

# **OIL ANALYSIS REPORT**

Sample Rating Trend



Area

# P-6150 (S/N WELL CLEAN UP PUMP)

Pump Fluid

**MOBIL DTE OIL EXTRA HEAVY (20 GAL)** 

### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

### **Fluid Condition**

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

u2018 Sep2019 Mad019 Sep2019 Jan0022 Jan0022 Jan0023 Jun0023								
SAMPLE INFORM	ATION	method	limit/base	current	history1	history2		
Sample Number		Client Info		HLC0003144	HLC0002872	HLC000276		
Sample Date		Client Info		07 Jan 2024	10 Oct 2023	01 Sep 2023		
Machine Age	hrs	Client Info		2997	0	0		
Oil Age	hrs	Client Info	0		0	0		
Oil Changed		Client Info		N/A	N/A	N/A		
Sample Status				NORMAL	ABNORMAL	NORMAL		
CONTAMINATION		method	limit/base	current	history1	history2		
Water		WC Method	>.1	NEG	NEG	NEG		
WEAR METALS		method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185m	>90	7	7	7		
Chromium	ppm	ASTM D5185m	>5	0	0	<1		
Nickel	ppm	ASTM D5185m	>5	<1	<1	<1		
Titanium	ppm	ASTM D5185m	>3	0	<1	0		
Silver	ppm	ASTM D5185m	>3	0	0	<1		
Aluminum	ppm	ASTM D5185m	>7	2	3	2		
Lead	ppm	ASTM D5185m	>12	1	2	0		
Copper	ppm	ASTM D5185m	>30	21	21	20		
Tin	ppm	ASTM D5185m	>9	2	2	1		
Vanadium	ppm	ASTM D5185m		<1	0	0		
Cadmium	ppm	ASTM D5185m		0	0	0		
ADDITIVES		method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m		490	477	516		
Barium	ppm	ASTM D5185m		0	0	0		
Molybdenum	ppm	ASTM D5185m		105	98	106		
Manganese	ppm	ASTM D5185m		0	<1	<1		
Magnesium	ppm	ASTM D5185m		372	356	421		
Calcium	ppm	ASTM D5185m		1793	1731	2016		
Phosphorus	ppm	ASTM D5185m		1152	979	1203		
Zinc	ppm	ASTM D5185m		1356	1267	1425		
Sulfur	ppm	ASTM D5185m		3910	3600	4886		
CONTAMINANTS		method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>60	5	6	5		
Sodium	ppm	ASTM D5185m		9	11	10		
Potassium	ppm	ASTM D5185m	>20	<1	3	3		
FLUID CLEANLINE	ESS	method	limit/base	current	history1	history2		
Particles >4μm		ASTM D7647		4931	55113	5766		
Particles >6μm		ASTM D7647	>2500	251	<u>▲</u> 13253	173		
Particles >14μm		ASTM D7647	>320	16	<u>▲</u> 713	12		
Particles >21µm		ASTM D7647	>80	6	<u>▲</u> 158	4		
Particles >38μm		ASTM D7647	>20	0	<b>4</b> 9	0		
Particles >71μm		ASTM D7647	>4	0	3	0		
Oil Cleanliness		ISO 4406 (c)	>/18/15	19/15/11	<u>\$\text{\Delta}\$ 23/21/17</u>	20/15/11		
FLUID DEGRADA	TION	method	limit/base	current	history1	history2		
A 1151 1 (550)	1/0111	4 OT1 4 D 00 :-			–			

Acid Number (AN)

mg KOH/g ASTM D8045

1.15

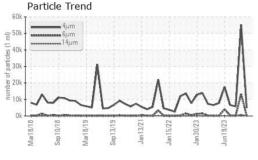
1.17

Report Id: BPENOR [WUSCAR] 06061014 (Generated: 01/17/2024 12:43:38) Rev: 1

Contact/Location: PERRY NEEL - BPENOR



## **OIL ANALYSIS REPORT**



VISUAL		method				history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

Acid	d Num	ber	1001111					
(B)2.5						A		
2.5. Void Number (mg KOH/g)	$\sqrt{}$	W	\\\	۸ ۳	$\langle  $	VL	1.	
1.0 Void Num				V	Y	Ì		
0.0	<u>e</u>	- E	6	721	22	23	23	
Mar18/18	Sep10/18	Mar18/19	Sep13/19	Jan13/	Jan15/	Jan30/	Jun19/	

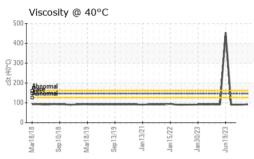
**FLUID PROPERTIES** cSt 91.7 91.0 90.8 Visc @ 40°C ASTM D445 146

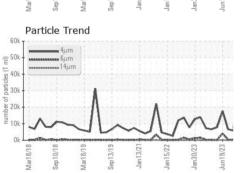
SAMPLE IMAGES

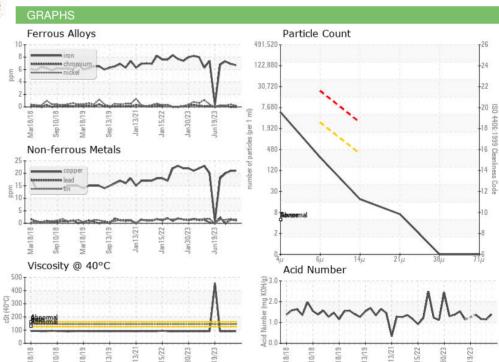
Color

**Bottom** 













Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** 

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 06061014

: HLC0003144 : 10832396

Recieved Diagnosed

: 16 Jan 2024 : 17 Jan 2024 : Jonathan Hester

Diagnostician Test Package : IND 2 ( Additional Tests: PrtCount )

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

HILCORP NORTHSTAR FACILITY

PRUDHOE BAY, AK US 99734 Contact: PERRY NEEL pneel@hilcorp.com T: (907)670-3514 F: (907)659-5377

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