

# **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

# **EPIROC SIMBA 57 LH016**

**Front Differential** 

SAE 80W140 (--- GAL)

### Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

Metal levels are typical for a new component breaking in.

## Contamination

There is no indication of any contamination in the

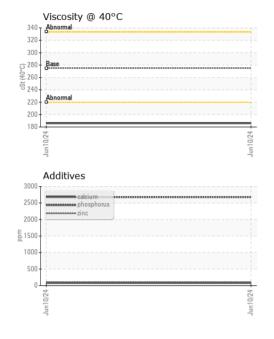
## **Fluid Condition**

Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

Machine Age         hrs         Client Info         359             Oil Age         hrs         Client Info         0             Oil Changed         Client Info         Changed             Sample Status         NORMAL             CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method          NEG             WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185(m)         >500         34             Klockel         ppm         ASTM D5185(m)         >10         0              Nickel         ppm         ASTM D5185(m)         >10         0              Silver         ppm         ASTM D5185(m)         >25         <1             Copper         ppm         ASTM D5185(m)         >10         0					Jun2024		
Sample Number   Client Info   WC0937688							
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         359	Sample Number		Client Info		WC0937688		
Oil Age         hrs         Client Info         Changed	Sample Date		Client Info		10 Jun 2024		
Contamped   Client Info   Changed   Client Info   NORMAL   Contamped   Conta	Machine Age	hrs	Client Info		359		
Sample Status	Oil Age	hrs	Client Info		0		
CONTAMINATION	Oil Changed		Client Info		Changed		
Water         WC Method         >.2         NEG            WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185(m)         >500         34             Ohromium         ppm         ASTM D5185(m)         >10         0             Nickel         ppm         ASTM D5185(m)         >10         0             Titanium         ppm         ASTM D5185(m)         0             Silver         ppm         ASTM D5185(m)         >25         <1            Aluminum         ppm         ASTM D5185(m)         >25         <1            Lead         ppm         ASTM D5185(m)         >100         <1            Copper         ppm         ASTM D5185(m)         >10         <1            Tin         ppm         ASTM D5185(m)         >5         0             Copper         ppm         ASTM D5185(m)         0             Vanadium         ppm         ASTM D5185(m)	Sample Status				NORMAL		
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185(m)         >500         34             Chromium         ppm         ASTM D5185(m)         >10         0             Nickel         ppm         ASTM D5185(m)         >10         0             Silver         ppm         ASTM D5185(m)         0             Aluminum         ppm         ASTM D5185(m)         >25         <1	CONTAMINATIO	N	method	limit/base	current	history1	history2
Iron	Water		WC Method	>.2	NEG		
Chromium         ppm         ASTM D5185(m)         > 10         0             Nickel         ppm         ASTM D5185(m)         > 10         0             Titanium         ppm         ASTM D5185(m)         0             Silver         ppm         ASTM D5185(m)         0             Aluminum         ppm         ASTM D5185(m)         >25         <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185(m)	>500	34		
Titanium	Chromium	ppm	ASTM D5185(m)	>10	0		
Silver	Nickel	ppm	ASTM D5185(m)	>10	0		
Aluminum	Titanium	ppm	ASTM D5185(m)		0		
Lead         ppm         ASTM D5185(m)         >25         0             Copper         ppm         ASTM D5185(m)         >100         <1	Silver	ppm	ASTM D5185(m)		0		
Copper         ppm         ASTM D5185(m)         >100         <1             Tin         ppm         ASTM D5185(m)         >10         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)         8             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         4             Barium         ppm         ASTM D5185(m)         2             Molybdenum         ppm         ASTM D5185(m)         2             Magnesium         ppm	Aluminum	ppm	ASTM D5185(m)	>25	<1		
Tin	Lead	ppm	ASTM D5185(m)	>25	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)         8             Barium         ppm         ASTM D5185(m)         <1	Copper	ppm	ASTM D5185(m)	>100	<1		
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)         8             Barium         ppm         ASTM D5185(m)         <1             Molybdenum         ppm         ASTM D5185(m)         0             Magnesium         ppm         ASTM D5185(m)         2             Magnesium         ppm         ASTM D5185(m)         76             Calcium         ppm         ASTM D5185(m)         2678             Phosphorus         ppm         ASTM D5185(m)         107             Sulfur         ppm         ASTM D5185(m)         34573             Lithium         ppm         ASTM D5185(m)         >75         14<	Tin	ppm	ASTM D5185(m)	>10	0		
Beryllium	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)         8             Barium         ppm         ASTM D5185(m)         <1	Vanadium	ppm	ASTM D5185(m)		0		
ADDITIVES	Beryllium	ppm	ASTM D5185(m)		0		
Boron   ppm   ASTM D5185(m)   8	Cadmium	ppm	ASTM D5185(m)		0		
Barium         ppm         ASTM D5185(m)         <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185(m)         0             Manganese         ppm         ASTM D5185(m)         2             Magnesium         ppm         ASTM D5185(m)         22             Calcium         ppm         ASTM D5185(m)         76             Phosphorus         ppm         ASTM D5185(m)         2678             Zinc         ppm         ASTM D5185(m)         107             Sulfur         ppm         ASTM D5185(m)         34573             Lithium         ppm         ASTM D5185(m)         8             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         7             Sodium         ppm         ASTM D5185(m)         7	Boron	ppm	ASTM D5185(m)		8		
Manganese         ppm         ASTM D5185(m)         2             Magnesium         ppm         ASTM D5185(m)         22             Calcium         ppm         ASTM D5185(m)         76             Phosphorus         ppm         ASTM D5185(m)         2678             Zinc         ppm         ASTM D5185(m)         107             Sulfur         ppm         ASTM D5185(m)         34573             Lithium         ppm         ASTM D5185(m)         8             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >75         14             Sodium         ppm         ASTM D5185(m)         7	Barium	ppm	ASTM D5185(m)		<1		
Magnesium         ppm         ASTM D5185(m)         22             Calcium         ppm         ASTM D5185(m)         76             Phosphorus         ppm         ASTM D5185(m)         2678             Zinc         ppm         ASTM D5185(m)         107             Sulfur         ppm         ASTM D5185(m)         34573             Lithium         ppm         ASTM D5185(m)         8             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >75         14             Sodium         ppm         ASTM D5185(m)         7	Molybdenum	ppm	ASTM D5185(m)		0		
Calcium         ppm         ASTM D5185(m)         76             Phosphorus         ppm         ASTM D5185(m)         2678             Zinc         ppm         ASTM D5185(m)         107             Sulfur         ppm         ASTM D5185(m)         34573             Lithium         ppm         ASTM D5185(m)         8             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >75         14             Sodium         ppm         ASTM D5185(m)         7	Manganese	ppm	ASTM D5185(m)		2		
Phosphorus         ppm         ASTM D5185(m)         2678             Zinc         ppm         ASTM D5185(m)         107             Sulfur         ppm         ASTM D5185(m)         34573             Lithium         ppm         ASTM D5185(m)         8             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >75         14             Sodium         ppm         ASTM D5185(m)         7	Magnesium	ppm	ASTM D5185(m)		22		
Zinc         ppm         ASTM D5185(m)         107             Sulfur         ppm         ASTM D5185(m)         34573             Lithium         ppm         ASTM D5185(m)         8             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >75         14             Sodium         ppm         ASTM D5185(m)         7	Calcium	ppm	ASTM D5185(m)		76		
Sulfur         ppm         ASTM D5185(m)         34573             Lithium         ppm         ASTM D5185(m)         8             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >75         14             Sodium         ppm         ASTM D5185(m)         7	Phosphorus	ppm	ASTM D5185(m)		2678		
Lithium         ppm         ASTM D5185(m)         8             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >75         14             Sodium         ppm         ASTM D5185(m)         7	Zinc	ppm	ASTM D5185(m)		107		
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >75         14             Sodium         ppm         ASTM D5185(m)         7	Sulfur	ppm	ASTM D5185(m)		34573		
Silicon         ppm         ASTM D5185(m)         >75         14             Sodium         ppm         ASTM D5185(m)         7	Lithium	ppm	ASTM D5185(m)		8		
Sodium         ppm         ASTM D5185(m)         7	CONTAMINANTS	5	method	limit/base	current	history1	history2
Sodium         ppm         ASTM D5185(m)         7	Silicon	ppm	ASTM D5185(m)	>75	14		
	Sodium		, ,		7		
	Potassium	ppm	ASTM D5185(m)	>20	2		



## **OIL ANALYSIS REPORT**



VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE		
Yellow Metal	scalar	Visual*	NONE	NONE		
Precipitate	scalar	Visual*	NONE	NONE		
Silt	scalar	Visual*	NONE	NONE		
Debris	scalar	Visual*	NONE	NONE		
Sand/Dirt	scalar	Visual*	NONE	NONE		
Appearance	scalar	Visual*	NORML	NORML		
Odor	scalar	Visual*	NORML	NORML		
Emulsified Water	scalar	Visual*	>.2	NEG		
Free Water	scalar	Visual*		NEG		
FLUID PROPERTI	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	275	186		
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color					no image	no image
Bottom					no image	no image
GRAPHS						
Iron (ppm)			150	Lead (ppm)		
Severe			150	Severe		
Abnormal			E 100	Abnormal		
0			0-			
Jun 10/24			Jun10/24	Jun10/24		Jun 10/24
un C						
			튀	h		in the second
Aluminum (ppm)				Ehromium (pp	om)	5
Severe			30-		om)	i s
Severe			30-	Chromium (pp	om)	
Severe			30- E 20- E 10-	Chromium (pp Severe Abnormal	om)	
Severe			30- E 20- E 10-	Chromium (pp Severe Abnormal	om)	
Severe			30- E 20-	Chromium (pp	om)	
Severe  Abnormal  Copper (ppm)			4500 mg 200 mg 2	Chromium (pp Severe Abnormal	om)	
Severe  Abnormal  Copper (ppm)			300 300	Chromium (pp	om)	
Severe  Abnormal  Copper (ppm)			300 300	Chromium (pp	om)	
Abnomal  Copper (ppm)  Severe  Abnomal			300, mdd 100, md 100,	Chromium (pp	om)	
Severe  Abnormal  Copper (ppm)  Severe  Abnormal			300, mdd 100, md 100,	Chromium (pp Severe  Abnormal  Silicon (ppm)  Severe	om)	- 1004
Severe Abnormal  Copper (ppm)  Severe Abnormal			300 mdd 10.	Chromium (pp Severe  Abnormal  Silicon (ppm)  Severe  Abnormal	om)	Jun 10.74
Severe Abnormal  Copper (ppm)  Severe Abnormal  Viscosity @ 40°C			300, mdd 100, md 100,	Chromium (pp Severe  Abnormal  Silicon (ppm)  Severe	om)	- 1004
Abnormal  Copper (ppm)  Severe  Abnormal  Viscosity @ 40°C			300- 47001ml 300- 47001ml 300- 47001ml 300- 3000- 3000-	Chromium (pp Severe Abnormal  Silicon (ppm) Severe Additives	om)	Jun 10.74
Severe Abnormal  Copper (ppm)  Severe Abnormal			300- 47001ml 300- 47001ml 300- 47001ml 300- 3000- 3000-	Chromium (pp Severe  Abnormal  Silicon (ppm)  Severe  Abnormal	om)	Jun10.74
Abnormal  Copper (ppm)  Severe  Abnormal  Viscosity @ 40°C			300 dd 10.	Chromium (pp Severe  Abnormal  Silicon (ppm)  Severe  Abnormal  Additives	om)	Jun 10,74



CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No.

: WC0937688 Lab Number : 02641795 Unique Number : 5799334

Test Package : MOB 1

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Received : 13 Jun 2024

**Tested** : 13 Jun 2024 Diagnosed : 14 Jun 2024 - Kevin Marson

Agnico Eagle Canada 1350 Government Rd. W, MACASSA COMPLEX Kirkland Lake, ON

CA P2N 3J1 Contact: Mitch Lamontagne

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.

AEM\_KL\_macassaoilsampleresults@agnicoeagle.com T: (705)567-5208

Report Id: KIR370KIR [WCAMIS] 02641795 (Generated: 06/14/2024 07:41:13) Rev: 1

Contact/Location: Mitch Lamontagne - KIR370KIR

F: (705)567-5221