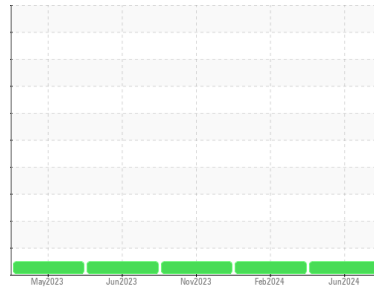




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
E9 RULER Conductivity
 Machine Id
SOLAR E9 Solar Titan 130
 Component
Gas Turbine
 Fluid
ROYAL PURPLE SYNFILM 32 (1081 GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. Conductivity is acceptable at 689 pS. Please submit a sample of the new (unused) oil to update the baseline. (Customer Sample Comment: Annual PM filter changed sample taken)

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			WC0885351	WC0885355	WC0877337
Sample Date	Client Info			06 Jun 2024	01 Feb 2024	29 Nov 2023
Machine Age	hrs	Client Info		9235	6808	5519
Oil Age	hrs	Client Info		9235	6808	5343
Oil Changed	Client Info			Not Changed	N/A	N/A
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	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	0	0	0
Lead	ppm	ASTM D5185m		0	0	0
Copper	ppm	ASTM D5185m	>5	2	2	0
Tin	ppm	ASTM D5185m	>5	0	0	0
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		6	0	4
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m	90	69	43	78
Calcium	ppm	ASTM D5185m		15	0	17
Phosphorus	ppm	ASTM D5185m		20	0	13
Zinc	ppm	ASTM D5185m		14	0	10
Sulfur	ppm	ASTM D5185m		19332	17342	16974

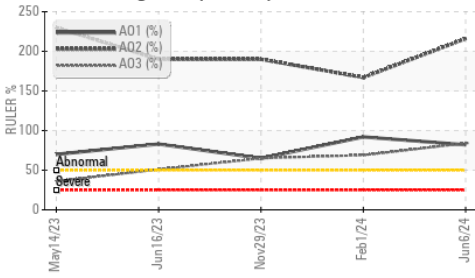
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	<1	0	<1
Sodium	ppm	ASTM D5185m		16	16	10
Potassium	ppm	ASTM D5185m	>20	0	0	0
Water	%	ASTM D6304	>0.03	0.007	0.001	0.003
ppm Water	ppm	ASTM D6304	>300	72	14	27

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	974	301	259
Particles >6µm		ASTM D7647	>640	280	91	81
Particles >14µm		ASTM D7647	>80	15	11	6
Particles >21µm		ASTM D7647	>20	4	4	1
Particles >38µm		ASTM D7647	>4	0	0	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	17/15/11	15/14/11	15/14/10

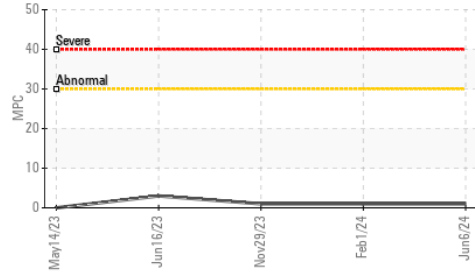


OIL ANALYSIS REPORT

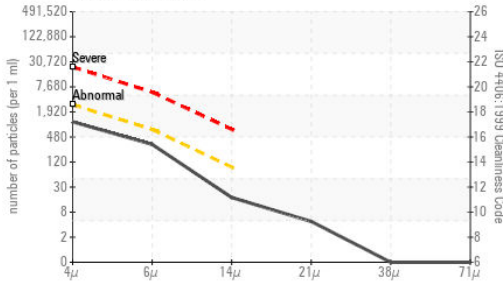
Remaining Life (RULER)



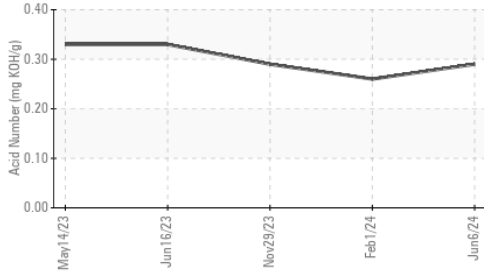
Varnish Potential



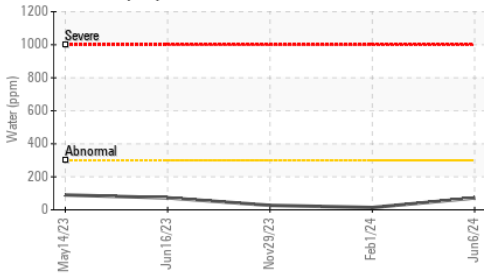
Particle Count



Acid Number



Water (KF)



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.29	0.26	0.29
Anti-Oxidant 1	%	ASTM D6971	<25	82	92	65
Anti-Oxidant 2	%	ASTM D6971	<25	216	167	190
Anti-Oxidant 3	%	ASTM D6971	<25	84	69	65
MPC Varnish Potential	Scale	ASTM D7843	>15	1	1	1

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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	32	31.94	32.2	32.1
Resistivity	Gohm/cm	ASTM D1169		689	292	283

SAMPLE IMAGES



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0885351

Lab Number : **06206492**

Unique Number : 11073953

Test Package : AOM 1 (Additional Tests: Conductivity, KF, Resistivity)

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)

Received : 11 Jun 2024

Tested : 20 Jun 2024

Diagnosed : 20 Jun 2024 - Doug Bogart

Conoco Phillips ALASKA INC

C/O LAF (ALPINE), 6441 S AIRPARK PL

ANCHORAGE, AK

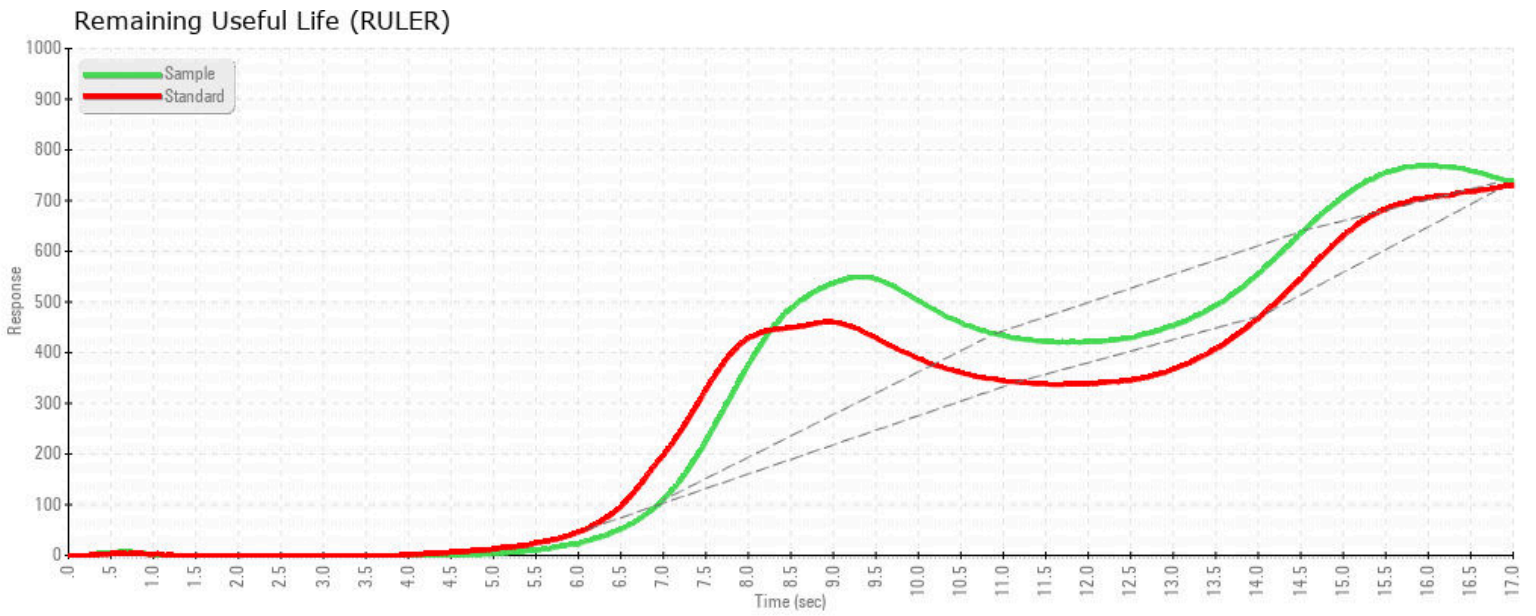
US 99502

Contact: Chris Van Ryzin Ben DeRaeve

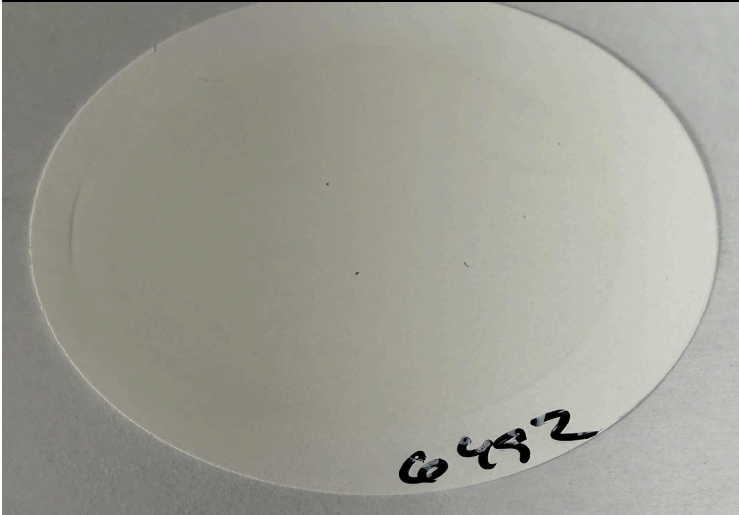
alp1084@conocophillips.com

T: (907)670-4128

F: (907)670-4137



MPC (Varnish Test)



Sample Color & Clarity



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