

OIL ANALYSIS REPORT

Sample Rating Trend





CATERPILLAR RH BEYMER

Starboard Gearbox

KENDALL 40 WT D3 (--- 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 oil.

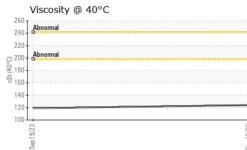
Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2			
Sample Number		Client Info		WC0843973	WC0843984				
Sample Date		Client Info		15 Nov 2023	19 Sep 2023				
Machine Age	hrs	Client Info		33233	31979				
Oil Age	hrs	Client Info		1000	1000				
Oil Changed		Client Info		Not Changd	Not Changd				
Sample Status				NORMAL	NORMAL				
CONTAMINATION	٧	method	limit/base	current	history1	history2			
Water		WC Method	>0.2	NEG	NEG				
WEAR METALS		method	limit/base	current	history1	history2			
Iron	ppm	ASTM D5185m	>200	5	<1				
Chromium	ppm	ASTM D5185m	>10	0	<1				
Nickel	ppm	ASTM D5185m	>10	0	0				
Titanium	ppm	ASTM D5185m		8	14				
Silver	ppm	ASTM D5185m		0	0				
Aluminum	ppm	ASTM D5185m	>25	0	2				
Lead	ppm	ASTM D5185m	>50	0	<1				
Copper	ppm	ASTM D5185m	>200	0	0				
Tin	ppm	ASTM D5185m	>10	0	0				
Vanadium	ppm	ASTM D5185m		0	<1				
Cadmium	ppm	ASTM D5185m		0	0				
ADDITIVES		method	limit/base	current	history1	history2			
Boron	ppm	ASTM D5185m		41	42				
Barium	ppm	ASTM D5185m		0	0				
Molybdenum	ppm	ASTM D5185m		10	14				
Manganese	ppm	ASTM D5185m		0	<1				
Magnesium	ppm	ASTM D5185m		75	109				
Calcium	ppm	ASTM D5185m		2945	2956				
Phosphorus	ppm	ASTM D5185m		1007	1021				
Zinc	ppm	ASTM D5185m		1096	1184				
Sulfur	ppm	ASTM D5185m		4017	4212				
CONTAMINANTS		method	limit/base	current	history1	history2			
Silicon	ppm	ASTM D5185m	>50	4	7				
Sodium	ppm	ASTM D5185m		<1	1				
Potassium	ppm	ASTM D5185m	>20	0	0				
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	>0.2	NEG	NEG				
Free Water	scalar	*Visual		NEG	NEG				
5:33:19) Rev: 1 Contact/Location: DARRELL KEARNS - SUPCHEOH									



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	FLUID PROPER	TIES	method	limit/base	current	history1	history2
	Visc @ 40°C	cSt	ASTM D445		124	119	
	SAMPLE IMAGE	ES	method	limit/base	current	history1	history2
	Color				no image	no image	no image
Nev15/23	Bottom				no image	no image	no image
	GRAPHS						
щd	Non-ferrous Meta	als		Mov15/23			
2	Viscosity @ 40°C	:		Nov15/23			
(5-0 1) 133 1 1	80 60 40 20						
	Sep 19/23			Nov15/23			
Sample No. Lab Number Unique Number	e outside of the ISO	d : 20 N ed : 21 N tician : Wes 200-237-1369 ope of accredi	darrelik	SUPERIOR MARINE 201 KELLY LANE CHESAPEAKE, OF US 45619 Contact: DARRELL KEARNS darrellkearns@superiormarineinc.com			

