

OIL ANALYSIS REPORT

Sample Rating Trend





Fluid PHILLIPS 66 15W40 (--- 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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0816960	WC0793396	WC0692502
Sample Date		Client Info		19 Dec 2023	20 Jun 2023	14 Oct 2022
Machine Age	hrs	Client Info		2891	2829	2701
Oil Age	hrs	Client Info		62	228	0
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	J	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	<1	4	3
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	77	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	1	1
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	0	2	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		140	103	100
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	<1	<1
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		415	677	690
Calcium	ppm	ASTM D5185m		1671	1271	1257
Phosphorus	ppm	ASTM D5185m		1083	1051	997
Zinc	ppm	ASTM D5185m		1236	1171	1171
Sulfur	ppm	ASTM D5185m		4025	3804	4343
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	3	4	3
Sodium	ppm	ASTM D5185m		1	<1	1
Potassium	ppm	ASTM D5185m	>20	2	2	1
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	0	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	6.1	7.6	7.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.2	19.1	19.6
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.9	13.0	13.2
Base Number (BN)	mg KOH/g	ASTM D2896		7.7	9.1	10.1



OIL ANALYSIS REPORT

VICUAL



		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
0/23 -	9/23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Jun2(Deci	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
		Free Water	scalar	*Visual	2012	NEG	NEG	NEG
				VIGUUI		NEG	NEG	NEG
		FLUID PROPER	HES	method	limit/base	current	history1	history2
		Visc @ 100°C	cSt	ASTM D445		14.2	13.8	14.0
		GRAPHS						
		Iron (ppm)			100	Lead (ppm)		
23		200 - Severe	1		80	Severe		
102 ur		150-			60	Ī		
Γ.	ud d	100 Abnormal			e 40	Abnormal		
			1 1		10			
		0						
		4/22	0/23 -		9/23 1	4/22	0/23 -	
		Oct1	Jun2		Dec1	0ct1	Jun2	
		Aluminum (ppm)				Chromium (p	pm)	
		⁵⁰			50	T.		
		40 - Severe				Severe		
	5	≡ ³⁰			= ³⁰	+		
		20 - Abnormal				- Abnormal		
		10-			10			
		0			0	5	~	
		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	n20/23		c19/23	±14/22	n20/23	
		0 0ct14/22	Jun20/23		Dec19/23	0ct14/22	Jun20/23	
		Copper (ppm)	Jun20/23		0 Dec19/23	Silicon (ppm)	Jun20/23 +	
		Copper (ppm)	Jun20/23		0 Dect 3/23	Silicon (ppm)	Jun20/23	
		Copper (ppm)	Jun20/23		0 Dec 19/23 00 00	Silicon (ppm)	Jun20/23	
	щ	Copper (ppm)	Jun20/23		00 00 00 00 00 00 00 00	Silicon (ppm)	Jun20/23 +	
	Шď	Copper (ppm)	Jun20/23		с с с с с с с с с с с с с с	Silicon (ppm)	Jun20/23 -	
	щđ	Copper (ppm)	Jun20/23		دیر دیر 1930 1930 1930 1930 1930 1930 1930 1930	Silicon (ppm)	62/02unf	
	шđ	Copper (ppm)	Jun20/23		EZG EZG EZG EZG EZG EZG	Silicon (ppm)	5202 unf	
	udd	Copper (ppm)	Jun20/23 Jun20/23		0 60 60 60 60 60 20 60 60 20 60 60 60 60 60 60 60 60 60 6	Silicon (ppm)	Jun20/23	
	ŭ	Copper (ppm)	Jun20/23 Jun20/23		εζζ(5)390 εζ (5)390 εζ (5)390	Silicon (ppm)	Jun2023	
	щđ	Copper (ppm) 400 300 200 100 0 200 200 200 200 200	Jun20/23 Jun20/23		E2061300 E2061000 E2061000000000000000000000	Silicon (ppm)	- 52/02/unf	
	mdd	Copper (ppm)	Jun20/23 Jun20/23		EZ/61:00 EZ/61:	Silicon (ppm)	Jun20/23	
	mqq	Copper (ppm)	Jun20/23 Jun20/23		EZ/6[100 EZ/6] EZ/6[100 EZ/6[100 EZ/6] EZ/6[100 EZ/6[100 EZ/6] EZ/6[100 EZ/6[100 EZ/6[100 EZ/6[100 EZ/6] EZ/6[100 EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6[100 EZ/6[100 EZ/6] EZ/6[100 EZ/6[100 EZ/6] EZ/6[100 EZ/6[100 EZ/6] EZ/6[100 EZ/6[100 EZ/6] EZ/6[100 EZ/6[100 EZ/6[100 EZ/6] EZ/6[100 EZ/6[100 EZ/6] EZ/6[100 EZ/6[100 EZ/6] EZ/6[100 EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6[100 EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6[100 EZ/6] EZ/6 EZ/7 EZ/6 EZ/7 EZ/7 EZ/7 EZ/7 EZ/7 EZ/7 EZ/7 EZ/7 E	Silicon (ppm)	Jun20/23	
	mqq	Copper (ppm)	Jun20/23 Jun20/23		0 EZ/6[130] EZ/6[130	Silicon (ppm)	- 52/02/mp	
	, mqq	Copper (ppm)	Jun2023		EZ/6[139] EZ/6[139]	Silicon (ppm)	- 52/02/unf	
	, mqq	Copper (ppm)	Jun20/23 Jun20/23 Jun20/23		EZ/6[130] EZ/6[130]	Silicon (ppm)	- 5002nu - 50023	
	mqq	Copper (ppm) Copper (ppm) Co	Jun20/23 Jun20/23 Jun20/23		CZ/61200 CZ/610	Silicon (ppm) Severe Abnormal CZ/F trao Base Number CZ/F trao CZ/F trao	Jun2023 Jun2023	
tificate 12367	Laboratory Sample No. Lab Number Unique Number Test Package	Copper (ppm) Copper (ppm) Co	501 Madia Recieved Diagnoss Tests: TE	son Ave., Ca d : 10, ed : 11, tician : We 3N)	EZC61200 EZC612	Silicon (ppm)	EZODZUNY EZODZUNY AES U CASINO RD BLI Contac L Contac	SA - EVERET DG 40-26 DR S EVERETT, W IS 98204-19" :t: TIM FELLE

Contact/Location: TIM FELLER - AESEVE