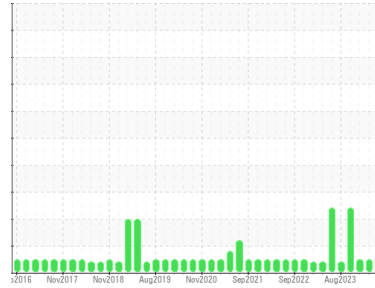




OIL ANALYSIS REPORT

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. (Customer Sample Comment: This is a baseline sample from the Bulk tank. The sample was taken from the A3 drop out hose)

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		WC0819713	WC0821216	WC0821215
Sample Date	Client Info		11 Oct 2023	08 Oct 2023	06 Oct 2023
Machine Age	hrs	Client Info	197459	198181	198030
Oil Age	hrs	Client Info	197459	198181	0
Oil Changed	Client Info		N/A	Filtered	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	<1	0	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	2	0	0
Lead	ppm	ASTM D5185m	0	0	0
Copper	ppm	ASTM D5185m >5	0	8	12
Tin	ppm	ASTM D5185m >5	0	0	<1
Vanadium	ppm	ASTM D5185m	0	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	<1	<1
Magnesium	ppm	ASTM D5185m 90	86	33	8
Calcium	ppm	ASTM D5185m	2	5	2
Phosphorus	ppm	ASTM D5185m	0	<1	<1
Zinc	ppm	ASTM D5185m	0	0	0
Sulfur	ppm	ASTM D5185m	20068	16121	15989

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	<1	<1	<1
Sodium	ppm	ASTM D5185m	<1	2	1
Potassium	ppm	ASTM D5185m >20	<1	0	0
Water	%	ASTM D6304 >0.03	0.013	0.004	0.003
ppm Water	ppm	ASTM D6304 >300	135.8	47.0	39.8

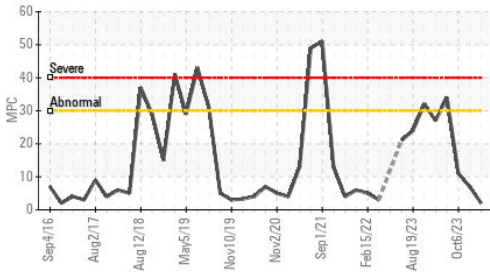
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	551	400	153
Particles >6µm	ASTM D7647	>1300	131	161	59
Particles >14µm	ASTM D7647	>160	15	20	7
Particles >21µm	ASTM D7647	>40	4	5	3
Particles >38µm	ASTM D7647	>10	0	1	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>20/17/14	16/14/11	16/15/11	14/13/10

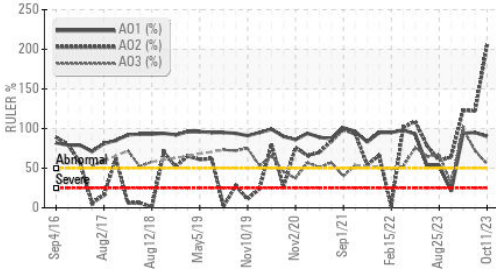


OIL ANALYSIS REPORT

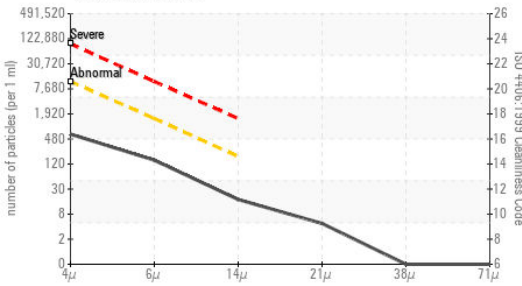
Varnish Potential



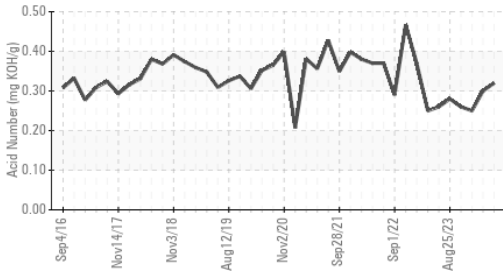
Remaining Life (RULER)



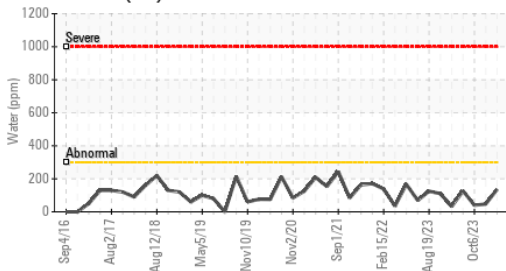
Particle Count



Acid Number



Water (KF)

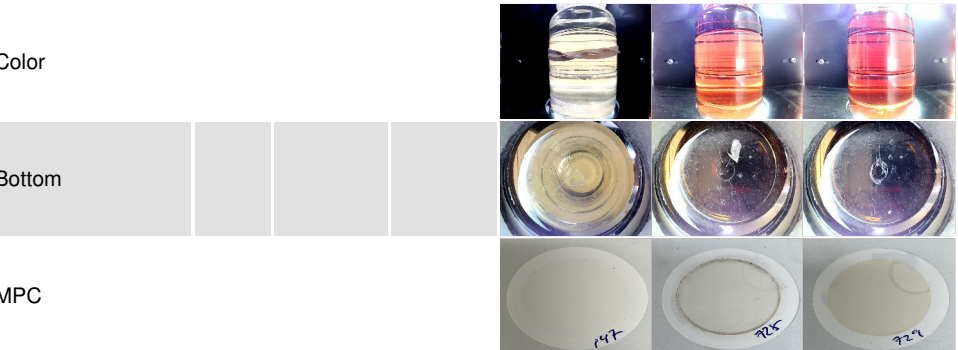


FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.32	0.30	0.25
Anti-Oxidant 1	%	ASTM D6971	90	95	94
Anti-Oxidant 2	%	ASTM D6971	205	122	123
Anti-Oxidant 3	%	ASTM D6971	55	72	100
MPC Varnish Potential	Scale	ASTM D7843	2	7	11

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	NEG	NEG	NEG
Free Water	scalar	*Visual	NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	33.53	32.4	32.4
Visc @ 100°C	cSt	ASTM D445	6.17	---	---
Viscosity Index (VI)	Scale	ASTM D2270	134	---	---
Resistivity	Gohm/cm	ASTM D1169	478	696	313

SAMPLE IMAGES



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0819713 **Received** : 17 Oct 2023
Lab Number : **05982147** **Diagnosed** : 30 Oct 2023
Unique Number : 10699442 **Diagnostician** : Jonathan Hester

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 ANCHORAGE, AK
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 alp1279@conocophillips.com

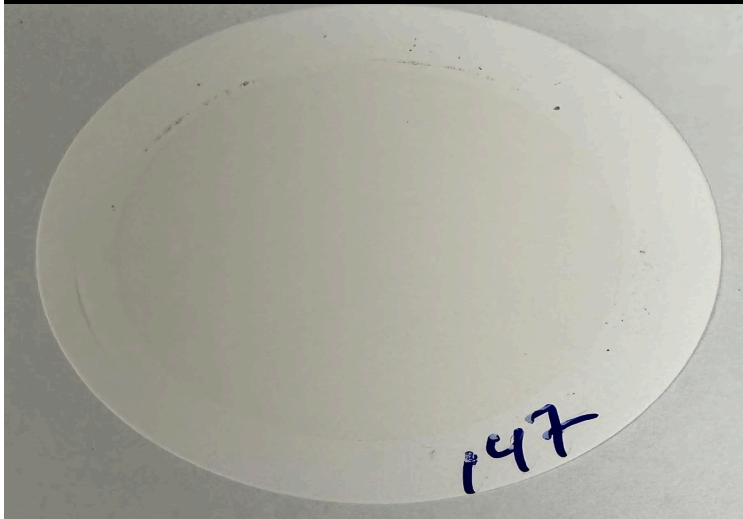
To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

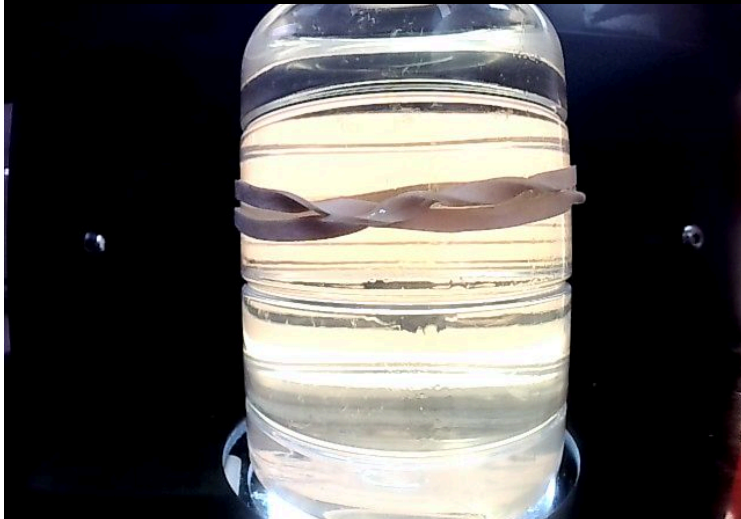
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

T: (907)670-4143
 F: (907)670-4143

MPC (Varnish Test)



Sample Color & Clarity



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