



# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**10574142**

Component  
**New (Unused) Oil**

Fluid  
**SHELL MORLINA S4 B 150 (--- GAL)**

## DIAGNOSIS

### Recommendation

This is the baseline readout on this new (unused) oil. The fluid is suitable for service.

### Wear

{not applicable}

### Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. There is no indication of any contamination in the new (unused) oil.

### Fluid Condition

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>WC0716503</b>	---	---
Sample Date	Client Info			<b>12 Dec 2023</b>	---	---
Machine Age	hrs	Client Info		<b>0</b>	---	---
Oil Age	hrs	Client Info		<b>0</b>	---	---
Oil Changed	Client Info			<b>N/A</b>	---	---
Sample Status				<b>NORMAL</b>	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method			<b>NEG</b>	---	---

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		<b>0</b>	---	---
Iron	ppm	ASTM D5185(m)	>5	<b>0</b>	---	---
Chromium	ppm	ASTM D5185(m)	>5	<b>0</b>	---	---
Nickel	ppm	ASTM D5185(m)	>5	<b>0</b>	---	---
Titanium	ppm	ASTM D5185(m)		<b>0</b>	---	---
Silver	ppm	ASTM D5185(m)	>5	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	---	---
Lead	ppm	ASTM D5185(m)	>5	<b>0</b>	---	---
Copper	ppm	ASTM D5185(m)	>5	<b>0</b>	---	---
Tin	ppm	ASTM D5185(m)	>5	<b>0</b>	---	---
Antimony	ppm	ASTM D5185(m)		<b>0</b>	---	---
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	---	---
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	---	---
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	---	---

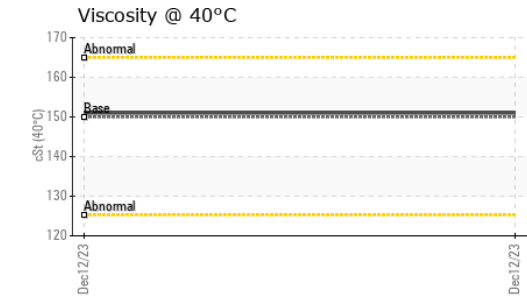
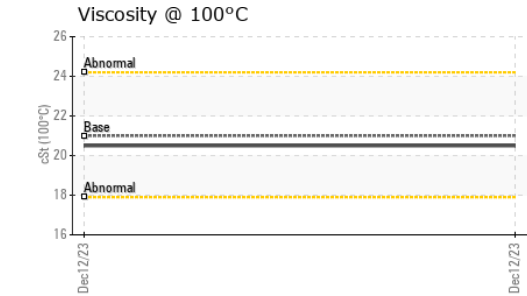
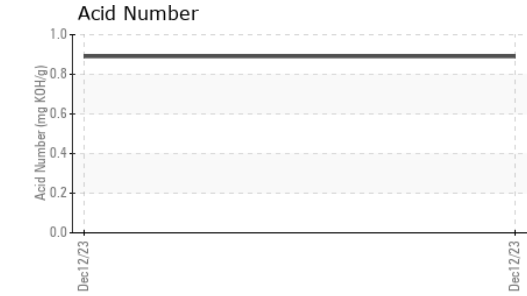
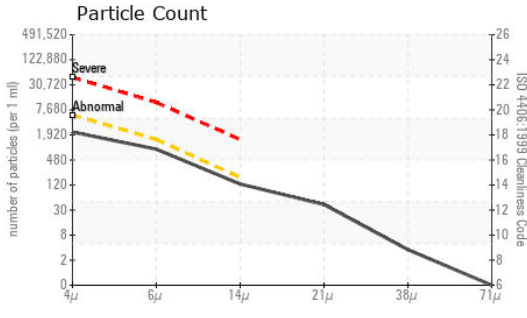
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<b>0</b>	---	---
Barium	ppm	ASTM D5185(m)		<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	---	---
Manganese	ppm	ASTM D5185(m)		<b>0</b>	---	---
Magnesium	ppm	ASTM D5185(m)		<b>&lt;1</b>	---	---
Calcium	ppm	ASTM D5185(m)		<b>0</b>	---	---
Phosphorus	ppm	ASTM D5185(m)		<b>270</b>	---	---
Zinc	ppm	ASTM D5185(m)		<b>&lt;1</b>	---	---
Sulfur	ppm	ASTM D5185(m)		<b>514</b>	---	---
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	<b>1</b>	---	---
Sodium	ppm	ASTM D5185(m)		<b>0</b>	---	---
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		<b>0</b>	---	---
Nitration	Abs/cm	ASTM D7624*		<b>2.6</b>	---	---
Sulfation	Abs/.1mm	ASTM D7415*		<b>95.7</b>	---	---



# OIL ANALYSIS REPORT



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	<b>1966</b>	---	---
Particles >6µm	ASTM D7647	>1300	<b>765</b>	---	---
Particles >14µm	ASTM D7647	>160	<b>112</b>	---	---
Particles >21µm	ASTM D7647	>40	<b>36</b>	---	---
Particles >38µm	ASTM D7647	>10	<b>3</b>	---	---
Particles >71µm	ASTM D7647	>3	<b>0</b>	---	---
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>18/17/14</b>	---	---

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	<b>68.3</b>	---	---
Acid Number (AN)	mg KOH/g	ASTM D974*	<b>0.89</b>	---	---

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	<b>NONE</b>	---	---
Yellow Metal	scalar	Visual*	<b>NONE</b>	---	---
Precipitate	scalar	Visual*	<b>NONE</b>	---	---
Silt	scalar	Visual*	<b>NONE</b>	---	---
Debris	scalar	Visual*	<b>NONE</b>	---	---
Sand/Dirt	scalar	Visual*	<b>NONE</b>	---	---
Appearance	scalar	Visual*	<b>NORML</b>	---	---
Odor	scalar	Visual*	<b>NORML</b>	---	---
Emulsified Water	scalar	Visual*	<b>NEG</b>	---	---
Free Water	scalar	Visual*	<b>NEG</b>	---	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	150	<b>151</b>	---
Visc @ 100°C	cSt	ASTM D7279(m)	21	<b>20.5</b>	---
Viscosity Index (VI)	Scale	ASTM D2270*	158	<b>158</b>	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				no image	no image
Bottom				no image	no image



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0716503  
**Lab Number** : **02607817**  
**Unique Number** : 5708903  
**Test Package** : IND 2 ( Additional Tests: FT-IR, ICP-NewOil, KV100, PQ, PrtCount, TAN Man, VI )

**Vale - Coleman Mine**  
 COLEMAN MINE (PLANT 10), 117 Mine Road  
 LEVACK, ON  
 CA P0M 2C0  
 Contact: Ryan Davies  
 ryan.davies@vale.com  
 T: (705)682-8952  
 F: (705)966-4114

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.