

OIL ANALYSIS REPORT

Area LCAC-81 LCAC-81 BOW THRUST CUSHION VANE

Starboard Hydraulic System Fluid MILITARY MIL-L-23699D (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please note that this is a corrected copy for diagnostic comment updates. Please note that this is a corrected copy for diagnostic comment updates.

Wear

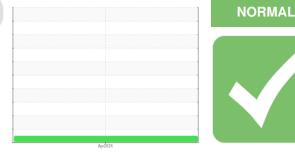
All component wear rates are normal.

Contamination

Discrete particle counts [100 ml] 5-15µm = 110500, 15-25µm = 11000, 25-50µm = 4600, 50-100µm = $300, >100\mu m = 0.$ Class 8 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. The condition of the oil is suitable for further service.



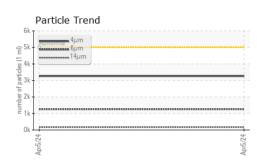


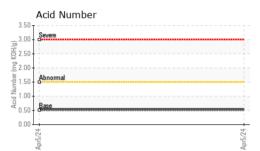
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0865215		
Sample Date		Client Info		05 Apr 2024		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		Not Changd		
Sample Status				NORMAL		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	0		
Chromium	ppm	ASTM D5185m	>20	<1		
Nickel	ppm	ASTM D5185m	>20	0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m		0		
Aluminum	ppm	ASTM D5185m	>20	<1		
Lead	ppm	ASTM D5185m	>20	0		
Copper	ppm	ASTM D5185m	>20	2		
Tin	ppm	ASTM D5185m	>20	0		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0		
Barium	ppm	ASTM D5185m		7		
Molybdenum	ppm	ASTM D5185m		0		
Manganese	ppm	ASTM D5185m		0		
Magnesium	ppm	ASTM D5185m		9		
Calcium	ppm	ASTM D5185m		9		
Phosphorus	ppm	ASTM D5185m		1566		
Zinc	ppm	ASTM D5185m		6		
Sulfur	ppm	ASTM D5185m		64		
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	<1		
Sodium	ppm	ASTM D5185m		<1		
Potassium	ppm	ASTM D5185m	>20	<1		
Water	%	ASTM D6304	>0.05	NEG		
FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	3263		
Particles >6µm		ASTM D7647	>1300	1264		
Particles >14µm		ASTM D7647	>160	159		
Particles >21µm		ASTM D7647	>40	49		
Particles >38µm		ASTM D7647	>10	3		
Particles >71µm		ASTM D7647	>3	0		
Oil Cleanliness		ISO 4406 (c)	>19/17/14	19/17/14		
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.5	0.54		

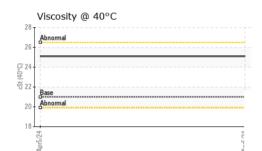
Sample Rating Trend

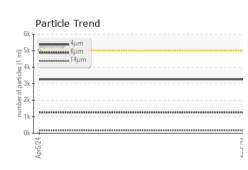


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VISUAL		method	limit/base	current	history1	history2
Vhite Metal	scalar	*Visual	NONE	NONE		
ellow Metal	scalar	*Visual	NONE	NONE		
recipitate	scalar	*Visual	NONE	NONE		
ilt	scalar	*Visual	NONE	NONE		
ebris	scalar	*Visual	NONE	NONE		
and/Dirt	scalar	*Visual	NONE	NONE		
ppearance	scalar	*Visual	NORML	NORML		
)dor	scalar	*Visual	NORML	NORML		
mulsified Water	scalar	*Visual	>0.05	NEG		
ree Water	scalar	*Visual		NEG		
FLUID PROPERT	IES	method	limit/base	current	history1	history2
'isc @ 40°C	cSt	ASTM D445	21.0	25.1		
SAMPLE IMAGES	;	method	limit/base	current	history1	history2
Color					no image	no image
Bottom					no image	no image
					Ŭ	
GRAPHS						
Ferrous Alloys				Particle Count	:	
			491,520	I		T ²
Iron chromium			122,880	-		-2
nickel				Severe		
			30,720			+2
			7,680	Abnormal		-2
Apr5/24 .			Apr5/24	N. 1.		
Apr			4012 July 1,920		•	+1
Non-ferrous Metals	5		:1월 480			1
copper			Apr5/24- 15/24 15/24 15/24			+1
Research lead			120 In International Internati			Ĩ
tin			30	-	\backslash	-1
				_		1
				1		
Apr5/24			Apr5/24			
			Api		14	
Viscosity @ 40°C				^{4μ} ^{6μ} Acid Number	14μ 21μ	36µ 71µ
Abnormal			\$ ^{4.00}			
			(B)H033.00 WH033.00 w 2.00 W 1.00 V 400 W 1.00	Severe		
			ا اي 2.00	Abnormal		
Page			quantum and a second se	Abnormal		
Base Abnormal				Base		
Abnormal						
Abnormal			22	10		
			Apr5/24	Apr5/24		

Lab Number : Unique Number : 10978693 Test Package : PLANT

Laboratory

Sample No.

Diagnosed

: 24 Apr 2024 - Angela Borella

US 91950 Contact: BOB CLAGETT bobclagett@walashek.com T: F:



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)

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Submitted By: SHAWN LAHEY Page 2 of 2