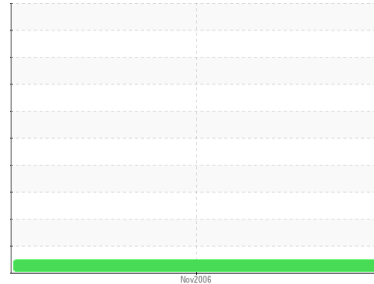




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
Industrial Mechanical/Hoists
 Machine Id
17-SKHST9-LUBE-MTR-BRG
 Component
Bearing Lube
 Fluid
ESSO SPARTAN EP 220 (200 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

The condition of oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0168138	---	---
Sample Date	Client Info		03 Nov 2006	---	---
Machine Age	hrs	Client Info	0	---	---
Oil Age	hrs	Client Info	0	---	---
Oil Changed	Client Info		Not Chngd	---	---
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)	6	---	---
Chromium	ppm	ASTM D5185(m)	0	---	---
Nickel	ppm	ASTM D5185(m)	0	---	---
Titanium	ppm	ASTM D5185(m)	0	---	---
Silver	ppm	ASTM D5185(m)	<1	---	---
Aluminum	ppm	ASTM D5185(m)	0	---	---
Lead	ppm	ASTM D5185(m)	11	---	---
Copper	ppm	ASTM D5185(m)	1	---	---
Tin	ppm	ASTM D5185(m)	10	---	---
Vanadium	ppm	ASTM D5185(m)	0	---	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	18	---	---
Barium	ppm	ASTM D5185(m)	<1	---	---
Molybdenum	ppm	ASTM D5185(m)	0	---	---
Manganese	ppm	ASTM D5185(m)	0	---	---
Magnesium	ppm	ASTM D5185(m)	0	---	---
Calcium	ppm	ASTM D5185(m)	27	---	---
Phosphorus	ppm	ASTM D5185(m)	242	---	---
Zinc	ppm	ASTM D5185(m)	2	---	---
Sulfur	ppm	ASTM D5185(m)	6724	---	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	<1	---	---
Sodium	ppm	ASTM D5185(m)	0	---	---
Potassium	ppm	ASTM D5185(m)	0	---	---

FLUID CLEANLINESS

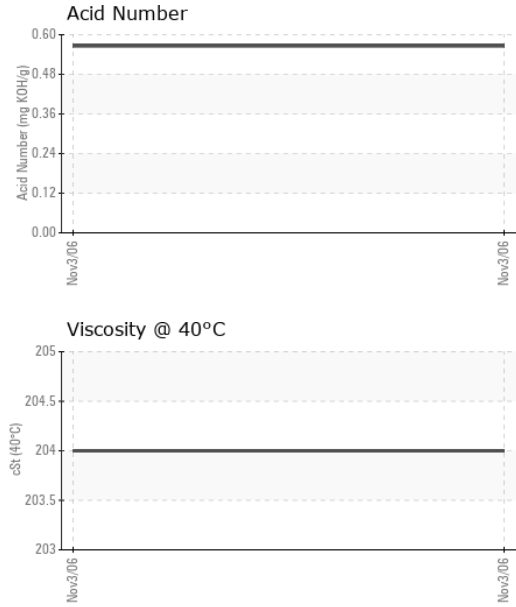
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		2757	---	---
Particles >6µm	ASTM D7647		1083	---	---
Particles >14µm	ASTM D7647		36	---	---
Particles >21µm	ASTM D7647		11	---	---
Particles >38µm	ASTM D7647		2	---	---
Particles >71µm	ASTM D7647		0	---	---
Oil Cleanliness	ISO 4406 (c)		19/17/12	---	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.566	---	---



OIL ANALYSIS REPORT

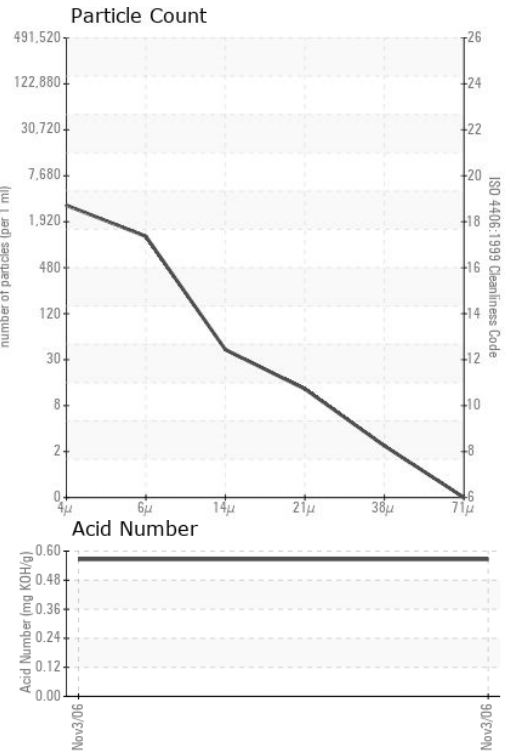
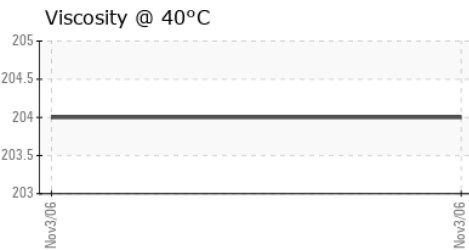
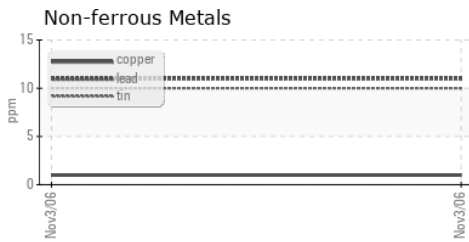
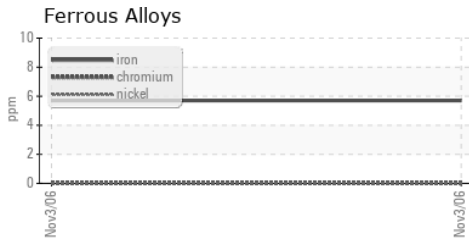


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	---
Precipitate	scalar	Visual*	NONE	NONE	---
Silt	scalar	Visual*	NONE	NONE	---
Debris	scalar	Visual*	NONE	VLITE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---
Appearance	scalar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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	204	---	---

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

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0168138 **Received** : 06 Nov 2006
Lab Number : 01340378 **Diagnosed** : 10 Nov 2006
Unique Number : 2334763 **Diagnostician** :
Test Package : IND 2 (Additional Tests: PrtCount, SCREEN, TAN Man)

Vale - Creighton Mine
 CREIGHTON MINE MNTCE. (PLANT 17)
 COPPER CLIFF, ON
 CA P0M 1N0
 Contact: Igor Bozhyk
 igor.bozhyk@vale.com
 T: (705)682-7009
 F: x:

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.