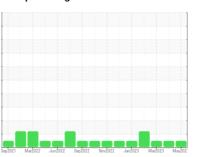


OIL ANALYSIS REPORT

Sample Rating Trend









CATERPILLAR BASIN DRILLING 103

1 Diesel Engine

CHEVRON URSA SUPER PLUS EC 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

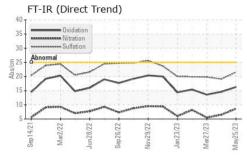
Fluid Condition

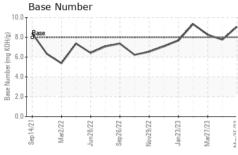
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

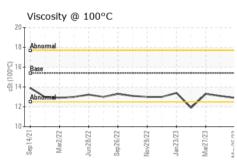
Client Info	PLUS EC 15W40 (- GAL)	Sep2021 Ma	/2022 Jun2022 Sep20;	22 Nov2022 Jan2023 Mar20.	23 May202:	
Client Info	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Date	Sample Number		Client Info		PCA0096200	PCA0096218	PCA0093223
Machine Age hrs	Sample Date		Client Info		25 May 2023	26 Apr 2023	27 Mar 2023
Cilichanged Cilich Info N/A N/A N/A NORMAL NORMAL	•	hrs	Client Info		0	0	0
CONTAMINATION	Oil Age	hrs	Client Info		0	0	0
Fuel	Oil Changed		Client Info		N/A	N/A	N/A
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water Glycol WC Method WC Method >0.2 NEG NEG NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 5 5 2 Chromium ppm ASTM D5185m >20 0 0 <1	CONTAMINATI	ON	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 5 5 2 Chromium ppm ASTM D5185m >20 0 0 <1	Water		WC Method	>0.2	NEG	NEG	NEG
Chromium	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 0 0 0 0 1	WEAR METALS	3	method	limit/base	current	history1	history2
Chromium	Iron	ppm	ASTM D5185m	>100	5	5	2
Nickel	Chromium		ASTM D5185m	>20		0	<1
Description	Nickel		ASTM D5185m	>2	0	0	<1
Silver	Titanium		ASTM D5185m	>2	0	0	0
Aluminum	Silver				0	0	
Lead	Aluminum		ASTM D5185m	>25	0	1	1
Copper	_ead					0	<1
Name	Copper		ASTM D5185m	>330	3	3	2
Vanadium ppm ASTM D5185m 0 <1 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 202 308 375 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 90 104 89 Manganese ppm ASTM D5185m 429 502 404 Calcium ppm ASTM D5185m 1200 1017 1139 1013 Zinc ppm ASTM D5185m 1200 1017 1139 1013 Zinc ppm ASTM D5185m 1300 1289 1432 1249 Sulfur ppm ASTM D5185m >25 12 7 5 Sodium ppm ASTM D5185m >25 12 7 5 Sodium ppm			ASTM D5185m	>15	<1	0	0
ADDITIVES	Vanadium		ASTM D5185m		0	<1	0
Boron	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 90 104 89 Manganese ppm ASTM D5185m <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 90 104 89 Manganese ppm ASTM D5185m <1 <1 <1 Magnesium ppm ASTM D5185m 429 502 404 Calcium ppm ASTM D5185m 1200 1017 1139 1013 Zinc ppm ASTM D5185m 1300 1289 1432 1249 Sulfur ppm ASTM D5185m 3819 3847 3885 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12 7 5 Sodium ppm ASTM D5185m >20 16 21 8 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/:1mm *ASTM D7415 >30 21.5 19.1 19.8	Boron	ppm	ASTM D5185m		202	308	375
Manganese ppm ASTM D5185m <1 <1 <1 Magnesium ppm ASTM D5185m 429 502 404 Calcium ppm ASTM D5185m 1200 1017 1139 1013 Zinc ppm ASTM D5185m 1300 1289 1432 1249 Sulfur ppm ASTM D5185m 3819 3847 3885 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12 7 5 Sodium ppm ASTM D5185m 25 31 12 Potassium ppm ASTM D5185m 25 31 12 Potassium ppm ASTM D5185m 25 31 12 Potassium ppm ASTM D5185m 20 16 21 8 INFRA-RED method limit/base current history1 history2 Soot % <t< td=""><th>Barium</th><td>ppm</td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td>0</td></t<>	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 429 502 404 Calcium ppm ASTM D5185m 1447 1612 1432 Phosphorus ppm ASTM D5185m 1200 1017 1139 1013 Zinc ppm ASTM D5185m 1300 1289 1432 1249 Sulfur ppm ASTM D5185m 3819 3847 3885 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12 7 5 Sodium ppm ASTM D5185m 25 31 12 Potassium ppm ASTM D5185m 20 16 21 8 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 8.6 6.5 5.5 Sulfation Abs/.1mm *ASTM D7415 >30 21.5 19.1 19.8<	Molybdenum	ppm	ASTM D5185m		90	104	89
Calcium ppm ASTM D5185m 1447 1612 1432 Phosphorus ppm ASTM D5185m 1200 1017 1139 1013 Zinc ppm ASTM D5185m 1300 1289 1432 1249 Sulfur ppm ASTM D5185m 3819 3847 3885 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12 7 5 Sodium ppm ASTM D5185m 25 31 12 Potassium ppm ASTM D5185m >20 16 21 8 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 8.6 6.5 5.5 Sulfation Abs/.1mm *ASTM D7415 >30 21.5	Manganese	ppm	ASTM D5185m		<1	<1	<1
Phosphorus ppm ASTM D5185m 1200 1017 1139 1013 Zinc ppm ASTM D5185m 1300 1289 1432 1249 Sulfur ppm ASTM D5185m 3819 3847 3885 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12 7 5 Sodium ppm ASTM D5185m 25 31 12 Potassium ppm ASTM D5185m >20 16 21 8 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 8.6 6.5 5.5 Sulfation Abs/.1mm *ASTM D7415 >30 21.5 19.1 19.8 FLUID DEGRADATION method limit/base	Magnesium	ppm	ASTM D5185m		429	502	404
Zinc ppm ASTM D5185m 1300 1289 1432 1249 Sulfur ppm ASTM D5185m 3819 3847 3885 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12 7 5 Sodium ppm ASTM D5185m 25 31 12 Potassium ppm ASTM D5185m >20 16 21 8 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 8.6 6.5 5.5 Sulfation Abs/.1mm *ASTM D7415 >30 21.5 19.1 19.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414	Calcium	ppm	ASTM D5185m		1447	1612	1432
Sulfur ppm ASTM D5185m 3819 3847 3885 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12 7 5 Sodium ppm ASTM D5185m 25 31 12 Potassium ppm ASTM D5185m >20 16 21 8 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 8.6 6.5 5.5 Sulfation Abs/.1mm *ASTM D7415 >30 21.5 19.1 19.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.3 14.6 13.6	Phosphorus	ppm	ASTM D5185m	1200	1017	1139	1013
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 12 7 5 Sodium ppm ASTM D5185m 25 31 12 Potassium ppm ASTM D5185m >20 16 21 8 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 8.6 6.5 5.5 Sulfation Abs/.1mm *ASTM D7415 >30 21.5 19.1 19.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.3 14.6 13.6	Zinc	ppm	ASTM D5185m	1300	1289	1432	1249
Silicon ppm ASTM D5185m >25 12 7 5 Sodium ppm ASTM D5185m 25 31 12 Potassium ppm ASTM D5185m >20 16 21 8 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 8.6 6.5 5.5 Sulfation Abs/.1mm *ASTM D7415 >30 21.5 19.1 19.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.3 14.6 13.6	Sulfur	ppm	ASTM D5185m		3819	3847	3885
Sodium ppm ASTM D5185m 25 31 12 Potassium ppm ASTM D5185m >20 16 21 8 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 8.6 6.5 5.5 Sulfation Abs/.1mm *ASTM D7415 >30 21.5 19.1 19.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.3 14.6 13.6	CONTAMINAN ⁻	ΓS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 16 21 8 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 8.6 6.5 5.5 Sulfation Abs/.1mm *ASTM D7415 >30 21.5 19.1 19.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.3 14.6 13.6	Silicon	ppm	ASTM D5185m	>25	12	7	5
INFRA-RED	Sodium	ppm	ASTM D5185m		25	31	12
Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 8.6 6.5 5.5 Sulfation Abs/.1mm *ASTM D7415 >30 21.5 19.1 19.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.3 14.6 13.6	Potassium	ppm	ASTM D5185m	>20	16	21	8
Nitration Abs/cm *ASTM D7624 >20 8.6 6.5 5.5 Sulfation Abs/.1mm *ASTM D7415 >30 21.5 19.1 19.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.3 14.6 13.6	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 21.5 19.1 19.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.3 14.6 13.6	Soot %	%	*ASTM D7844	>3	0.1	0.1	0.1
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.3 14.6 13.6	Nitration	Abs/cm	*ASTM D7624	>20	8.6	6.5	5.5
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.5	19.1	19.8
	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	16.3	14.6	13.6
	Base Number (BN)	mg KOH/g	ASTM D2896	8.0	9.06	7.76	8.26



OIL ANALYSIS REPORT



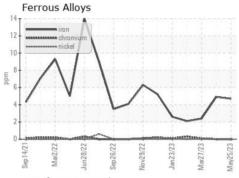


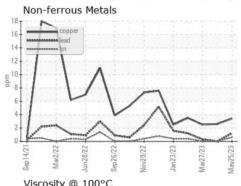


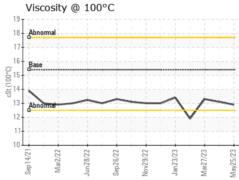
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

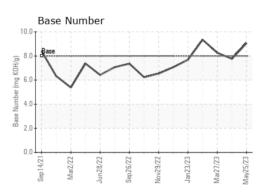
FLUID PROPE	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	12.9	13.1	13.3

GRAPHS













Certificate 12367

Laboratory Sample No.

Lab Number : 05864516 Unique Number : 10498981 Test Package : IND 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0096200 Received : 05 Jun 2023 **Tested** : 06 Jun 2023

Diagnosed

: 06 Jun 2023 - Wes Davis

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

DELTA FUEL COMPANY

1000 WELLS ISLAND RD SHREVEPORT, LA US 71107

Contact: BRAD GORDON bgordon@deltafuel.com T: (318)780-3921

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: DELSHR [WUSCAR] 05864516 (Generated: 05/30/2024 10:16:11) Rev: 1

Contact/Location: BRAD GORDON - DELSHR