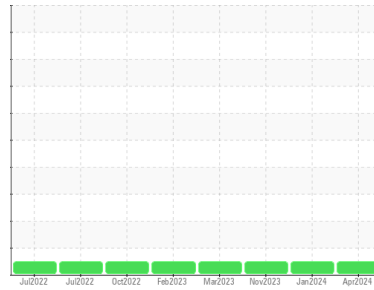




# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Area  
**Turbines and Generators**

Machine Id  
**GT 2500A GT-2500A**

Component  
**Gas Turbine**

Fluid  
**PHILLIPS 66 Diamond Class® Turbine Oil AW 32 (--- GAL)**

### 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 oil. 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 oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>HLC0002981</b>	HLC0003163	HLC0002591
Sample Date	Client Info			<b>02 Apr 2024</b>	08 Jan 2024	04 Nov 2023
Machine Age	Client Info			<b>0</b>	0	0
Oil Age	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		>0.03	<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	0
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>10	<b>1</b>	2	0
Lead	ppm	ASTM D5185m		<b>1</b>	<1	<1
Copper	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	0
Tin	ppm	ASTM D5185m	>5	<b>1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>1</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>3</b>	4	2
Molybdenum	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Calcium	ppm	ASTM D5185m		<b>12</b>	30	10
Phosphorus	ppm	ASTM D5185m		<b>37</b>	63	35
Zinc	ppm	ASTM D5185m		<b>8</b>	0	1
Sulfur	ppm	ASTM D5185m		<b>19</b>	76	117

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Sodium	ppm	ASTM D5185m		<b>26</b>	21	25
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	<1	0

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	<b>500</b>	790	594
Particles >6µm		ASTM D7647	>640	<b>98</b>	119	112
Particles >14µm		ASTM D7647	>80	<b>3</b>	6	9
Particles >21µm		ASTM D7647	>20	<b>1</b>	2	2
Particles >38µm		ASTM D7647	>4	<b>0</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	<b>16/14/9</b>	17/14/10	16/14/10

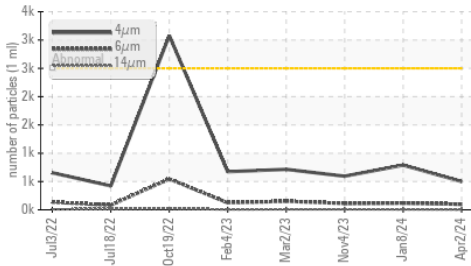
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.04	<b>0.14</b>	0.12	0.13



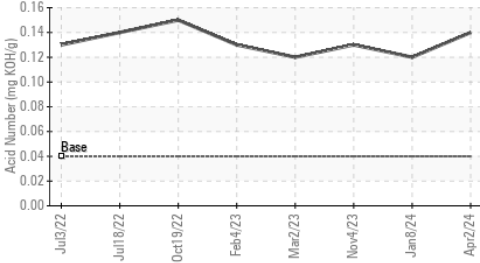
Hilcorp Alaska, LLC

# OIL ANALYSIS REPORT

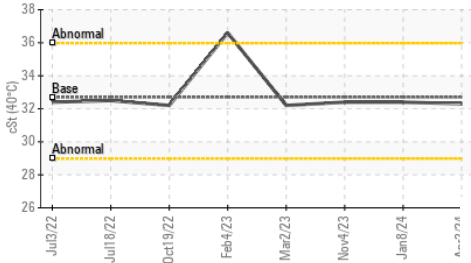
## Particle Trend



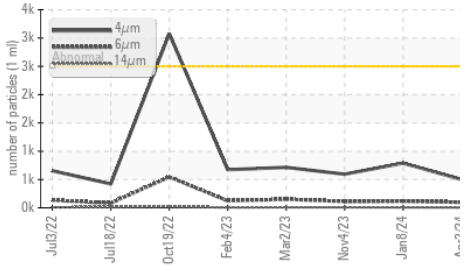
## Acid Number



## Viscosity @ 40°C



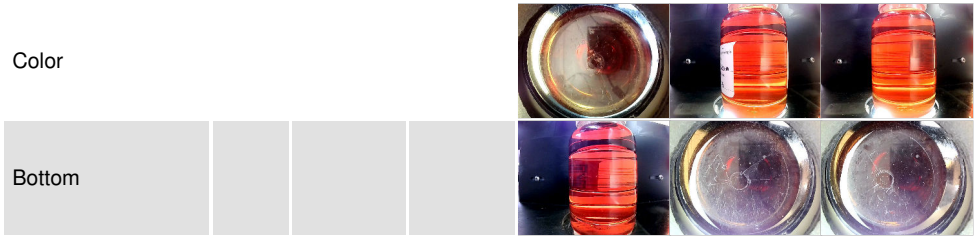
## Particle Trend



VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	<b>LIGHT</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	>0.03	<b>NEG</b>	NEG	NEG
Free Water	scalar	*Visual		<b>NEG</b>	NEG	NEG

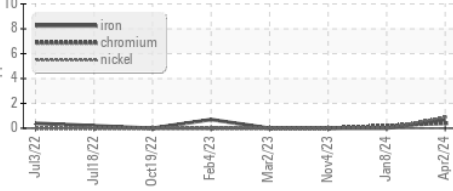
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	32.7	<b>32.3</b>	32.4	32.4

SAMPLE IMAGES	method	limit/base	current	history1	history2
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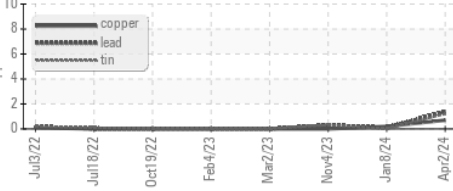


## GRAPHS

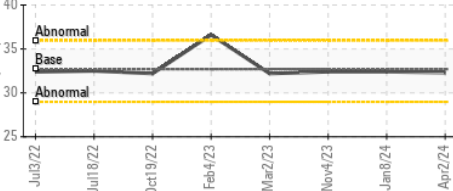
### Ferrous Alloys



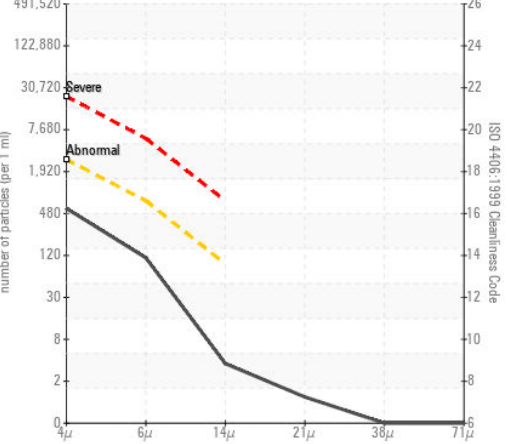
### Non-ferrous Metals



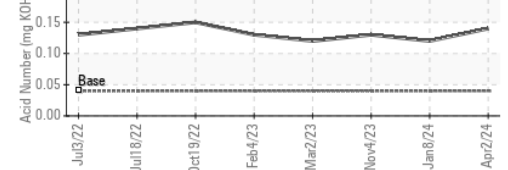
### Viscosity @ 40°C



### Particle Count



### Acid Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : HLC0002981  
**Lab Number** : 06146537  
**Unique Number** : 10976615  
**Test Package** : IND 2

**HILCORP EXPLORATION ALASKA - MILNE POINT**  
 1000 MILNE POINT RD  
 PRUDOE BAY, AK  
 US 99734

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)

Contact: Evan Reilly  
 evan.reilly@hilcorp.com  
 T: (907)670-3231

F: x: