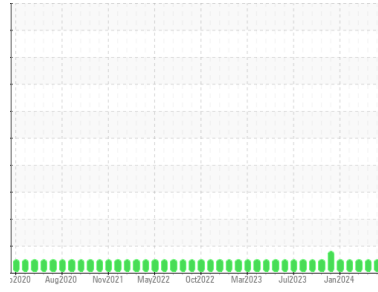




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

OIL

Machine Id

P-3160B (S/N WATER INJECTION PUMP)

Component

Pump

Fluid

CASTROL PERFECTO XPG 32 (35 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 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	HLC0003304	HLC0003131	HLC0003204
Sample Date	Client Info	02 May 2024	01 Apr 2024	08 Mar 2024
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		NORMAL	NORMAL	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	0	<1	0
Chromium	ppm	ASTM D5185m >5	0	<1	<1
Nickel	ppm	ASTM D5185m >5	0	<1	<1
Titanium	ppm	ASTM D5185m >3	0	<1	<1
Silver	ppm	ASTM D5185m >3	<1	0	0
Aluminum	ppm	ASTM D5185m >7	0	1	2
Lead	ppm	ASTM D5185m >12	<1	1	<1
Copper	ppm	ASTM D5185m >30	0	<1	<1
Tin	ppm	ASTM D5185m >9	0	1	<1
Vanadium	ppm	ASTM D5185m	<1	<1	<1
Cadmium	ppm	ASTM D5185m	0	<1	<1

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	0	0	0
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 0	0	<1	<1
Manganese	ppm	ASTM D5185m 0	0	<1	0
Magnesium	ppm	ASTM D5185m 0	0	<1	<1
Calcium	ppm	ASTM D5185m 0	0	3	3
Phosphorus	ppm	ASTM D5185m 25	14	27	22
Zinc	ppm	ASTM D5185m 0	0	0	0
Sulfur	ppm	ASTM D5185m 1500	2282	1933	1839

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >60	2	2	2
Sodium	ppm	ASTM D5185m	2	0	0
Potassium	ppm	ASTM D5185m >20	<1	<1	1

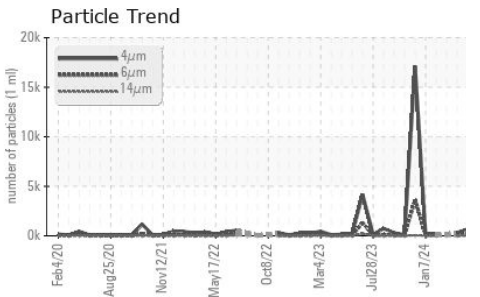
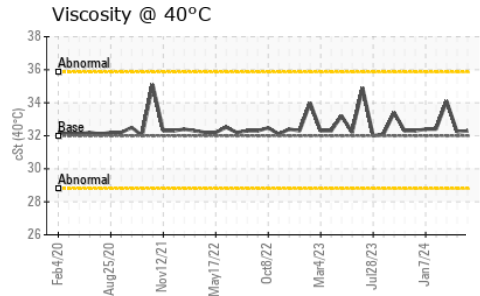
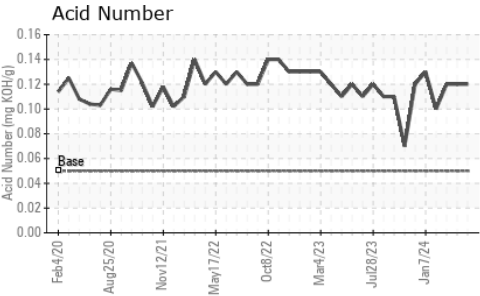
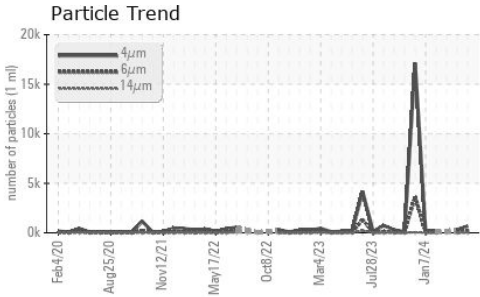
FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	677	302	---
Particles >6µm	ASTM D7647 >2500	180	75	---
Particles >14µm	ASTM D7647 >320	10	5	---
Particles >21µm	ASTM D7647 >80	2	2	---
Particles >38µm	ASTM D7647 >20	1	0	---
Particles >71µm	ASTM D7647 >4	1	0	---
Oil Cleanliness	ISO 4406 (c) >--/18/15	17/15/10	15/13/10	---

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045 0.05	0.12	0.12	0.12

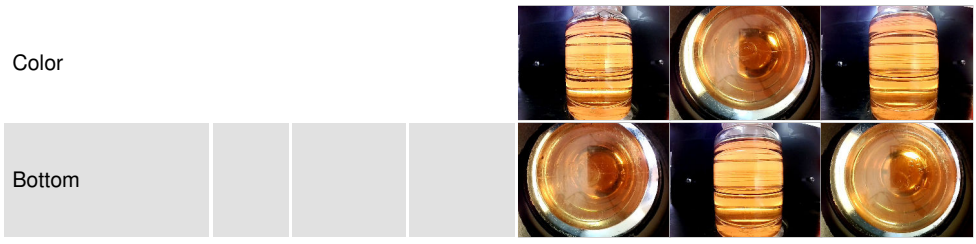
OIL ANALYSIS REPORT



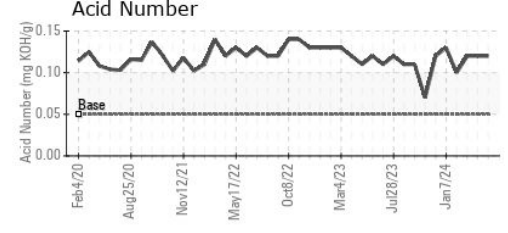
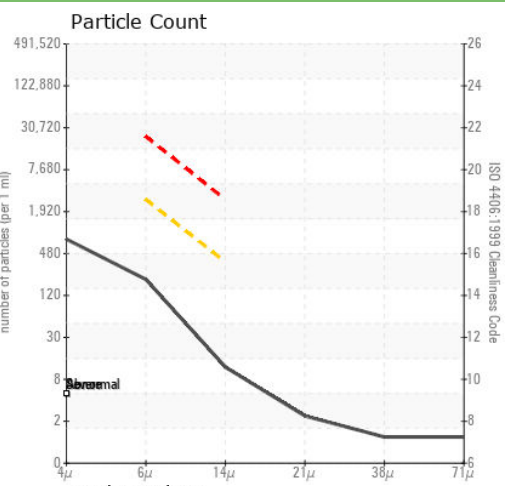
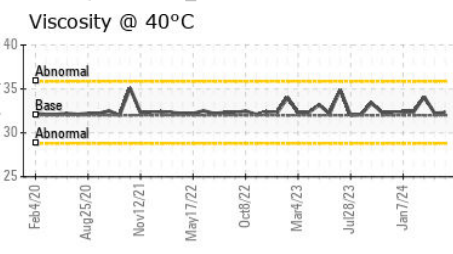
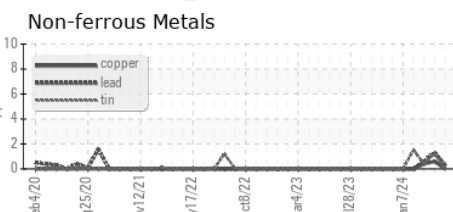
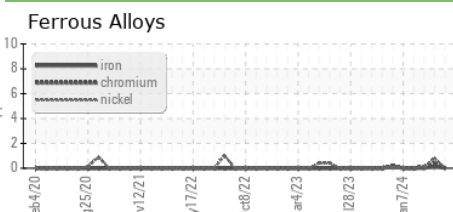
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	32.0	32.3	32.23	34.1

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : HLC0003304 **Received** : 16 May 2024
Lab Number : **06181987** **Tested** : 20 May 2024
Unique Number : 11033313 **Diagnosed** : 20 May 2024 - Don Baldrige
Test Package : IND 2 (Additional Tests: PrtCount)

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)