         current         history1         history2	Phosphorus	ppm	ASTM D5185(m)		477		
LithiumppmASTM D5185(m)<1	Zinc	ppm	ASTM D5185(m)		58		
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>15011SodiumppmASTM D5185(m)1PotassiumppmASTM D5185(m)>200FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2		ppm			4951		
Silicon         ppm         ASTM D5185(m)         >150         11             Sodium         ppm         ASTM D5185(m)         1             Potassium         ppm         ASTM D5185(m)         >20         0             FLUID DEGRADATION         method         limit/base         current         history1         history2	Lithium	ppm	ASTM D5185(m)		<1		
SodiumppmASTM D5185(m)1PotassiumppmASTM D5185(m) >200FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	CONTAMINANTS	6	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185(m)         >20         0             FLUID DEGRADATION         method         limit/base         current         history1         history2	Silicon	ppm	ASTM D5185(m)	>150	11		
FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185(m)		1		
	Potassium	ppm	ASTM D5185(m)	>20	0		
Acid Number (AN)         mg KOH/g         ASTM D974*         0.90	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D974*		0.90		



# **OIL ANALYSIS REPORT**



Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.

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

F: (709)722-3766

ST.JOHNS, NL

Contact: Sam Nash

CA A1C 6K3

Dec1

4/23

Dec1

T:

no image

no image