

OIL ANALYSIS REPORT

Area [450310877] EG-80201 EQ MPG Component

Port Turbine Fluid TURBINE OIL ISO 32 (--- 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.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable.

Fluid Condition

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

Sample Rating Trend

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PC0081236	PC0080236	PC
Sample Date		Client Info		12 Apr 2024	31 Mar 2024	05 Jun 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	SEVERE	NORMAL
WEAR METAL	S	method	limit/base	current	history1	history2
PQ		ASTM D8184*		0		
Iron	ppm	ASTM D5185(m)	>15	0	0	<1
Chromium	ppm	ASTM D5185(m)	>4	0	0	0
Nickel	ppm	ASTM D5185(m)	>2	0	0	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	0
Aluminum	ppm	ASTM D5185(m)	>10	0	0	<1
Lead	ppm	ASTM D5185(m)		0	0	0
Copper	ppm	ASTM D5185(m)	>5	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>5	0	0	1
Antimony	ppm	ASTM D5185(m)		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
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185(m)	limit/base	current 0	history1 0	history2 <1
	ppm ppm					,
Boron		ASTM D5185(m)	5	0	0	<1
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	5 5	0 0	0	<1 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 5	0 0 0	0 0 0	<1 0 0
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5	0 0 0 0	0 0 0 0	<1 0 0 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 5	0 0 0 <1	0 0 0 <1	<1 0 0 0 <1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 5 10	0 0 0 <1 0	0 0 0 <1 0	<1 0 0 0 <1 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 5 10 275	0 0 0 <1 0 265	0 0 0 <1 0 268	<1 0 0 <1 <1 268
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 10 275 7	0 0 0 <1 0 265 1	0 0 0 <1 0 268 1	<1 0 0 <1 <1 268 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 10 275 7	0 0 0 <1 0 265 1 689	0 0 0 <1 0 268 1 690	<1 0 0 <1 <1 268 2 506
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 10 275 7 400 iimit/base	0 0 0 <1 0 265 1 689 <1	0 0 0 <1 0 268 1 690 <1	<1 0 0 <1 <1 268 2 506 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 10 275 7 400 iimit/base	0 0 0 <1 0 265 1 689 <1	0 0 0 <1 0 268 1 690 <1 history1	<1 0 0 <1 <1 268 2 506 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185(m) ASTM D5185(m)	5 5 5 10 275 7 400 iimit/base	0 0 0 <1 0 265 1 689 <1 current 0	0 0 0 <1 0 268 1 690 <1 history1 0	<1 0 0 <1 <1 268 2 506 <1 history2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185(m) ASTM D5185(m)	5 5 5 10 275 7 400 limit/base >15	0 0 0 <1 0 265 1 689 <1 current 0 0	0 0 0 <1 0 268 1 690 <1 history1 0 0	<1 0 0 <1 <1 268 2 506 <1 history2 <1 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	5 5 5 10 275 7 400 imit/base >15 >20	0 0 0 <1 0 265 1 689 <1	0 0 0 <1 0 268 1 690 <1 history1 0 0 <1	<1 0 0 <1 <1 268 2 506 <1 history2 <1 0 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium Water	ppm	ASTM D5185(m) ASTM D5185(m)	5 5 5 10 275 7 400 imit/base >15 >20 >0.03	0 0 0 <1 0 265 1 689 <1 current 0 0 <1	0 0 0 268 1 690 <1 history1 0 0 <1 0 0 0	<1 0 0 <1 <1 268 2 506 <1 history2 <1 0 0 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium Water ppm Water	ppm	ASTM D5185(m) ASTM D5185(m)	5 5 5 10 275 7 400 imit/base >15 >20 >0.03 >300	0 0 0 <1 0 265 1 689 <1 current 0 0 0 <1 0.001 3	0 0 0 268 1 690 <1 history1 0 0 <1 0 0 1 0 7	<1 0 0 () () () () () () () () () () () () ()
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium Water ppm Water INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	5 5 5 10 275 7 400 imit/base >15 >20 >0.03 >300	0 0 0 265 1 689 <1 <i>current</i> 0 0 <1 0 0 <1 0.001 3 <i>current</i>	0 0 0 268 1 690 <1 history1 0 0 0 <1 0.001 7 history1	<1 0 0 0 <1 <1 268 2 506 <1 history2 <1 0 0 0 history2



FT-IR 35 30

25

20% 4ps/cm

10

50

30

10

120

10

80

Se 2

RULER % 60

491.520

122,880 30.72 Î 7,680

number of particles (per 1 1,920 48 120 30

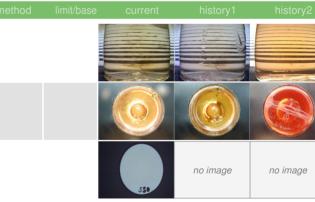
Severe 40

OIL ANALYSIS REPORT

GNOSTICS				
FT-IR (Direct Trend)	FLUID CLEANL	INESS	method	limit/base
0 - Oxidation	Particles >4µm		ASTM D7647	>2500
5_ Abatemates Sulfation	Particles >6µm		ASTM D7647	>640
D+	Particles >14µm		ASTM D7647	>80
5	Particles >21µm		ASTM D7647	>20
	Particles >38µm		ASTM D7647	>4
	Particles >71µm		ASTM D7647	>3
Apr12/24	Oil Cleanliness		ISO 4406 (c)	>18/16/13
Арг	FLUID DEGRAD	ATION	method	limit/base
Varnish Potential	Oxidation	Abs/.1mm	ASTM D7414*	
Severe	Acid Number (AN)	mg KOH/g	ASTM D974*	0.13
Abnormal	Anti-Oxidant 1	%	ASTM D6971*	<25
	Anti-Oxidant 2	%	ASTM D6971*	<25
D -	MPC Varnish Potential	Scale	ASTM D7843(m)*	>15
D	VISUAL		method	limit/base
/23 +	White Metal	scalar	Visual*	NONE
Mar13/23 Apr13/23 Jun5/23 Mar31/24	Yellow Metal	scalar	Visual*	NONE
N A , N A	Precipitate	scalar	Visual*	NONE
Remaining Life (RULER)	Silt	scalar	Visual*	NONE
A01 (%)	Debris	scalar	Visual*	NONE
	Sand/Dirt	scalar	Visual*	NONE
	Appearance	scalar	Visual*	NORML
Abnormal	Odor	scalar	Visual*	NORML
Severe	Emulsified Water	scalar	Visual*	>0.03
D + -	Free Water	scalar	Visual*	
Apri 2/24	FLUID PROPE	RTIES	method	limit/base
Apri	Visc @ 40°C	cSt	ASTM D7279(m)	32
Particle Count	Visc @ 100°C	cSt	ASTM D7279(m)	5.4
0 I I I I I I I I I I I I I I I I I I I	Viscosity Index (VI)	Scale	ASTM D2270*	102
	SAMPLE IMAG	EQ	method	limit/base
D Severe			method	mmbasc
	Color			
	D .::			
⁴ μ 6μ 14μ 21μ 38μ 71μ	Bottom			
Acid Number				
Abnormal				

MPC

Apr12/24



373

121

12

4

1

0

1.9

0.03

100

76 4

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

NEG

NEG

33.8

5.7

108

16/14/11

▲ 46712

654

115

0

a 23/21/17

0.03

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

NEG

NEG

33.6

5.7

109

8

14966

223

57

6

2

0

0

0.09

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

NEG

NEG

33.6

5.6

103

15/13/10

Mar

0.30

(B/HOX Bu) 0.18

a 2 0.12 Pio Acid 0.00

> Laboratory CALA Sample No. Lab Number : 02634550 ISO 17025:2017 Accredited Unique Number : 5775703 Laboratory Test Package : AOM 1

Mar31/24

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : PC0081236 Received Tested Diagnosed

: 10 May 2024 : 15 May 2024 : 15 May 2024 - Bill Quesnel

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.

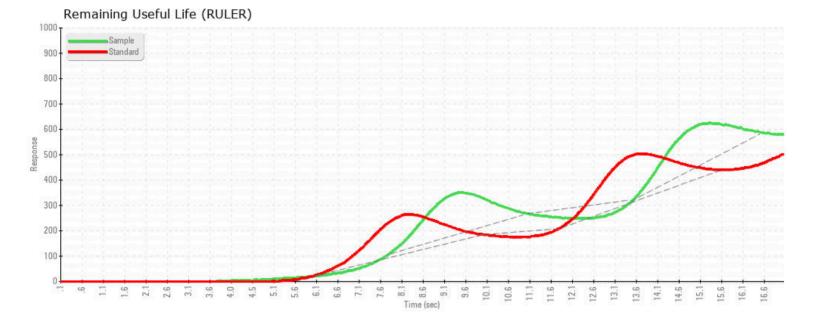
Suncor - Terra Nova Projects Scotia Centre, 235 Water Strret St. John`s, NL CA A1C 1B6 Contact: Josh Hynes joshynes@suncor.com T: (709)778-3575 F: (709)724-2835

Report Id: TERHAM [WCAMIS] 02634550 (Generated: 05/15/2024 17:06:55) Rev: 1

Jun5/23

Apr13/23

Contact/Location: Josh Hynes - TERHAM Page 2 of 4





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