

## **OIL ANALYSIS REPORT**

### CARGO HANDLING EQUIPMENT SERVI SERVI HYDRAULIC HPU (CAL014) (S/N ST-14633) Component

**Hydraulic System** 

### MOBIL DTE 10 EXCEL 32 (2000 LTR)

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MOB 2 test kits, this testkit includes Particle Count to determine the ISO cleanliness of the fluid.

#### Wear

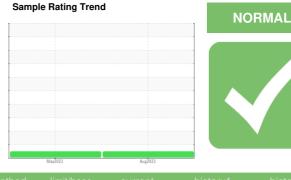
All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the component(unconfirmed).

#### Fluid Condition

The condition of the oil is acceptable for the time in service.



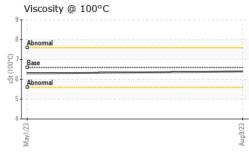


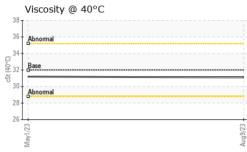
SAMPLE INFORM	<b>NATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		PC0011621	PC0011815	
Sample Date		Client Info		09 Aug 2023	01 May 2023	
Machine Age	hrs	Client Info		0	0	
Oil Age	hrs	Client Info		0	0	
Oil Changed		Client Info		N/A	N/A	
Sample Status				NORMAL	NORMAL	
CONTAMINATI	ON	method	limit/base	current	history1	history2
Water		WC Method	>0.05	NEG	NEG	
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	5	4	
Chromium	ppm	ASTM D5185(m)	>10	0	0	
Nickel	ppm	ASTM D5185(m)	>10	<1	<1	
Titanium	ppm	ASTM D5185(m)		0	0	
Silver	ppm	ASTM D5185(m)		<1	0	
Aluminum	ppm	ASTM D5185(m)	>10	<1	<1	
Lead	ppm	ASTM D5185(m)	>20	<1	<1	
Copper	ppm	ASTM D5185(m)	>20	2	2	
Tin	ppm	ASTM D5185(m)	>10	0	0	
Antimony	ppm	ASTM D5185(m)		<1	<1	
Vanadium	ppm	ASTM D5185(m)		0	0	
Beryllium	ppm	ASTM D5185(m)		0	0	
Cadmium	ppm	ASTM D5185(m)		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<1	<1	
Barium	ppm	ASTM D5185(m)		<1	0	
Molybdenum	ppm	ASTM D5185(m)		0	0	
Manganese	ppm	ASTM D5185(m)		0	0	
Magnesium	ppm	ASTM D5185(m)		3	1	
Calcium	ppm	ASTM D5185(m)	120	91	81	
Phosphorus	ppm	ASTM D5185(m)	475	432	462	
Zinc	ppm	ASTM D5185(m)		19	16	
Sulfur	ppm	ASTM D5185(m)	1275	1292	1342	
Lithium	ppm	ASTM D5185(m)		<1	<1	
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	<1	<1	
Sodium	ppm	ASTM D5185(m)		3	3	
Potassium	ppm	ASTM D5185(m)	>20	0	<1	



# **OIL ANALYSIS REPORT**

VISUAL





scalar	Visual*	NONE	NONE	NONE	
scalar	Visual*	NONE	NONE	NONE	
scalar		NONE	NONE	NONE	
scalar	Visual*	NONE	NONE	NONE	
scalar		NONE	NONE	NONE	
scalar	Visual*	NONE	NONE	NONE	
scalar		NORML	NORML	NORML	
scalar	Visual*	NORML	NORML	NORML	
scalar		>0.05	NEG	NEG	
scalar			NEG	NEG	
ERTIES	s method	limit/base	current	history1	history
cSt	ASTM D7279(m)	32	31.1	31.2	
cSt	ASTM D7279(m)	6.6	6.4	6.3	
Scale	ASTM D2270*	164	163	157	
GES	method	limit/base	current	history1	history
0.20					
					no imag
					no imag
					no imag
					no image
			Lead (ppm)		no imag
			Lead (ppm)		no imag
		10 			no imag
			Severe Abnorma		no imag
					no imag
,		Aug 22	Chromium (p	ppm)	no imag
)		Aug 23	Chromium (p	opm)	no imag
)		Winds	Chromium (p	ppm)	no Imag
		Participant and participant an	Chromium (p	opm)	no Imag
)		Winds	Chromium (p	opm)	no imag
)		Augh 23	Chromium (p		no imag
		Ezgény 102	Chromium (p		no imag
		Augh 23	Chromium (p		
		a mig 12 b m	Chromium (p		
		4 4 10 10 10 10 10 10 10 10 10 10 10 10 10	Chromium (p		no imag
		a mig 12 b m	Chromium (p Chromium (p Abornal Silicon (ppm)		no imag
		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Chromium (p		no imag
		100 100 100 100 100 100 100 100 100 100	Chromium (p		no Imag
		100 100 100 100 100 100 100 100 100 100	Chromium (p		

Contact: Calvert Engine Control Room calvertengine@oceanchoice.com T: F:

CALA

ISO 17025:2017