

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. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

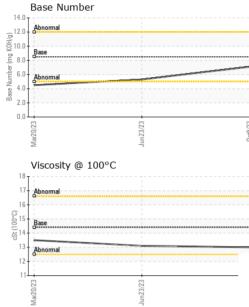
Fluid Condition

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

Mar2023 Jun2023 Oct2023											
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2					
Sample Number		Client Info		WC0841466	WC0758967	WC0758937					
Sample Date		Client Info		09 Oct 2023	23 Jun 2023	20 Mar 2023					
Machine Age	hrs	Client Info		14469	13838	13333					
Oil Age	hrs	Client Info		614	525	570					
Oil Changed		Client Info		Changed	Changed	Changed					
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	7	6	6					
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1					
Nickel	ppm	ASTM D5185m	>4	0	0	0					
Titanium	ppm	ASTM D5185m		0	0	0					
Silver	ppm	ASTM D5185m	>3	0	0	0					
Aluminum	ppm	ASTM D5185m	>20	2	2	2					
Lead	ppm	ASTM D5185m	>40	<1	0	0					
Copper	ppm	ASTM D5185m	>330	2	<1	2					
Tin	ppm	ASTM D5185m	>15	<1	<1	0					
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 9	history1 42	history2 47					
	ppm ppm										
Boron		ASTM D5185m	250	9	42	47					
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	9 0	42 0	47 0					
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	9 0 63	42 0 71	47 0 85 <1 59					
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	9 0 63 <1	42 0 71 <1	47 0 85 <1					
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	9 0 63 <1 841	42 0 71 <1 83	47 0 85 <1 59					
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	9 0 63 <1 841 1310	42 0 71 <1 83 2160	47 0 85 <1 59 2075					
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 ASTM D5185m	250 10 100 450 3000 1150 1350	9 0 63 <1 841 1310 1007	42 0 71 <1 83 2160 942	47 0 85 <1 59 2075 936					
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	9 0 63 <1 841 1310 1007 1328	42 0 71 <1 83 2160 942 1169	47 0 85 <1 59 2075 936 1170					
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250	9 0 63 <1 841 1310 1007 1328 3204	42 0 71 <1 83 2160 942 1169 4189	47 0 85 <1 59 2075 936 1170 4208					
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	9 0 63 <1 841 1310 1007 1328 3204 current	42 0 71 <1 83 2160 942 1169 4189 history1	47 0 85 <1 59 2075 936 1170 4208 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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 kimit/base >25 >158	9 0 63 <1 841 1310 1007 1328 3204 <u>current</u> 5	42 0 71 <1 83 2160 942 1169 4189 history1 4	47 0 85 <1 59 2075 936 1170 4208 history2 5					
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 method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 kimit/base >25 >158	9 0 63 <1 841 1310 1007 1328 3204 current 5 4	42 0 71 <1 83 2160 942 1169 4189 history1 4 1	47 0 85 <1 59 2075 936 1170 4208 history2 5 0					
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 >158 >20	9 0 63 <1 841 1310 1007 1328 3204 Current 5 4 1	42 0 71 <1 83 2160 942 1169 4189 history1 4 1 <1	47 0 85 <1 59 2075 936 1170 4208 history2 5 0 0 0					
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Imit/base >25 >158 >20 Imit/base >3	9 0 63 <1 841 1310 1007 1328 3204 current 5 4 1 1	42 0 71 <1 83 2160 942 1169 4189 history1 4 1 <1 <1 history1	47 0 85 <1 59 2075 936 1170 4208 history2 5 0 0 0 0					
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	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Imit/base >25 >158 >20 Imit/base >3 >20	9 0 63 <1 841 1310 1007 1328 3204 current 5 4 1 1 current 0.7	42 0 71 <1 83 2160 942 1169 4189 history1 4 1 <1 <1 history1 0.4	47 0 85 <1 59 2075 936 1170 4208 history2 5 0 0 0 history2 0.4					
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 Imit/base >25 >158 >20 Imit/base >3 >20	9 0 63 <1 841 1310 1007 1328 3204 <i>current</i> 5 4 1 <i>current</i> 0.7 9.3	42 0 71 <1 83 2160 942 1169 4189 history1 4 1 <1 <1 history1 0.4 9.9	47 0 85 <1 59 2075 936 1170 4208 history2 5 0 0 0 history2 0.4 10.9					
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 >158 >20 imit/base >3 >20	9 0 63 <1 841 1310 1007 1328 3204 current 5 4 1 1 current 0.7 9.3 20.0	42 0 71 <1 83 2160 942 1169 4189 history1 4 1 <1 <1 history1 0.4 9.9 19.8	47 0 85 <1 59 2075 936 1170 4208 history2 5 0 0 0 history2 0.4 10.9 21.1					
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 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 imit/base >25 >158 >20 imit/base >3 >20 30 imit/base	9 0 63 <1 841 1310 1007 1328 3204 Current 5 4 1 5 4 1 0.7 9.3 20.0 Current	42 0 71 <1 83 2160 942 1169 4189 history1 4 1 <1 <1 history1 0.4 9.9 19.8 history1	47 0 85 39 2075 936 1170 4208 history2 5 0 0 0 history2 0.4 10.9 21.1 history2					



OIL ANALYSIS REPORT



		VISUAL		method	limit/base	current	history1	history2
1		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
3/23	0ct9/23 -		scalar	*Visual	NORML	NORML	NORML	NORML
Jun23/23	0	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
		Free Water	scalar	*Visual	20.L	NEG	NEG	NEG
		FLUID PROPER	RTIES	method	limit/base	current	history1	history2
		Visc @ 100°C	cSt	ASTM D445	14.4	13.0	13.1	13.5
		GRAPHS						
		Ferrous Alloys						
/23		10 iron chromium						
Jun23/23		8 - nickel						
		6						
		E 4						
		2						
		Mar20/23	Jun23/23		0ct9/23			
		≥ Non-ferrous Met	,					
		10 _T	ais					
		copper						
		8 - internet tin						
		6-						
		udd .						
		2						
		0						
		ar20/23	3/23		0ct9/23			
		Mar20	Jun23/23		Octf			
		_						
		Viscosity @ 100	°C			Base Number		
		18	°C		14.0			
		18	°C		14.0	Base Number		
		18 17- Abnormal 16-	°C		14.0			
		18 17- Abnormal 16-	°C		14.0	Abnormal e		
		18 17 16 (2) 15 30 314 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	°C		14.0	Abnormal e		
		18 17 16 50 515 43 14 13 Abnomal	°C		14.0	Abnormal Base		
		18 17 16 5015 8ase 43 14	РС 		14.0	Abnormal Base		
		18 17 16 16 15 8 8 8 8 8 8 8 8 8 8 8 8 8			14.0 12.0 (0)(10.0) H(O) Bul) arguma 8.0 arguma 3.0 a 3.0 a 3.0 a 3.0 a 3.0 arguma 3.0 a 3.0 a 3.0 a 3.0 a 3.0 a a a 3.0	Abnormal Base Abnormal		
		18 17 16 16 15 8 8 8 8 8 8 8 8 8 8 8 8 8			14.0 12.0 (0)(10.0) H(O) Bul) arguma 8.0 arguma 3.0 a 3.0 a 3.0 a 3.0 a 3.0 arguma 3.0 a 3.0 a 3.0 a 3.0 a 3.0 a a a 3.0	Abnormal Base Abnormal		
		18 17 Abnomal 16 15 Base 314 13 4bnomal 12	2C		14.0 - 12.0 - (0) HOY 10.0 - Bull 8.0 - Bull 8.0 - Bull 9.0 - Bull	Abnormal Base	Jun23/23	
	Laboratory Sample No	Abnomal Base Base Base Cooling 14 Abnomal Cooling 14 Abnomal Cooling 14 Cooling 15	EZEZUIII • 501 Madia		14.0 12.0 10)H010.0 10)H010.0 10,0 10,H010.0 10,H010.0 10,H010.0 10,H010.0 10,0 1	Abnormal Base Abnormal	EZEZUNG Valley Waste -	
NAR	Sample No.	Abnomal Abnomal Base Base Control of the second	• 501 Madia Received	d :06 l	14.0 12.0 10,0	Abnormal Base Abnormal	EZEZUNG Valley Waste -	SEW Locatio 09 Salina Roa
		Abnomal Abnomal Base Base Control of the second	EZEZUIII • 501 Madia	d :061 ed :071	14.0 12.0 10)H010.0 10)H010.0 10,0 10,H010.0 10,H010.0 10,H010.0 10,H010.0 10,0 1	Abnormal Base Abnormal	EZEZUNG Valley Waste -	SEW Locatio
TING LABORATORY	Sample No. Lab Number Unique Number Test Package	18 Abnormal 16 Base 16 Abnormal 16 Base 17 Abnormal 18 Abnormal 19 Abnormal 10 Cooperation 11 Example 12 Abnormal 13 Abnormal 14 Abnormal 12 Abnormal 13 Abnormal 14 Abnormal 12 Abnormal 13 Abnormal 14 Abnormal 15 Example Abnormal 16 Abnormal 17 Example Abnormal 18 Example Abnormal 19 Example Abnormal 10 Example Abnormal 11 Example Abnormal 12 Example Abnormal 13 Example Abnormal 14 Example Abnormal 15 Example Abnormal 16 Example Abnormal	- 501 Madia Received Diagnos Diagnost al Tests: T	d : 06 1 ed : 07 1 tician : Wes BN)	14.0 12.0 10,000 10	Abnormal Base Abnormal	EZEZUNG Valley Waste - 3	SEW Locatic 09 Salina Roa Sewell, N US 0808
ificate L2367 discuss this	Sample No. Lab Number Unique Number Test Package sample report,	Abnomal Abnomal Base Base Base Abnomal Cool 13 Abnomal Cool 14 13 Abnomal Cool 15 Base Evo 200 200 200 200 200 200 200 20	- 501 Madia Received Diagnos Diagnost al Tests: T rvice at 1-8	d : 06 1 ed : 07 1 tician : Wes BN) 200-237-1369	14.0 12.0 12.0 10,000 10,0	Abnormal Base Abnormal	EZEZUNG Valley Waste - 3	SEW Locatio 09 Salina Roa Sewell, N

Contact/Location: Service Manager - AVWSEW