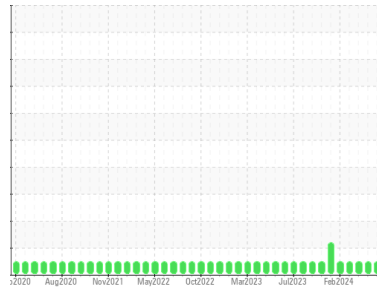




# OIL ANALYSIS REPORT

Area  
**OIL**  
 Machine Id  
**GN-4020A (S/N SOLAR A)**  
 Component  
**Turbine**  
 Fluid  
**CASTROL PERFECTO XPG 32 (1000 GAL)**

Sample Rating Trend



## DIAGNOSIS

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

**Wear**  
 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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>HLC0003296</b>	HLC0003326	HLC0003220
Sample Date	Client Info			<b>28 May 2024</b>	01 May 2024	20 Mar 2024
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		>0.03	<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>15	<b>0</b>	0	<1
Chromium	ppm	ASTM D5185m	>4	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>10	<b>0</b>	0	1
Lead	ppm	ASTM D5185m		<b>&lt;1</b>	2	3
Copper	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m	>5	<b>0</b>	0	1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	<1

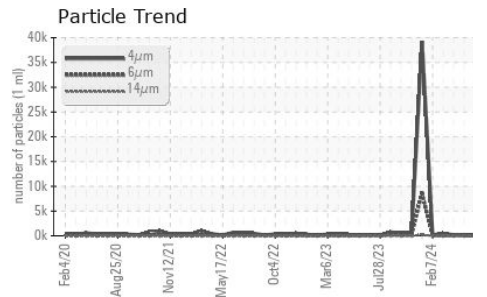
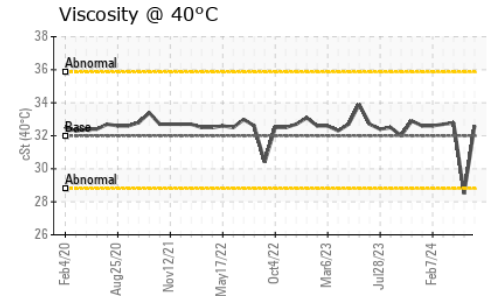
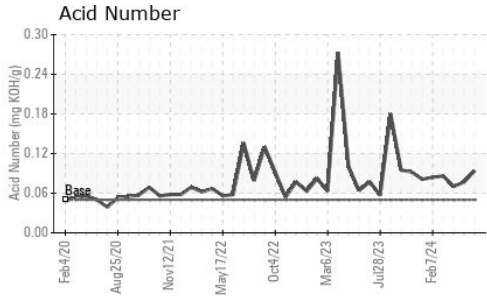
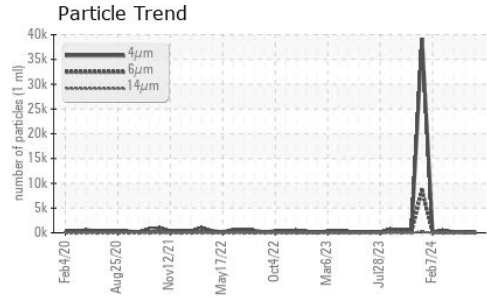
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	<b>0</b>	0	0
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	0	<b>0</b>	0	<1
Manganese	ppm	ASTM D5185m	0	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185m	0	<b>0</b>	0	2
Calcium	ppm	ASTM D5185m	0	<b>2</b>	0	6
Phosphorus	ppm	ASTM D5185m	25	<b>8</b>	32	12
Zinc	ppm	ASTM D5185m	0	<b>2</b>	0	2
Sulfur	ppm	ASTM D5185m	1500	<b>287</b>	297	519

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	<b>1</b>	2	2
Sodium	ppm	ASTM D5185m		<b>17</b>	18	16
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	1	1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		<b>112</b>	104	211
Particles >6µm		ASTM D7647	>1300	<b>33</b>	26	53
Particles >14µm		ASTM D7647	>160	<b>4</b>	2	3
Particles >21µm		ASTM D7647	>40	<b>0</b>	1	1
Particles >38µm		ASTM D7647	>10	<b>0</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>--/17/14	<b>14/12/9</b>	14/12/9	15/13/9

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.05	<b>0.094</b>	0.077	0.07

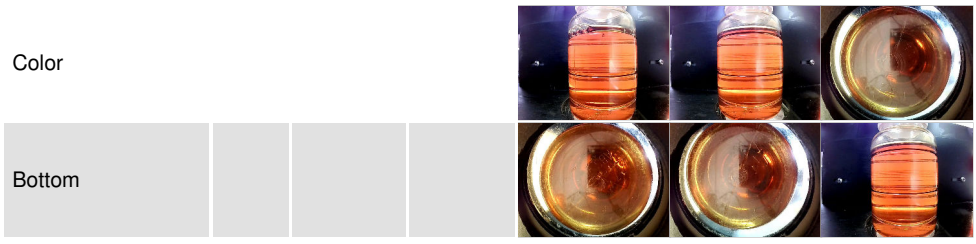
# OIL ANALYSIS REPORT



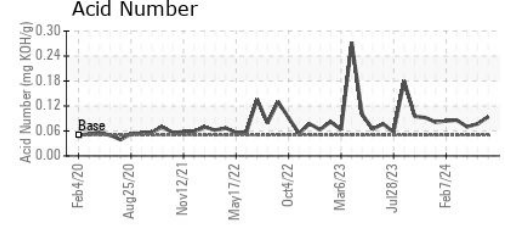
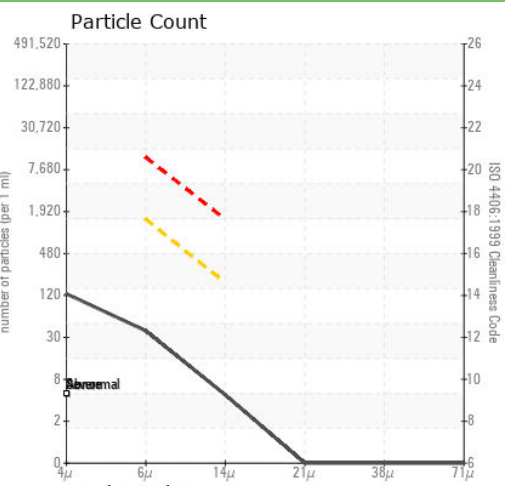
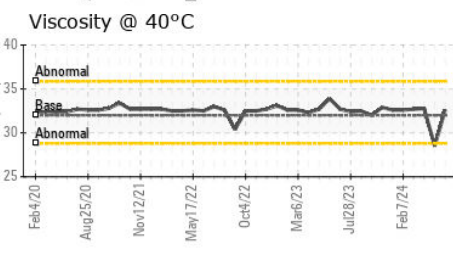
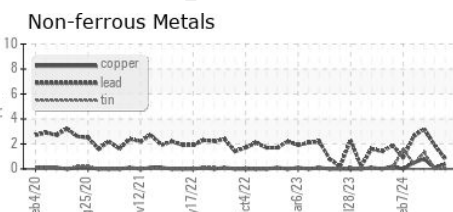
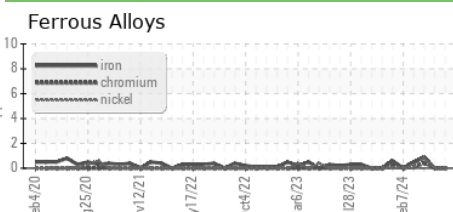
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.03	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	32.0	32.6	28.5

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : HLC0003296  
**Lab Number** : 06205333  
**Unique Number** : 11072794  
**Test Package** : IND 2  
**Received** : 10 Jun 2024  
**Tested** : 12 Jun 2024  
**Diagnosed** : 12 Jun 2024 - Don Baldrige

**HILCORP NORTHSTAR FACILITY**  
 PRUDHOE BAY, AK  
 US 99734  
 Contact: PERRY NEEL  
 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)