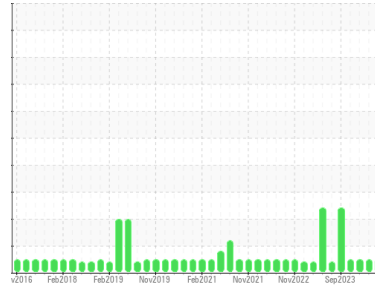




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
E1 RULer Conductivity
 Machine Id
NUOVO-PIGNONE E1 Pignone Frame 5-70001-TB
 Component
Turbine
 Fluid
ROYAL PURPLE SYNFILM 32 (2730 GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. Conductivity is acceptable at 696 pS.

Wear

All component wear rates are normal.

Contamination

MPC (Membrane Patch Colorimetry) test indicates acceptable levels of varnish present. 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. Linear Sweep Voltammetry (RULER – ASTM D6971) testing indicates normal levels of anti-oxidants present in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0745589	WC0819713	WC0821216
Sample Date	Client Info		27 Oct 2023	11 Oct 2023	08 Oct 2023
Machine Age	hrs	Client Info	198533	197459	198181
Oil Age	hrs	Client Info	198533	197459	198181
Oil Changed		Client Info	N/A	N/A	Filtered
Sample Status			NORMAL	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >15	0	0	0
Chromium	ppm	ASTM D5185m >4	0	<1	0
Nickel	ppm	ASTM D5185m >2	0	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >10	<1	2	0
Lead	ppm	ASTM D5185m	0	0	0
Copper	ppm	ASTM D5185m >5	8	0	8
Tin	ppm	ASTM D5185m >5	0	0	0
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	0	0	0
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	0	0	0
Manganese	ppm	ASTM D5185m	0	0	<1
Magnesium	ppm	ASTM D5185m 90	26	86	33
Calcium	ppm	ASTM D5185m	4	2	5
Phosphorus	ppm	ASTM D5185m	4	0	<1
Zinc	ppm	ASTM D5185m	6	0	0
Sulfur	ppm	ASTM D5185m	15456	20068	16121

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	<1	<1	<1
Sodium	ppm	ASTM D5185m	2	<1	2
Potassium	ppm	ASTM D5185m >20	3	<1	0
Water	%	ASTM D6304 >0.03	0.006	0.013	0.004
ppm Water	ppm	ASTM D6304 >300	69.8	135.8	47.0

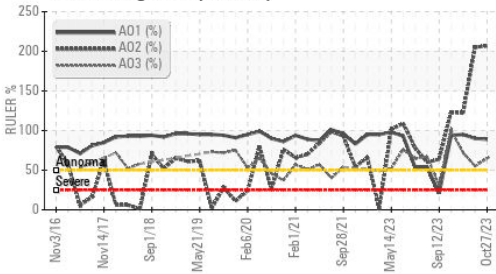
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	345	551	400
Particles >6µm	ASTM D7647	>1300	140	131	161
Particles >14µm	ASTM D7647	>160	12	15	20
Particles >21µm	ASTM D7647	>40	3	4	5
Particles >38µm	ASTM D7647	>10	1	0	1
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>20/17/14	16/14/11	16/14/11	16/15/11

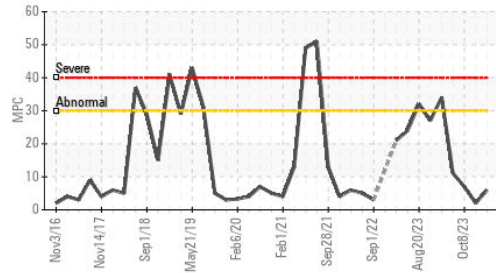


OIL ANALYSIS REPORT

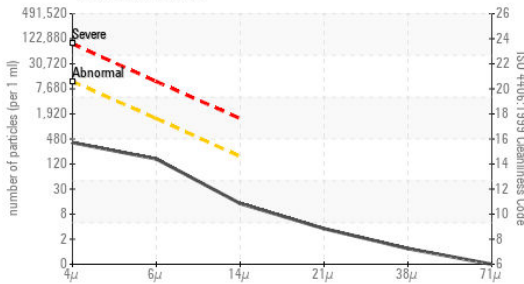
Remaining Life (RULER)



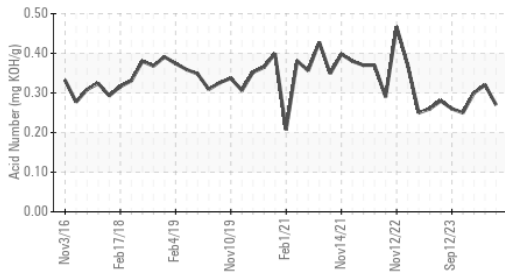
Varnish Potential



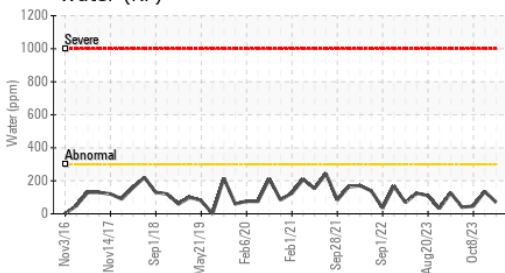
Particle Count



Acid Number



Water (KF)



FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.27	0.32	0.30
Anti-Oxidant 1	%	ASTM D6971	89	90	95
Anti-Oxidant 2	%	ASTM D6971	207	205	122
Anti-Oxidant 3	%	ASTM D6971	65	55	72
MPC Varnish Potential	Scale	ASTM D7843	6	2	7

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	32.2	33.53
Visc @ 100°C	cSt	ASTM D445	5.8	---	6.17
Resistivity	Gohm/cm	ASTM D1169		621	478

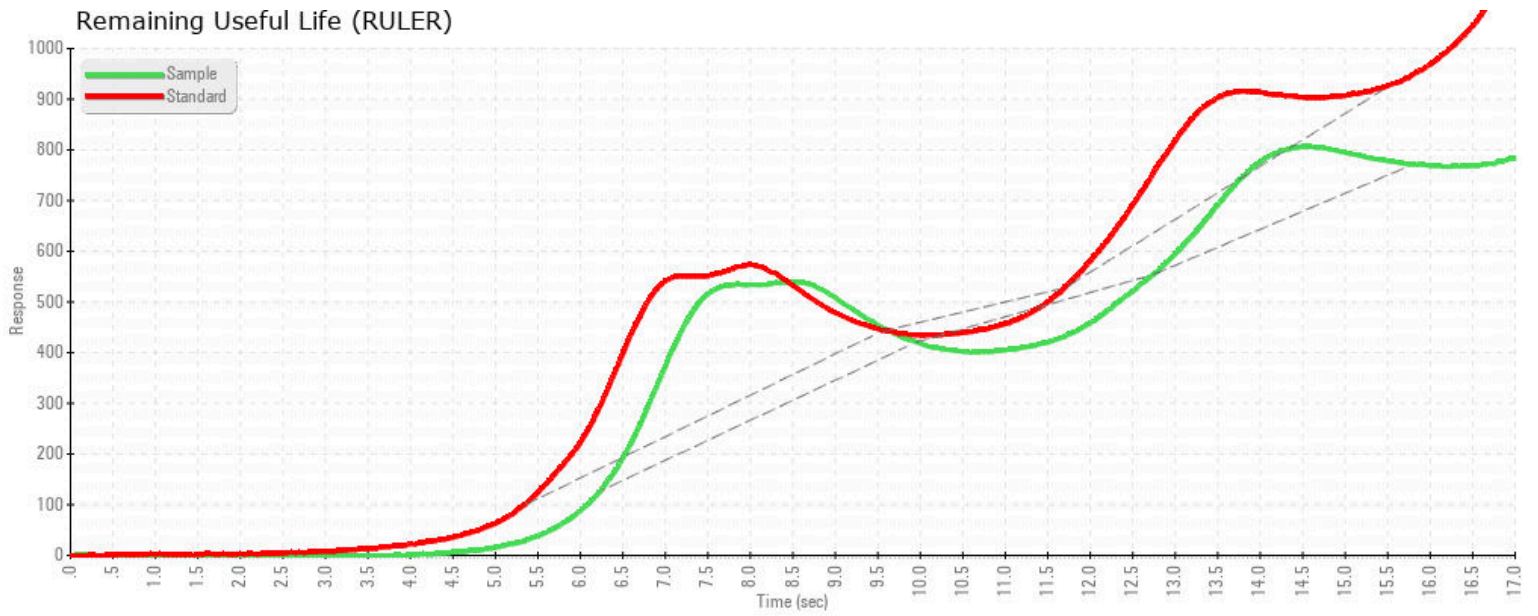
SAMPLE IMAGES



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0745589 **Received** : 01 Nov 2023
Lab Number : **05996272** **Diagnosed** : 07 Nov 2023
Unique Number : 10724632 **Diagnostician** : Jonathan Hester
Test Package : AOM 1 (Additional Tests: KF, RESISTIVITY)

Conoco Phillips ALASKA INC
 C/O LAF (ALPINE), 6441 S AIRPARK PL
 ANCHORAGE, AK
 US 99502
 Contact: GREG MARKLE HEATH CABANSKI
 alp1279@conocophillips.com
 T: (907)670-4143
 F: (907)670-4143

Certificate L2367
 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)



MPC (Varnish Test)



Sample Color & Clarity



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