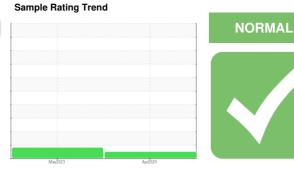


OIL ANALYSIS REPORT

Area **Pumping** H₀2

Front Differential

MOBIL 75W90 (18 LTR)



Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

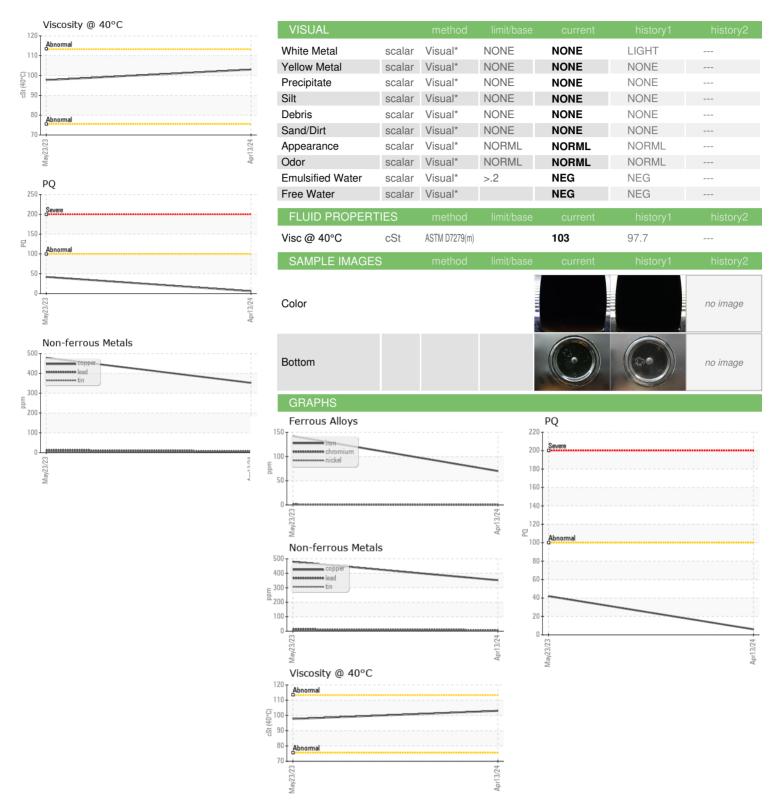
Fluid Condition

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

Oil Age hrs Client Info 0 5564 Oil Changed Client Info Changed Changed Sample Status NORMAL ABNORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method >.2 NEG NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D8184* 6 42 Iron ppm ASTM D8185(m) >500 70 142 Chromium ppm ASTM D8185(m) >10 <1 1 Nickel ppm ASTM D8185(m) >10 0 <1 Titanium ppm ASTM D8185(m) >10 0 Aluminum ppm ASTM D8185(m) 0 0 Copper ppm ASTM D8185(m) <th></th> <th></th> <th>ı</th> <th>May2023</th> <th>Apr2024</th> <th></th> <th></th>			ı	May2023	Apr2024		
Sample Date Client Info 13 Apr 2024 23 May 2023 Machine Age hrs Client Info 169430 5564 Oil Age hrs Client Info 0 5564 Oil Changed C	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Date Client Info 13 Apr 2024 23 May 2023	Sample Number		Client Info		WC0925775	WC0803684	
Machine Age hrs Client Info 169430 5564 Oil Age hrs Client Info 0 5564 Oil Changed Changed Changed Coll Changed Sample Status NORMAL ABNORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method >-2 NEG NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D81858[m] >500 70 142 Iron ppm ASTM D81858[m] >10 0 -1 Chromium ppm ASTM D8185[m] >10 0 -1 Nickel ppm ASTM D8185[m] >10 0 Aluminum ppm ASTM D8185[m] >25 7 13 Copper ppm ASTM D8185[m]	· .				13 Apr 2024		
Contamped Client Info Changed Normal ABNORMAL	Machine Age	hrs	Client Info		•	,	
Contamped Client Info Changed Normal ABNORMAL	Oil Age	hrs	Client Info		0	5564	
Water WC Method Imit/base current history1 history2	Oil Changed		Client Info		Changed	Changed	
Water WC Method >.2 NEG NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D8184* 6 42 Iron ppm ASTM D5185(m) >500 70 142 Chromium ppm ASTM D5185(m) >10 <1 1 Nickel ppm ASTM D5185(m) >10 0 <1 Titanium ppm ASTM D5185(m) >25 0 <1 Silver ppm ASTM D5185(m) >25 0 <1 Aluminum ppm ASTM D5185(m) >25 0 <1 Lead ppm ASTM D5185(m) >25 0 <1 Copper ppm ASTM D5185(m) >10 4 5 Titanium ppm ASTM D5185(m) >5 0 0 <td>Sample Status</td> <td></td> <td></td> <td></td> <th>NORMAL</th> <td>ABNORMAL</td> <td></td>	Sample Status				NORMAL	ABNORMAL	
WEAR METALS method limit/base current history1 history2 PQ ASTM D8184* 6 42	CONTAMINATIO	N	method	limit/base	current	history1	history2
PQ ASTM D8184* 6 42 Irron ppm ASTM D5185(m) >500 70 142 Chromium ppm ASTM D5185(m) >10 <1 1 Nickel ppm ASTM D5185(m) >10 0 <1 Titanium ppm ASTM D5185(m) 0 0 0 Silver ppm ASTM D5185(m) 0 0 0 Aluminum ppm ASTM D5185(m) >25 0 <1 Lead ppm ASTM D5185(m) >25 7 13 Copper ppm ASTM D5185(m) >10 4 5 Antimony ppm ASTM D5185(m) >5 0 0 0 Antimony ppm ASTM D5185(m) >10 4 5 Antimony ppm ASTM D5185(m) >5 0 0 0 0 Beryllium ppm ASTM D5185(m) >5 0 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 0 <1 0 <1 Manganese ppm ASTM D5185(m) 0 <1 0 <1 Calcium ppm ASTM D5185(m) 2 11 2 Calcium ppm ASTM D5185(m) 2 2 4 Calcium ppm ASTM D5185(m) 2 11 2 Calcium ppm ASTM D5185(m) 2 2 11 Calcium ppm ASTM D5185(m) 2 2 0007 20786 Lithium ppm ASTM D5185(m) <1 1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) <75 26 48 Sodium ppm ASTM D5185(m) >75 26 48 Sodium ppm ASTM D5185(m) >75 26 48	Water		WC Method	>.2	NEG	NEG	
	WEAR METALS		method	limit/base	current	history1	history2
Chromium ppm ASTM D5185(m) > 10 <1 1 Nickel ppm ASTM D5185(m) > 10 0 <1	PQ		ASTM D8184*		6	42	
Nickel	Iron	ppm	ASTM D5185(m)	>500	70	142	
Titanium ppm ASTM D5185(m) 0 0 Silver ppm ASTM D5185(m) 0 0 Aluminum ppm ASTM D5185(m) >25 0 <1	Chromium	ppm	ASTM D5185(m)	>10	<1	1	
Silver ppm ASTM D5185(m) 0 0 Aluminum ppm ASTM D5185(m) >25 0 <1	Nickel	ppm	ASTM D5185(m)	>10	0	<1	
Aluminum ppm ASTM D5185(m) >25 0 <1 Lead ppm ASTM D5185(m) >25 7 13 Copper ppm ASTM D5185(m) >100 352 479 Tin ppm ASTM D5185(m) >10 4 5 Antimony ppm ASTM D5185(m) 0 0 Vanadium ppm ASTM D5185(m) 0 0 Vanadium ppm ASTM D5185(m) 0 0 Beryllium ppm ASTM D5185(m) 0 0 Cadmium ppm ASTM D5185(m) 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 0 <1	Titanium	ppm	ASTM D5185(m)		0	0	
Lead ppm ASTM D5185(m) >25 7 13 Copper ppm ASTM D5185(m) >100 352 ▲ 479 Tin ppm ASTM D5185(m) >10 4 5 Antimony ppm ASTM D5185(m) 0 0 Vanadium ppm ASTM D5185(m) 0 0 Vanadium ppm ASTM D5185(m) 0 0 Beryllium ppm ASTM D5185(m) 0 0 Cadmium ppm ASTM D5185(m) 0 0 Cadmium ppm ASTM D5185(m) 0 <1	Silver	ppm	ASTM D5185(m)		0	0	
Copper ppm ASTM D5185(m) >100 352 ▲ 479 Tin ppm ASTM D5185(m) >10 4 5 Antimony ppm ASTM D5185(m) >5 0 0 Vanadium ppm ASTM D5185(m) 0 0 Beryllium ppm ASTM D5185(m) 0 0 Cadmium ppm ASTM D5185(m) 0 0 Cadmium ppm ASTM D5185(m) 0 0 Boron ppm ASTM D5185(m) 0 <1	Aluminum	ppm	ASTM D5185(m)	>25	0	<1	
Tin ppm ASTM D5185(m) >10 4 5 Antimony ppm ASTM D5185(m) >5 0 0 0 Vanadium ppm ASTM D5185(m) 0 0 0 Beryllium ppm ASTM D5185(m) 0 0 0 Cadmium ppm ASTM D5185(m) 0 0 0 Cadmium ppm ASTM D5185(m) 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 0 <1 Barium ppm ASTM D5185(m) 0 <1 Molybdenum ppm ASTM D5185(m) 0 <1 Manganese ppm ASTM D5185(m) 2 4 Calcium ppm ASTM D5185(m) 2 11 2 Calcium ppm ASTM D5185(m) 2 11 Calcium ppm ASTM D5185(m) 1259 1404 Zinc ppm ASTM D5185(m) 1259 1404 Zinc ppm ASTM D5185(m) 4 10 Sulfur ppm ASTM D5185(m) 20007 20786 Lithium ppm ASTM D5185(m) <1 <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >75 26 48 Sodium ppm ASTM D5185(m) >75 26 48 Sodium ppm ASTM D5185(m) ppm ASTM D5185(m) = CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >75 26 48 Sodium ppm ASTM D5185(m) ppm ASTM D5185(m) =	Lead	ppm	ASTM D5185(m)	>25	7	13	
Antimony ppm ASTM D5185(m) >5 0 0 Vanadium ppm ASTM D5185(m) 0 0 Beryllium ppm ASTM D5185(m) 0 0 Cadmium ppm ASTM D5185(m) 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 188 265 Barium ppm ASTM D5185(m) 0 <1 Molybdenum ppm ASTM D5185(m) 0 <1 Manganese ppm ASTM D5185(m) 2 4 Magnesium ppm ASTM D5185(m) 2 11 Calcium ppm ASTM D5185(m) 2 14 10 Phosphorus ppm ASTM D5185(m) 20007 20786 Sulfur ppm ASTM D5185(m)	Copper	ppm	ASTM D5185(m)	>100	352	479	
Vanadium ppm ASTM D5185(m) 0 0 Beryllium ppm ASTM D5185(m) 0 0 Cadmium ppm ASTM D5185(m) 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 188 265 Barium ppm ASTM D5185(m) 0 <1	Tin	ppm	ASTM D5185(m)	>10	4	5	
Beryllium	Antimony	ppm	ASTM D5185(m)	>5	0	0	
Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 188 265 Barium ppm ASTM D5185(m) 0 <1	Vanadium	ppm	ASTM D5185(m)		0	0	
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 188 265 Barium ppm ASTM D5185(m) 0 <1	Beryllium	ppm	ASTM D5185(m)		0	0	
Boron ppm ASTM D5185(m) 188 265	Cadmium	ppm	ASTM D5185(m)		0	0	
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185(m) 0 <1 Manganese ppm ASTM D5185(m) 2 4 Magnesium ppm ASTM D5185(m) <1 2 Calcium ppm ASTM D5185(m) 2 11 Phosphorus ppm ASTM D5185(m) 1259 1404 Zinc ppm ASTM D5185(m) 4 10 Sulfur ppm ASTM D5185(m) 20007 20786 Lithium ppm ASTM D5185(m) <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >75 26 48 Sodium ppm ASTM D5185(m) 1 3	Boron	ppm	ASTM D5185(m)		188	265	
Molybdenum ppm ASTM D5185(m) 0 <1 Manganese ppm ASTM D5185(m) 2 4 Magnesium ppm ASTM D5185(m) <1 2 Calcium ppm ASTM D5185(m) 2 11 Phosphorus ppm ASTM D5185(m) 1259 1404 Zinc ppm ASTM D5185(m) 4 10 Sulfur ppm ASTM D5185(m) 20007 20786 Lithium ppm ASTM D5185(m) <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >75 26 48 Sodium ppm ASTM D5185(m) 1 3	Barium		ASTM D5185(m)		0	<1	
Manganese ppm ASTM D5185(m) 2 4 Magnesium ppm ASTM D5185(m) <1	Molybdenum		ASTM D5185(m)		0	<1	
Calcium ppm ASTM D5185(m) 2 11 Phosphorus ppm ASTM D5185(m) 1259 1404 Zinc ppm ASTM D5185(m) 4 10 Sulfur ppm ASTM D5185(m) 20007 20786 Lithium ppm ASTM D5185(m) <1	-		ASTM D5185(m)		2	4	
Calcium ppm ASTM D5185(m) 2 11 Phosphorus ppm ASTM D5185(m) 1259 1404 Zinc ppm ASTM D5185(m) 4 10 Sulfur ppm ASTM D5185(m) 20007 20786 Lithium ppm ASTM D5185(m) <1	Magnesium	ppm	ASTM D5185(m)		<1	2	
Phosphorus ppm ASTM D5185(m) 1259 1404 Zinc ppm ASTM D5185(m) 4 10 Sulfur ppm ASTM D5185(m) 20007 20786 Lithium ppm ASTM D5185(m) <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >75 26 48 Sodium ppm ASTM D5185(m) 1 3	Calcium		ASTM D5185(m)		2	11	
Zinc ppm ASTM D5185(m) 4 10 Sulfur ppm ASTM D5185(m) 20007 20786 Lithium ppm ASTM D5185(m) <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >75 26 48 Sodium ppm ASTM D5185(m) 1 3	Phosphorus		ASTM D5185(m)		1259	1404	
Sulfur ppm ASTM D5185(m) 20007 20786 Lithium ppm ASTM D5185(m) <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >75 26 48 Sodium ppm ASTM D5185(m) 1 3	Zinc		ASTM D5185(m)		4	10	
Lithium ppm ASTM D5185(m) <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >75 26 48 Sodium ppm ASTM D5185(m) 1 3	Sulfur		ASTM D5185(m)		20007	20786	
Silicon ppm ASTM D5185(m) >75 26 48 Sodium ppm ASTM D5185(m) 1 3	Lithium		ASTM D5185(m)		<1	<1	
Sodium ppm ASTM D5185(m) 1 3	CONTAMINANTS	3	method	limit/base	current	history1	history2
Sodium ppm ASTM D5185(m) 1 3	Silicon	ppm	ASTM D5185(m)	>75	26	48	
	Sodium						
	Potassium		, ,	>20			



OIL ANALYSIS REPORT







Sample No.

Laboratory Lab Number : 02630699

: WC0925775 Unique Number : 5763831

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9

Tested Diagnosed

Received

: 22 Apr 2024

: 23 Apr 2024

: 23 Apr 2024 - Kevin Marson

Test Package : FLEET (Additional Tests: PQ)

To discuss this sample report, contact Customer Service at 1-800-268-2131. 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.

GOLIATH ENERGY GROUP

3277 PARSONS RD NW EDMONTON, AB **CA T6N 1B4** Contact: Kurt Bromling kurt@goliathenergy.com T: (780)897-6262

Submitted By: Kurt Bromling