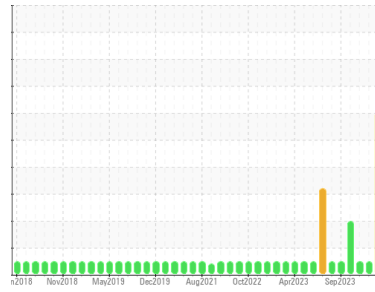




# PROBLEM SUMMARY

Area  
**OIL**  
 Machine Id  
**P-6150 (S/N WELL CLEAN UP PUMP)**  
 Component  
**Pump**  
 Fluid  
**MOBIL DTE OIL EXTRA HEAVY (20 GAL)**

## Sample Rating Trend

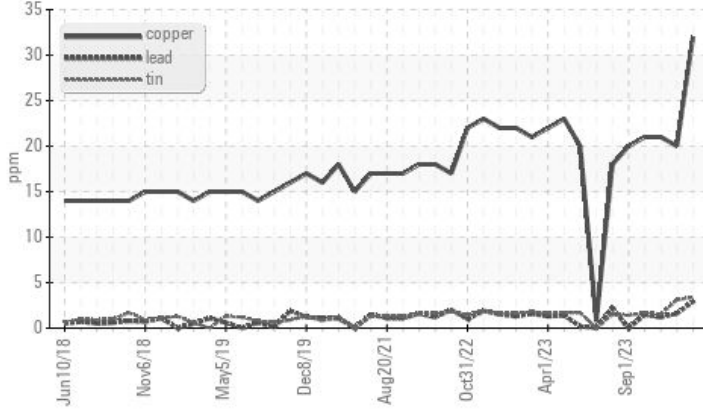


**WEAR**



## COMPONENT CONDITION SUMMARY

### ▲ Non-ferrous Metals



## RECOMMENDATION

Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

Sample Status				<b>SEVERE</b>	NORMAL	NORMAL
Copper	ppm	ASTM D5185m	>30	<b>▲ 32</b>	20	21

**Customer Id:** BPENOR  
**Sample No.:** HLC0003197  
**Lab Number:** 06146557  
**Test Package:** IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Angela Borella +1 800-237-1369  
[angela.borella@wearcheckusa.com](mailto:angela.borella@wearcheckusa.com)

To change component or sample information:  
 Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

There are no recommended actions for this sample.

## HISTORICAL DIAGNOSIS

NORMAL



### 07 Feb 2024 Diag: Don Baldrige

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the fluid. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

view report



NORMAL



### 07 Jan 2024 Diag: Jonathan Hester

Resample at the next service interval to monitor. All component wear rates are normal. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



ISO



### 10 Oct 2023 Diag: Don Baldrige

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

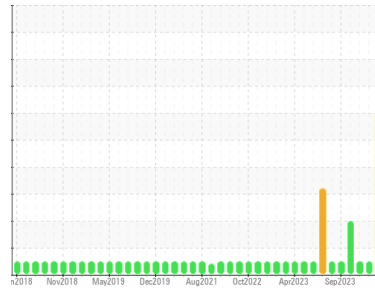




# OIL ANALYSIS REPORT

Area  
**OIL**  
 Machine Id  
**P-6150 (S/N WELL CLEAN UP PUMP)**  
 Component  
**Pump**  
 Fluid  
**MOBIL DTE OIL EXTRA HEAVY (20 GAL)**

Sample Rating Trend



## DIAGNOSIS

**Recommendation**  
 Resample at the next service interval to monitor.

**Wear**  
 All component wear rates are normal.

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

**Fluid Condition**  
 The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>HLC0003197</b>	HLC0003008	HLC0003144
Sample Date	Client Info			<b>01 Apr 2024</b>	07 Feb 2024	07 Jan 2024
Machine Age	hrs Client Info			<b>0</b>	0	2997
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>SEVERE</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>.1	<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	<b>11</b>	5	7
Chromium	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	0
Nickel	ppm	ASTM D5185m	>5	<b>2</b>	0	<1
Titanium	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>7	<b>5</b>	2	2
Lead	ppm	ASTM D5185m	>12	<b>3</b>	2	1
Copper	ppm	ASTM D5185m	>30	<b>▲ 32</b>	20	21
Tin	ppm	ASTM D5185m	>9	<b>3</b>	3	2
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Cadmium	ppm	ASTM D5185m		<b>1</b>	0	0

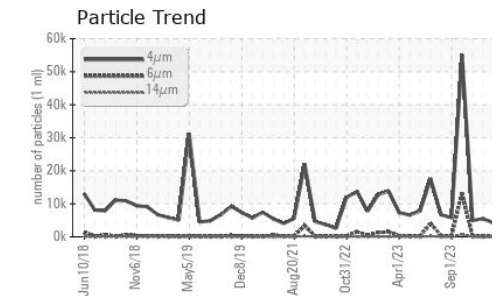
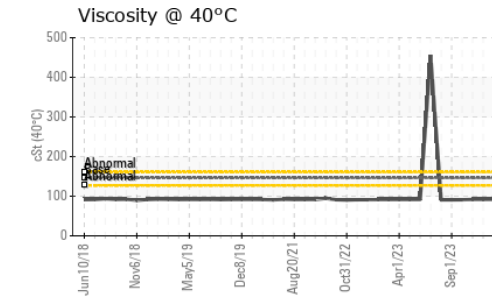
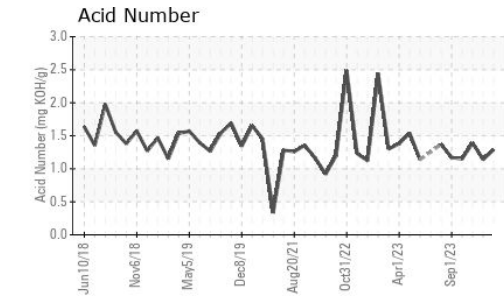
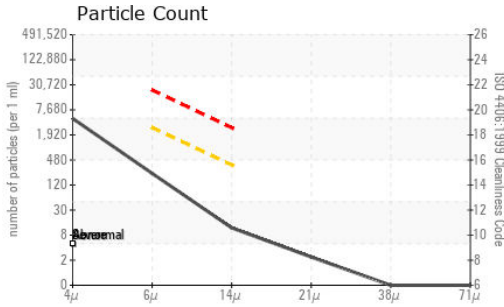
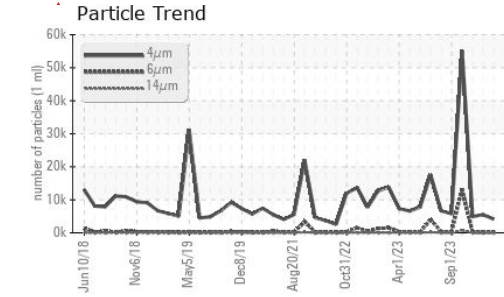
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>773</b>	622	490
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>143</b>	102	105
Manganese	ppm	ASTM D5185m		<b>1</b>	0	0
Magnesium	ppm	ASTM D5185m		<b>501</b>	375	372
Calcium	ppm	ASTM D5185m		<b>2511</b>	1850	1793
Phosphorus	ppm	ASTM D5185m		<b>1587</b>	1126	1152
Zinc	ppm	ASTM D5185m		<b>1720</b>	1316	1356
Sulfur	ppm	ASTM D5185m		<b>5797</b>	3800	3910

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>60	<b>7</b>	4	5
Sodium	ppm	ASTM D5185m		<b>15</b>	9	9
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	1	<1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		<b>4167</b>	5493	4931
Particles >6µm		ASTM D7647	>2500	<b>201</b>	162	251
Particles >14µm		ASTM D7647	>320	<b>10</b>	7	16
Particles >21µm		ASTM D7647	>80	<b>2</b>	1	6
Particles >38µm		ASTM D7647	>20	<b>0</b>	0	0
Particles >71µm		ASTM D7647	>4	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>--/18/15	<b>19/15/10</b>	20/15/10	19/15/11

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>1.29</b>	1.14	1.39

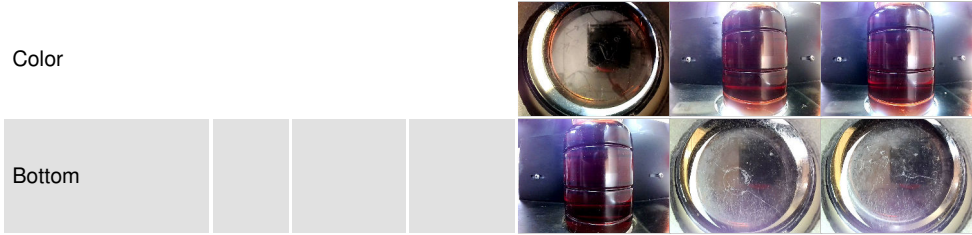
# OIL ANALYSIS REPORT



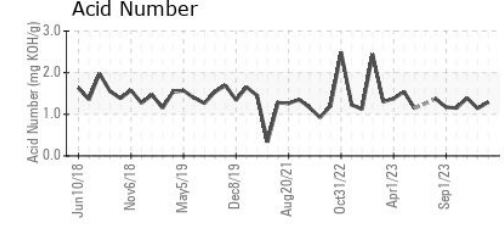
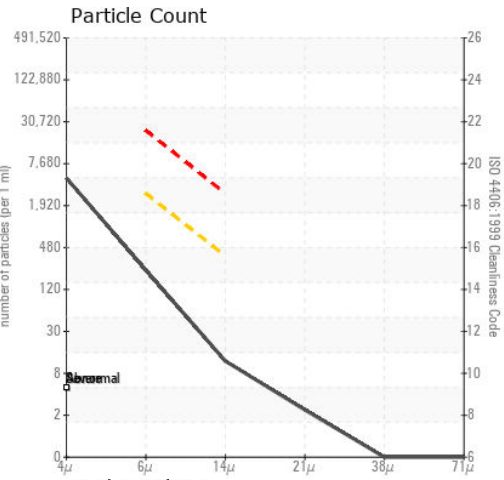
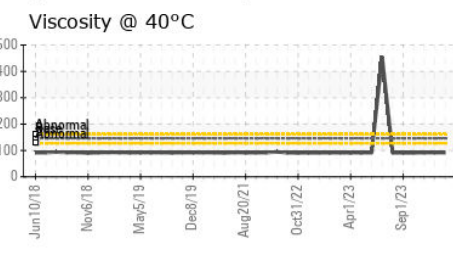
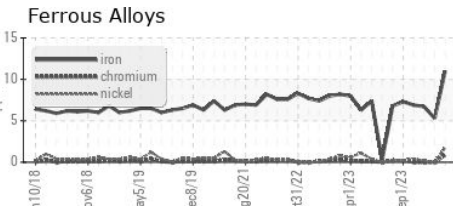
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	146	91.8	91.7

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : HLC0003197  
**Lab Number** : 06146557  
**Unique Number** : 10976635  
**Test Package** : IND 2 ( Additional Tests: PrtCount )  
**Received** : 11 Apr 2024  
**Tested** : 12 Apr 2024  
**Diagnosed** : 15 Apr 2024 - Angela Borella

**HILCORP NORTHSTAR FACILITY**  
 PRUDHOE BAY, AK  
 US 99734  
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 pneel@hilcorp.com  
 T: (907)670-3514  
 F: (907)659-5377

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)