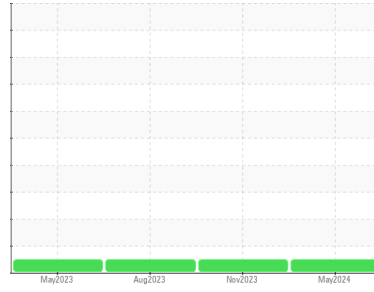


# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**CARGO HANDLING EQUIPMENT**  
Machine Id  
**SERVI SERVI HYDRAULIC HPU (CAL014) (S/N ST-14633)**  
Component  
**Hydraulic System**  
Fluid  
**MOBIL DTE 10 EXCEL 32 (2000 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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>PC0081266</b>	PC0076685	PC0011621
Sample Date	Client Info			<b>17 May 2024</b>	07 Nov 2023	09 Aug 2023
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed	Client Info			<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.05	<b>NEG</b>	NEG	NEG

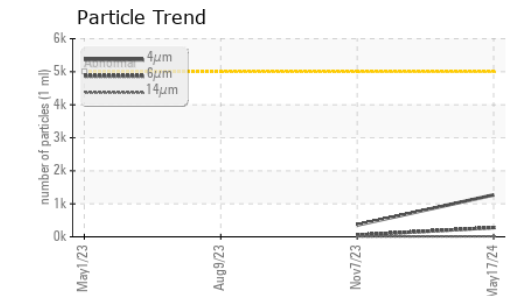
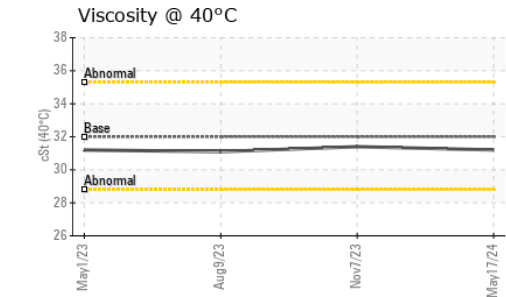
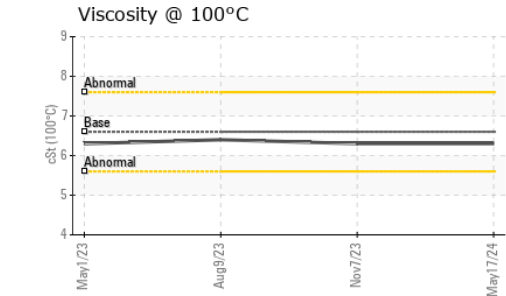
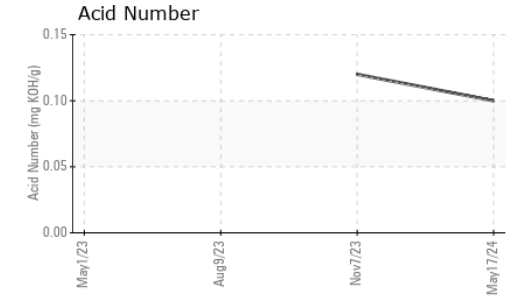
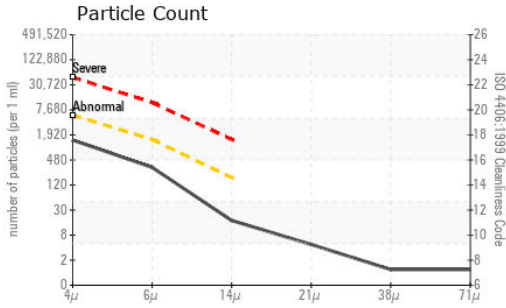
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	<b>4</b>	4	5
Chromium	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>10	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185(m)	>10	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>20	<b>1</b>	2	2
Tin	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	<1
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)		<b>2</b>	2	3
Calcium	ppm	ASTM D5185(m)	120	<b>85</b>	85	91
Phosphorus	ppm	ASTM D5185(m)	475	<b>391</b>	383	432
Zinc	ppm	ASTM D5185(m)		<b>15</b>	14	19
Sulfur	ppm	ASTM D5185(m)	1275	<b>1159</b>	1213	1292
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	<b>0</b>	0	<1
Sodium	ppm	ASTM D5185(m)		<b>&lt;1</b>	2	3
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	0

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	<b>1269</b>	357	---
Particles >6µm		ASTM D7647	>1300	<b>280</b>	52	---
Particles >14µm		ASTM D7647	>160	<b>15</b>	9	---
Particles >21µm		ASTM D7647	>40	<b>4</b>	4	---
Particles >38µm		ASTM D7647	>10	<b>1</b>	1	---
Particles >71µm		ASTM D7647	>3	<b>1</b>	1	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>17/15/11</b>	16/13/10	---

# OIL ANALYSIS REPORT

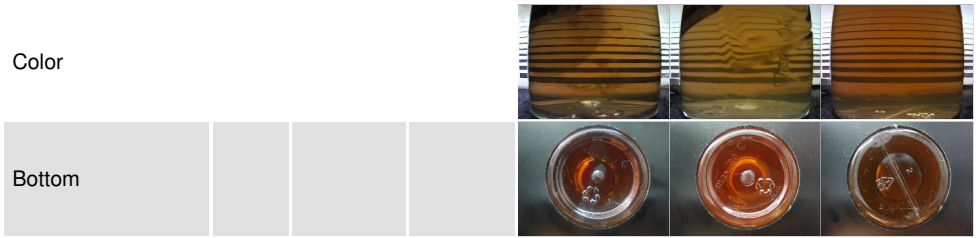


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		<b>0.10</b>	0.12	---

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.05	<b>NEG</b>	NEG	NEG
Free Water	scalar	Visual*		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	32	<b>31.2</b>	31.4	31.1
Visc @ 100°C	cSt	ASTM D7279(m)	6.6	<b>6.3</b>	6.3	6.4
Viscosity Index (VI)	Scale	ASTM D2270*	164	<b>157</b>	156	163

### SAMPLE IMAGES



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0081266  
**Lab Number** : **02638002**  
**Unique Number** : 5787164  
**Test Package** : IND 2 ( Additional Tests: KV100, TAN MAN, VI )

**Ocean Choice International - MV Calvert**  
 1315 Topsail Rd, P.O. Box 8190  
 St. John's, NL  
 CA A1B 3N4  
 Contact: Calvert Engine Control Room  
 calvertengine@oceanchoice.com

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.