

OIL ANALYSIS REPORT

Sample Rating Trend





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

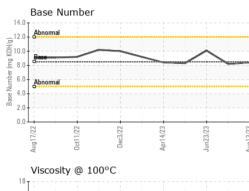
Fluid Condition

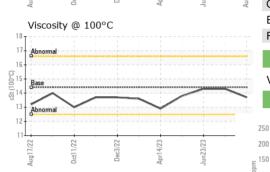
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		Aug2022	Oct2022 Dec2022	Apr2023 Jun2023	Aug2023	
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0725582	WC0745284	WC0774795
Sample Date		Client Info		13 Aug 2023	04 Aug 2023	23 Jun 2023
Machine Age	hrs	Client Info		3039	11662	11400
Oil Age	hrs	Client Info	0		0	0
Oil Changed		Client Info	N/A		N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	4	5	4
Chromium	ppm	ASTM D5185m	>20	0	0	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	0	0	<1
Lead	ppm	ASTM D5185m	>40	1	1	<1
Copper	ppm	ASTM D5185m	>330	2	2	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current 2	history1 2	history2 8
	ppm ppm					
Boron		ASTM D5185m	250	2	2	8
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	2 0	2 0	8
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	2 0 58	2 0 59	8 0 57
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	2 0 58 <1	2 0 59 <1	8 0 57 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	2 0 58 <1 989	2 0 59 <1 1000	8 0 57 <1 846
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	2 0 58 <1 989 1251	2 0 59 <1 1000 1245	8 0 57 <1 846 1130
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	2 0 58 <1 989 1251 1099	2 0 59 <1 1000 1245 1086	8 0 57 <1 846 1130 997
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350	2 0 58 <1 989 1251 1099 1369	2 0 59 <1 1000 1245 1086 1369	8 0 57 <1 846 1130 997 1182
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	2 0 58 <1 989 1251 1099 1369 4039	2 0 59 <1 1000 1245 1086 1369 4046	8 0 57 <1 846 1130 997 1182 3215
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	2 0 58 <1 989 1251 1099 1369 4039 current	2 0 59 <1 1000 1245 1086 1369 4046 history1	8 0 57 <1 846 1130 997 1182 3215 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	250 10 100 450 3000 1150 1350 4250 limit/base >25	2 0 58 <1 989 1251 1099 1369 4039 current 17	2 0 59 <1 1000 1245 1086 1369 4046 history1 3	8 0 57 <1 846 1130 997 1182 3215 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216	2 0 58 <1 989 1251 1099 1369 4039 current 17 1	2 0 59 <1 1000 1245 1086 1369 4046 history1 3 2	8 0 57 <1 846 1130 997 1182 3215 history2 4 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20	2 0 58 <1 989 1251 1099 1369 4039 current 17 1 1	2 0 59 <1 1000 1245 1086 1369 4046 history1 3 2 1	8 0 57 <1 846 1130 997 1182 3215 history2 4 <1 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Imit/base >25 >216 >20 Imit/base	2 0 58 <1 989 1251 1099 1369 4039 current 17 1 1 1 1	2 0 59 <1 1000 1245 1086 1369 4046 history1 3 2 1 1 history1	8 0 57 <1 846 1130 997 1182 3215 history2 4 <1 1 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >3	2 0 58 <1 989 1251 1099 1369 4039 <u>current</u> 17 1 1 1 1 0.1	2 0 59 <1 1000 1245 1086 1369 4046 history1 3 2 1 1 history1 0.2	8 0 57 <1 846 1130 997 1182 3215 history2 4 <1 1 1 history2 0.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >216 >20 Iimit/base >3 >20	2 0 58 <1 989 1251 1099 1369 4039 current 17 1 1 1 1 0.1 6.8	2 0 59 <1 1000 1245 1086 1369 4046 history1 3 2 1 3 2 1 history1 0.2 6.2	8 0 57 <1 846 1130 997 1182 3215 history2 4 <1 1 1 history2 0.2 6.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >25 >216 >20 imit/base >3 >20 >30	2 0 58 <1 989 1251 1099 1369 4039 <u>current</u> 17 1 1 1 1 0.1 6.8 18.6	2 0 59 <1 1000 1245 1086 1369 4046 history1 3 2 1 history1 0.2 6.2 18.3	8 0 57 <1 846 1130 997 1182 3215 history2 4 <1 1 1 history2 0.2 6.2 19.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >3 >20 >30	2 0 58 <1 989 1251 1099 1369 4039 Current 17 1 1 1 0.1 6.8 18.6 Current	2 0 59 <1 1000 1245 1086 1369 4046 history1 3 2 1 history1 0.2 6.2 18.3 history1	8 0 57 <1 846 1130 997 1182 3215 history2 4 <1 1 1 history2 0.2 6.2 19.2 history2



OIL ANALYSIS REPORT





		White Metal	a a a la v						
			scalar	*Visual	NONE	NONE	NONE	NONE	
	\wedge	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	
Apr14/23	Jun23/23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
Apr	Jun	Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG	
		Free Water	scalar	*Visual		NEG	NEG	NEG	
		FLUID PROPE	RTIES	method	limit/base	current	history1	history2	
		Visc @ 100°C	cSt	ASTM D445	14.4	13.7	14.3	14.3	
\sim		GRAPHS							
		Iron (ppm)			100	Lead (ppm)			
/23	/23	200 - Severe			80	Severe			
Apr14/23	Jun23/23	= ¹⁵⁰			F 60				
		B 150 100 - Abnormal			40	Abnormal			
		50 -			20				
			3	~	0	2		~ ~ ~	
		Aug17/22 0ct11/22	Dec3/22 Apr14/23	Jun23/23	Aug13/23	Aug17/22 Oct11/22	Dec3/22 Apr14/23	Jun23/23	
			4	n n	Au		4	nh s	
		Aluminum (ppn	n)		50	Chromium (pp	om)	-,	
		40 - Severe			40	Severe			
		_ 30 -			_ 30				
		20- Abnormal			³⁰ ع	Abnormal			
		10-			10				
		0			0				
		Aug17/22 0ct11/22	Dec3/22 Apr14/23	Jun23/23	Aug13/23	Aug17/22 Oct11/22	Dec3/22 Apr14/23	Jun23/23	
			An D	, nu	Auq		Ap D	n L	
		Copper (ppm)			80	Silicon (ppm)			
		300			60				
		톱 200 -			틆 40	Abnormal			
		100-			20	-		/	
				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	0				
		Aug17/22 0ct11/22	Dec3/22 Apr14/23	Jun23/23	Aug13/23	Aug17/22 Oct11/22	Dec3/22 Apr14/23	Jun23/23	
		ي Viscosity @ 100	4	, nu	Au		D Ap	nh v	
		18 T	)-C			Base Number			
		Abnormal			KOH/g	Abnormal			
		(10 Base Abnormal			E ^{10.0}	Base		$\sim$	
					aquin 5.0	Abnormal			
		12-			0.0 mmper (mg KOH/g)				
		10 22 22	22	23 +	0.0	22	22	23+	
		Aug17/22 0ct11/22	Dec3/22 Apr14/23	Jun23/23	Aug13/23	Aug17/22 0ct11/22	Dec3/22 Apr14/23	Jun23/23	
CREDITED CREDITED STANDARDONTORY entificate L2367	Laboratory Sample No. Lab Number Unique Numbe Test Package	: WC0725582 : 05923975 r : 10603922 e : MOB 1 ( Addition	Received Diagnos Diagnos al Tests: TE	on Ave., Cary, NC 27513 : 14 Aug 2023 d : 15 Aug 2023 cian : Wes Davis N)			ADEN SLATE LLC 22 MCBRIDE RE STATE HILL, NY US 10973 Contact: Service Manage ETY@ADENAGGREGATE.COM		