

## **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

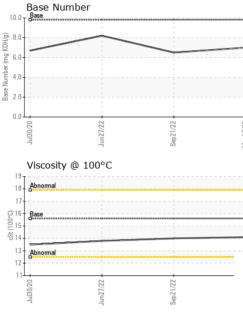
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

L)		Jul2020 Jun2022 Styl2022 Min/2023							
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2			
Sample Number		Client Info		PCA0069595	PCA0069244	PCA0058394			
Sample Date		Client Info		12 May 2023	21 Sep 2022	27 Jun 2022			
Machine Age	hrs	Client Info		7943	3660	3660			
Oil Age	hrs	Client Info		878	3660	3660			
Oil Changed		Client Info		Changed	N/A	N/A			
Sample Status				NORMAL	NORMAL	NORMAL			
CONTAMINAT	ION	method	limit/base	current	history1	history2			
Fuel		WC Method	>5	<1.0	<1.0	<1.0			
Glycol		WC Method		NEG	NEG	NEG			
WEAR METAL	S	method	limit/base	current	history1	history2			
Iron	ppm	ASTM D5185m	>100	31	20	24			
Chromium	ppm	ASTM D5185m	>20	2	1	1			
Nickel	ppm	ASTM D5185m	>4	0	<1	0			
Titanium	ppm	ASTM D5185m		0	<1	<1			
Silver	ppm	ASTM D5185m	>3	0	<1	0			
Aluminum	ppm	ASTM D5185m	>20	8	3	4			
Lead	ppm	ASTM D5185m	>40	5	5	2			
Copper	ppm	ASTM D5185m	>330	1	1	2			
Tin	ppm	ASTM D5185m	>15	<1	1	<1			
Antimony	ppm	ASTM D5185m							
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		4	6	8			
Barium	ppm	ASTM D5185m		0	0	0			
Molybdenum	ppm	ASTM D5185m		70	65	64			
Manganese	ppm	ASTM D5185m		<1	<1	<1			
Magnesium	ppm	ASTM D5185m		1111	1005	956			
Calcium	ppm	ASTM D5185m		1269	1367	1155			
Phosphorus	ppm	ASTM D5185m		1192	1081	1028			
Zinc	ppm	ASTM D5185m		1451	1411	1243			
Sulfur	ppm	ASTM D5185m		3830	3631	3403			
CONTAMINAN	ITS	method	limit/base	current	history1	history2			
Silicon	ppm	ASTM D5185m	>25	9	9	5			
Sodium	ppm	ASTM D5185m		2	2	3			
Potassium	ppm	ASTM D5185m	>20	9	6	7			
		method	limit/base	current	history1	history2			
INFRA-RED		methou							
	%	*ASTM D7844	>3	0.5	0.5	0.6			
Soot %	% Abs/cm			0.5 11.9	0.5 11.6	0.6 12.4			
Soot % Nitration		*ASTM D7844							
Soot % Nitration	Abs/cm Abs/.1mm	*ASTM D7844 *ASTM D7624 *ASTM D7415	>20	11.9	11.6	12.4			
Soot % Nitration Sulfation	Abs/cm Abs/.1mm	*ASTM D7844 *ASTM D7624 *ASTM D7415	>20 >30	11.9 23.3	11.6 23.1	12.4 23.8			



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VISUAL



-	VISC			method	iimit/base	current	nistory i	nistory2
	White M	letal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow I	Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Precipit	ate	scalar	*Visual	NONE	NONE	NONE	NONE
	Silt		scalar	*Visual	NONE	NONE	NONE	NONE
	Debris		scalar	*Visual	NONE	NONE	NONE	NONE
		irt	scalar	*Visual	NONE	NONE	NONE	NONE
12/23	Appear	ance	scalar	*Visual	NORML	NORML	NORML	NORML
May	Odor		scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsif	ied Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free W	ater	scalar	*Visual		NEG	NEG	NEG
	FLUI	D PROPE	ERTIES	method	limit/base	current	history1	history2
			cSt	ASTM D445	15.6	14.1	14.0	13.8
	35 T	ls Alloys						
44	30 -	iron						
		m nickel		/				
	udd 1							
	5 -				Constant Street St			
	0 20	22		22	23			
	Jul30/	un27/.		ep21/.	ay12/.			
		,	de	õ	W			
	10 T	errous meta	115					
		copper						
	8-	tin						
	6 -							
	m d d			State of the state				
	4		Constant of the owner of the owner of the	1				
	2	A MARKAN	Mental					
		and in the low line in the low of		a B and a state of the state of				
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	ul30/2	m27/2		p21/2	ay12//			
		,	c	8	M			
	Viscos	arA @ 1002	L			Base Numbe	r	
						T		
	17-					0	~	
					KOH/§			
	0015				B 6.	0		
	ts 14				aquin 4.	0		
	13 - Abnorma				ase N			
	Abnorma				<sup>66</sup> 2.	0		
	12					o L		
	11				~	20	1/22	22
	11	- 22/2		21/22	12/2	30/		51/
	12 11 02/081n C	Jun27/22 -		Sep21/22	May12/23	Jul30/20	Jun27/22	Sep21/22
	11 02/081nr					-		
Laboratory	: WearC	heck USA -		son Ave., Ca	ry, NC 2751	-	- APPLE VALL	.EY READY M
Sample No.	: WearC : PCA00	heck USA - 69595	Received	son Ave., Ca d : 25 /	ry, NC 2751 Aug 2023	-	- APPLE VALL 1469	. <b>EY READY M</b> 98 GALAXY AN
Sample No. Lab Number	: WearC : PCA00 : 059346	heck USA - 69595 <mark>99</mark>	Received Diagnose	son Ave., Ca d : 25 / ed : 25 /	ry, NC 2751	-	- APPLE VALL 1469	
Sample No.	: WearC : PCA00 : 059346 r : 106199	heck USA - 69595 <mark>99</mark>	Received	son Ave., Ca d : 25 / ed : 25 /	ry, NC 2751 Aug 2023 Aug 2023	-	- APPLE VALL 1469 APP	<b>.EY READY M</b> 98 GALAXY A\ LE VALLEY, M
77/17/00		White M Yellow I Precipit Silt Debris Sand/D Appear Odor Emulsifi Free W FLUI Visc @ GRA 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Debris Sand/Dirt Appearance Odor Emulsified Water Free Water Free Water Core CGRAPHS Ferrous Alloys Core Core Core Core Core Core Core Core	White Metal scalar Yellow Metal scalar Precipitate scalar Silt scalar Debris scalar Sand/Dirt scalar Appearance scalar Odor scalar Emulsified Water scalar Free Water scalar Free Water scalar Visc @ 100°C cSt GRAPHS Ferrous Alloys Terrous Metals	White Metal scalar *Visual Precipitate scalar *Visual Debris scalar *Visual Debris scalar *Visual Sand/Dirt scalar *Visual Sand/Dirt scalar *Visual Odor scalar *Visual Odor scalar *Visual Free Water scalar *Visual Non-ferrous Alloys Viscosity @ 100°C Viscosity @ 100°C	White Metal scalar *Visual NONE Yellow Metal scalar *Visual NONE Precipitate scalar *Visual NONE Silt scalar *Visual NONE Sand/Dirt scalar *Visual NONE Sand/Dirt scalar *Visual NONE Appearance scalar *Visual NORML Odor scalar *Visual NORML Emulsified Water scalar *Visual >0.2 Free Water scalar *Visual >0.2 Free Water scalar *Visual Scalar *Visual NORML Emulsified Water scalar *Visual Scalar *Visual NORML Emulsified Water scalar *Visual Scalar *Visual NORML Emulsified Water scalar *Visual Scalar *Visual Scalar *Visual NORML Emulsified Water scalar *Visual *Vise © 100°C cst ASTM D445 15.6 Scalar *Visual Scalar *Visual *Uise © 100°C star *Visual *Visua	White Metal scalar *Visual NONE NONE Yellow Metal scalar *Visual NONE NONE Precipitate scalar *Visual NONE NONE Silt scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Appearance scalar *Visual NORML NORML Odor scalar *Visual NORML NORML Dodor scalar *Visual NORML NORML Emulsified Water scalar *Visual NORML NORML Emulsified Water scalar *Visual NORML NORML NEG Free Water scalar *Visual NORML NORML Visc @ 100°C cSt ASTM D445 15.6 14.1 GRAPHS Ferrous Alloys 0 0 0 0 0 0 0 0 0 0 0 0 0	White Metal scalar 'Visual NONE NONE NONE NONE Precipitate scalar 'Visual NONE NONE NONE NONE Sitt scalar 'Visual NONE NONE NONE NONE Sand/Dirt scalar 'Visual NONE NONE NONE NONE Sand/Dirt scalar 'Visual NORML NORML NORML NORML Appearance scalar 'Visual NORML NORML NORML NORML Codor scalar 'Visual NORML NORML NORML NORML NORML Emulsified Water scalar 'Visual NORML NORML NORML NORML Site @ 100°C cst ASTM D445 15.6 14.1 14.0 GRAPHS Ferrous Alloys Visco@ 100°C cst ASTM D445 15.6 14.1 14.0 GRAPHS Ferrous Metals Visco@ 100°C cst ASTM D445 15.6 14.1 14.0 GRAPHS Ferrous Metals Visco@ 100°C cst ASTM D445 15.6 14.1 14.0 GRAPHS Same Number None ferrous Metals Visco@ 100°C cst ASTM D445 15.6 14.1 14.0 Same Number None ferrous Metals Visco@ 100°C cst ASTM D445 15.6 14.1 14.0