

OIL ANALYSIS REPORT

Sample Rating Trend





Component Winch Fluic

GEAR OIL ISO 220 (--- LTR)

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 component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

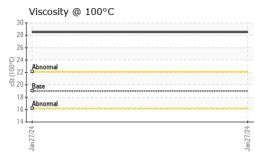
Fluid Condition

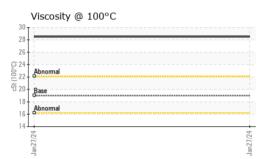
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

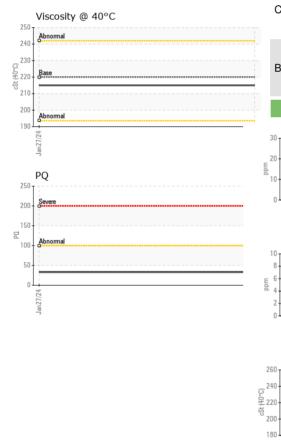
SAMPLE INFORMATION method limit/base current history1 history2 Sample Number Client Info 27 Jan 2024 Machine Age hrs Client Info 468 Machine Age hrs Client Info 250 Oil Age hrs Client Info 250 Sample Status Client Info Not Changd Sample Status Client Info Not Changd Vater WC Method >0.2 NEG Weter WC Method >0.2 NEG Veter WC Method >0.2 NEG Nickel ppm ASTM D6184/ 33 Nickel ppm ASTM D6185/// >> >10 <1 Nickel ppm ASTM D6185// >10 <1 <t< th=""><th></th><th></th><th></th><th></th><th>Jan 2024</th><th></th><th></th></t<>					Jan 2024		
Sample Date Client Info 27 Jan 2024 Machine Age hrs Client Info 468 Oil Age hrs Client Info 250 Oil Age hrs Client Info Not Changd Sample Status Imit/base current history1 history2 Water WC Method >0.2 NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D8184' 33 Mickel ppm ASTM D8184' 33 Nickel ppm ASTM D8185m >10 <1 Nickel ppm ASTM D8184m 0 Silver ppm ASTM D8184m 0 Aluminum ppm ASTM D8185m <td< th=""><th>SAMPLE INFORM</th><th>ΛΑΤΙΟΝ</th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></td<>	SAMPLE INFORM	ΛΑΤΙΟΝ	method	limit/base	current	history1	history2
Machine Age hrs Client Info 468 Oil Age hrs Client Info 250 Oil Changed Client Info Not Changd Sample Status Imit Info Not Changd Imit Info CONTAMINATION method Imit Info Current history1 history2 Water WC Method >0.2 NEG Wetar wC Method >0.2 NEG Vetar wC Method >0.2 NEG Vetar xstM D5185(m) >150 26 Nickel ppm ASTM D5185(m) >10 <1 Nickel ppm ASTM D5185(m) >10 Autinium ppm ASTM D5185(m) >5 <1 Lead ppm ASTM D5185(m) <t< th=""><th>Sample Number</th><th></th><th>Client Info</th><th></th><th>PC0080454</th><th></th><th></th></t<>	Sample Number		Client Info		PC0080454		
Oil Age hrs Client Info 250 Oil Changed Client Info Not Changd Sample Status Imit/base current history1 history2 Water WC Method >0.2 NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D8184/ 33 Kron ppm ASTM D8185(m) >10 <1 Nickel ppm ASTM D5185(m) >5 <1 Aluminum ppm ASTM D5185(m) >80 <1 Astin Dprex	Sample Date		Client Info		27 Jan 2024		
Oil Changed Client Info Not Changd Sample Status Image Image Current history1 history2 CONTAMINATION method imit/base current history1 history2 Water WC Method >0.2 NEG WEAR METALS method imit/base current history1 history2 PQ ASTM D8184/ 33 Iron ppm ASTM D8185(m) >150 26 Nickel ppm ASTM D8185(m) >100 -1 Nickel ppm ASTM D5185(m) >10 -1 Nickel ppm ASTM D5185(m) >10 -1 Nickel ppm ASTM D5185(m) >10 -1 Aluminum ppm ASTM D5185(m) >5 <1	Machine Age	hrs	Client Info		468		
Sample StatusImathodImit/basecurrenthistory1history2WaterWC Method>0.2NEGWEAR METALSmethodimit/basecurrenthistory1history2PQASTM D8184'33IronppmASTM D8184'33NickelppmASTM D5185(m)>10<1NickelppmASTM D5185(m)>10<1SilverppmASTM D5185(m)0AluminumppmASTM D5185(m)5<1LeadppmASTM D5185(m)>5<1CopperppmASTM D5185(m)>50AntimonyppmASTM D5185(m)>50AntimonyppmASTM D5185(m)50AntimonyppmASTM D5185(m)0AntimonyppmASTM D5185(m)0ADDITIVESmethodimit/basecurrenthistory1history2BoronppmASTM D5185(m)5020MagneseppmASTM D5185(m)50<1MolyddenumppmASTM D5185(m)50<1CoronppmASTM D5185(m)50<1 <t< th=""><td>Oil Age</td><td>hrs</td><td></td><td></td><th>250</th><td></td><td></td></t<>	Oil Age	hrs			250		
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.2 NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D8184' 33 Iron ppm ASTM D5185(m) >150 26 Nickel ppm ASTM D5185(m) >10 <1 Nickel ppm ASTM D5185(m) >10 <1 Aluminum ppm ASTM D5185(m) >5 <1 Copper ppm ASTM D5185(m) >5 <1 Antimony ppm ASTM D5185(m) >5 <1 Astim D5185(m) >5 0 Antimony ppm ASTM D5185(m) 0	Oil Changed		Client Info		•		
Water WC Method >0.2 NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D8184' 33 Iron ppm ASTM D8186/m >10 <1 Chromium ppm ASTM D5185/m >10 <1 Nickel ppm ASTM D5185/m >10 <1 Silver ppm ASTM D5185/m >5 <1 Aluminum ppm ASTM D5185/m >5 <1 Lead ppm ASTM D5185/m >5 0 Antimony ppm ASTM D5185/m >0 Vanadium ppm ASTM D5185/m >0 Cadmium ppm ASTM D5185/m 50 Boron	Sample Status				NORMAL		
WEAR METALS method limit/base current history1 history2 PQ ASTM D8184* 33 Iron ppm ASTM D5185(m) >150 26 Chromium 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) >5 <1 Lead ppm ASTM D5185(m) >5 <1 Copper ppm ASTM D5185(m) >5 0 Antimony ppm ASTM D5185(m) >5 0 Vanadium ppm ASTM D5185(m) 50 Cadmium ppm ASTM D5185(m) 50 <	CONTAMINATI	ON	method	limit/base	current	history1	history2
PQ ASTM D8184' 33 Iron ppm ASTM D5185(m) >150 26 Chromium ppm ASTM D5185(m) >10 <1 Nickel ppm ASTM D5185(m) >10 <1 Titanium ppm ASTM D5185(m) 0 Silver ppm ASTM D5185(m) 0 Aluminum ppm ASTM D5185(m) >5 <1 Lead ppm ASTM D5185(m) >5 <1 Copper ppm ASTM D5185(m) >80 <1 Antimony ppm ASTM D5185(m) >5 0 Vanadium ppm ASTM D5185(m) >5 0 Cadmium ppm ASTM D5185(m) 50	Water		WC Method	>0.2	NEG		
Iron ppm ASTM D5185(m) >150 26 Chromium ppm ASTM D5185(m) >10 <1 Nickel ppm ASTM D5185(m) >10 <1 Titanium ppm ASTM D5185(m) 0 Silver ppm ASTM D5185(m) >5 <1 Aluminum ppm ASTM D5185(m) >5 <1 Lead ppm ASTM D5185(m) >5 <1 Copper ppm ASTM D5185(m) >80 <1 Antimony ppm ASTM D5185(m) >0 Vanadium ppm ASTM D5185(m) >0 Beryllium ppm ASTM D5185(m) 50 20 Molybdenum ppm ASTM D5185(m) 50 2	WEAR METALS	S	method	limit/base	current	history1	history2
Chromium ppm ASTM D5186/m >10 <1	PQ		ASTM D8184*		33		
Nickel ppm ASTM D5185(m) >10 <1	Iron	ppm	ASTM D5185(m)	>150	26		
Titanium ppm ASTM D5185(m) 0 Silver ppm ASTM D5185(m) >5 <1	Chromium	ppm	ASTM D5185(m)	>10	<1		
Silver pp ASTM D5185(m) 0 Aluminum ppm ASTM D5185(m) >5 <1 Lead ppm ASTM D5185(m) >15 <1 Copper ppm ASTM D5185(m) >80 <1 Tin ppm ASTM D5185(m) >80 <1 Antimony ppm ASTM D5185(m) >5 0 Vanadium ppm ASTM D5185(m) >5 0 Vanadium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 50 20 Barium ppm ASTM D5185(m) 15 <1 Maganese ppm ASTM D5185(m) </th <td>Nickel</td> <td>ppm</td> <td>ASTM D5185(m)</td> <td>>10</td> <th><1</th> <td></td> <td></td>	Nickel	ppm	ASTM D5185(m)	>10	<1		
Aluminum ppm ASTM D5185(m) >5 <1	Titanium	ppm	ASTM D5185(m)		0		
Lead ppm ASTM D5185(m) >15 <1	Silver	ppm	ASTM D5185(m)		0		
Copper ppm ASTM D5185(m) >80 <1	Aluminum	ppm	ASTM D5185(m)	>5	<1		
Tin ppm ASTM D5185(m) O Antimony ppm ASTM D5185(m) >5 O Vanadium ppm ASTM D5185(m) O Beryllium ppm ASTM D5185(m) O Cadmium ppm ASTM D5185(m) O ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 50 20 Barium ppm ASTM D5185(m) 15 <1 Molybdenum ppm ASTM D5185(m) 15 0 Manganese ppm ASTM D5185(m) 50 <1 Magnesium ppm ASTM D5185(m) 50 <1 Phosphorus ppm ASTM D5185(m) </th <td>Lead</td> <td>ppm</td> <td>ASTM D5185(m)</td> <td>>15</td> <th><1</th> <td></td> <td></td>	Lead	ppm	ASTM D5185(m)	>15	<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) 50 20 Barium ppm ASTM D5185(m) 15 <1 Molybdenum ppm ASTM D5185(m) 15 0 Manganese ppm ASTM D5185(m) 50 <1 Magnesium ppm ASTM D5185(m) 50 <1 Magnesium ppm ASTM D5185(m) 50 6 Phosphorus ppm <t< th=""><td>Copper</td><td>ppm</td><td>ASTM D5185(m)</td><td>>80</td><th><1</th><td></td><td></td></t<>	Copper	ppm	ASTM D5185(m)	>80	<1		
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) 50 20 Barium ppm ASTM D5185(m) 15 <1 Molybdenum ppm ASTM D5185(m) 15 0 Manganese ppm ASTM D5185(m) 50 <1 Magnesium ppm ASTM D5185(m) 50 <1 Calcium ppm ASTM D5185(m) 50 <6 Phosphorus ppm ASTM D5185(m) 350 396	Tin	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) 50 20 Barium ppm ASTM D5185(m) 15 <1	Antimony	ppm	ASTM D5185(m)	>5	0		
Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 50 20 Barium ppm ASTM D5185(m) 15 <1		ppm	(<i>r</i>		0		
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 50 20 Barium ppm ASTM D5185(m) 15 <1 Molybdenum ppm ASTM D5185(m) 15 0 Manganese ppm ASTM D5185(m) 0 Magnesium ppm ASTM D5185(m) 50 <11 Calcium ppm ASTM D5185(m) 50 6 Phosphorus ppm ASTM D5185(m) 350 396 Zinc ppm ASTM D5185(m) 100 6 Sulfur ppm ASTM D5185(m) 12500 5552	,	ppm			0		
Boron ppm ASTM D5185(m) 50 20 Barium ppm ASTM D5185(m) 15 <1 Molybdenum ppm ASTM D5185(m) 15 0 Manganese ppm ASTM D5185(m) 50 <1 Magnesium ppm ASTM D5185(m) 50 <1 Calcium ppm ASTM D5185(m) 50 6 Phosphorus ppm ASTM D5185(m) 350 396 Zinc ppm ASTM D5185(m) 100 6 Sulfur ppm ASTM D5185(m) 12500 5552	Cadmium	ppm	ASTM D5185(m)		0		
Barium ppm ASTM D5185(m) 15 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185(m) 1 5 0 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 50 <1	Boron	ppm	ASTM D5185(m)	50	20		
Manganese ppm ASTM D5185(m) 0 Magnesium ppm ASTM D5185(m) 50 <1 Calcium ppm ASTM D5185(m) 50 6 Phosphorus ppm ASTM D5185(m) 350 396 Zinc ppm ASTM D5185(m) 100 6 Sulfur ppm ASTM D5185(m) 12500 5552	Barium	ppm	ASTM D5185(m)	15	<1		
Magnesium ppm ASTM D5185(m) 50 <1	Molybdenum	ppm	ASTM D5185(m)	15	0		
Calcium ppm ASTM D5185(m) 50 6 Phosphorus ppm ASTM D5185(m) 350 396 Zinc ppm ASTM D5185(m) 100 6 Sulfur ppm ASTM D5185(m) 12500 5552	Manganese	ppm	ASTM D5185(m)		0		
Phosphorus ppm ASTM D5185(m) 350 396 Zinc ppm ASTM D5185(m) 100 6 Sulfur ppm ASTM D5185(m) 12500 5552	Magnesium	ppm	ASTM D5185(m)	50	<1		
Zinc ppm ASTM D5185(m) 1 00 6 Sulfur ppm ASTM D5185(m) 12500 5552	Calcium	ppm	ASTM D5185(m)	50	6		
Sulfur ppm ASTM D5185(m) 12500 5552	Phosphorus	ppm	ASTM D5185(m)	350	396		
	Zinc	ppm	ASTM D5185(m)	100	6		
Lithium ppm ASTM D5185(m) <1		ppm	()	12500			
	Lithium	ppm	ASTM D5185(m)		<1		
CONTAMINANTS method limit/base current history1 history2	CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon ppm ASTM D5185(m) >25 20	Silicon	ppm	ASTM D5185(m)	>25	20		
Sodium ppm ASTM D5185(m) <1	Sodium	ppm	ASTM D5185(m)		<1		
Potassium ppm ASTM D5185(m) >20 <1	Potassium	ppm	ASTM D5185(m)	>20	<1		
FLUID DEGRADATION method limit/base current history1 history2	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g ASTM D974* 0.85 0.82	Acid Number (AN)	mg KOH/g	ASTM D974*	0.85	0.82		



OIL ANALYSIS REPORT







VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE		
Yellow Metal	scalar	Visual*	NONE	LIGHT		
Precipitate	scalar	Visual*	NONE	NONE		
Silt	scalar	Visual*	NONE	VLITE		
Debris	scalar	Visual*	NONE	NONE		
Sand/Dirt	scalar	Visual*	NONE	NONE		
Appearance	scalar	Visual*	NORML	NORML		
Ddor	scalar	Visual*	NORML	NORML		
Emulsified Water	scalar	Visual*	>0.2	NEG		
Free Water	scalar	Visual*		NEG		
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	220	215		
Visc @ 100°C	cSt	ASTM D7279(m)	19.0	28.5		
Viscosity Index (VI)	Scale	ASTM D2270*	96	170		
SAMPLE IMAG	ES	method	limit/base	current	history1	history2
Color					no image	no image
Bottom					no image	no image
GRAPHS						
Ferrous Alloys				PQ		
30 iron			22	Smiara		
20 - sessesses chromium			20			
10-			16			
0			10			
Jan 27/24			12 Jan 27/24			
,			الم الم 10	Abnormal		
Non-ferrous Metals	5		8			
8 copper			6			
			4	0		
2			2	0-		
0			4	oL		
Jan 27/24			Jan 27/24	Jan 27/24		Jan 27/24
⊸ Viscosity @ 40°C			βĻ			Jan
260 T			@2	Acid Number		
240 Abnormal			HOX 1.	5 - Abnormal		-
0 € 220 8 3			 	0 - Base		
³²⁰⁰ - Abnormal			.1.2 .1.4 .1.1 .1.1 .1.1 .1.1 .1.1 .1.1	5- Abnormal		
180						
Jan 27/24			Jan 27/24	Jan 27/24		Jan 27/24
1			ŗ	Ϋ́,		<u>_</u>
Lab Number : 02612924 [Recieved Diagnose Diagnost	ician : 01 03 03	Feb 2024 Feb 2024 Quesnel	.7L 5H9 Green Infrastru	151 F	286 Shoring & Foundations Ram Forest Rd, Stouffville, ON CA L4A 2G8 Shannon Abbott

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