

# **OIL ANALYSIS REPORT**

#### Sample Rating Trend





## Component

**Diesel Engine** Elui PURUS 10W30 BLEND (--- GAL)

#### 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

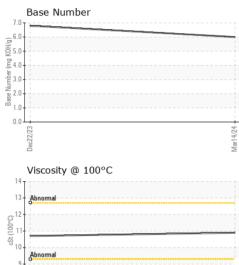
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0859060	WC0859038	
Sample Date		Client Info		14 Mar 2024	22 Dec 2023	
Machine Age	mls	Client Info		875000	848500	
Oil Age	mls	Client Info		25000	20000	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	31	26	
Chromium	ppm		>20	1	1	
Nickel	ppm	ASTM D5185m	>20	1	0	
Titanium	ppm ppm	ASTM D5185m	~	، <1	<1	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm		>20	3	3	
Lead	ppm	ASTM D5185m	>40	11	6	
Copper	ppm		>330	1	1	
Tin	ppm	ASTM D5185m		1	<1	
Vanadium	ppm	ASTM D5185m	210	<1	0	
	ppin				Ū	
Cadmium	maa	ASTM D5185m		0	0	
	ppm		limit/base	0 current	0 historv1	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 16	history1 27	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 16 0	history1 27 0	history2 
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 16 0 67	history1 27 0 77	history2  
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 16 0 67 <1	history1 27 0 77 0	history2 
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 16 0 67 <1 966	history1 27 0 77	history2   
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 16 0 67 <1 966 1179	history1 27 0 77 0 891	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 16 0 67 <1 966	history1 27 0 77 0 891 1141	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current           16           0           67           <1           966           1179           1084	history1 27 0 77 0 891 1141 1048	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current           16           0           67           <1           966           1179           1084           1291	history1 27 0 77 0 891 1141 1048 1157	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 16 0 67 <1 966 1179 1084 1291 3797	history1 27 0 77 0 891 1141 1048 1157 3141	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current         16         0         67         <1         966         1179         1084         1291         3797         current	history1 27 0 77 0 891 1141 1048 1157 3141 history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base >25	current           16           0           67           <1           966           1179           1084           1291           3797           current           8	history1         27         0         77         0         891         1141         1048         1157         3141         history1         10	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base >25	current           16           0           67           <1           966           1179           1084           1291           3797           current           8           4	history1           27           0           77           0           891           1141           1048           1157           3141           history1           10           4	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base >25 >20	current         16         0         67         <1         966         1179         1084         1291         3797         current         8         4	history1         27         0         77         0         891         1141         1048         1157         3141         history1         10         4         16	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base >25 >20 limit/base	current         16         0         67         <1         966         1179         1084         1291         3797         current         8         4         4         current	history1         27         0         77         0         891         1141         1048         1157         3141         history1         10         4         16         history1	history2 history2 history2 history2
ADDITIVES 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	method           ASTM D5185m	limit/base >25 >20 limit/base >3	current         16         0         67         <1         966         1179         1084         1291         3797         current         8         4         4         0.4	history1         27         0         77         0         891         1141         1048         1157         3141         history1         10         4         16         history1         0.3	history2 history2 history2 history2
ADDITIVES 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	method           ASTM D5185m	limit/base >25 >20 limit/base >3 >20	current         16         0         67         <1         966         1179         1084         1291         3797         current         8         4         current         0.4         11.3	history1         27         0         77         0         891         1141         1048         1157         3141         history1         10         4         16         history1         0.3         10.6	history2  history2
ADDITIVES 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	method           ASTM D5185m           ASTM D5185m	Imit/base >25 >20 Imit/base >20 >3 >20 >30	current         16         0         67         <1         966         1179         1084         1291         3797         current         8         4         4         0.4         11.3         23.4	history1         27         0         77         0         891         1141         1048         1157         3141         history1         10         4         16         history1         0.3         10.6         21.1	history2  history2



Dec22/23

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White Metal		method	limit/base	current	history1	history
	scalar *	Visual	NONE	NONE	NONE	
Yellow Metal	scalar *	Visual	NONE	NONE	NONE	
Precipitate	scalar *	Visual	NONE	NONE	NONE	
Silt	scalar *	Visual	NONE	NONE	NONE	
Debris	scalar *	Visual	NONE	NONE	NONE	
Sand/Dirt	scalar *	Visual	NONE	NONE	NONE	
		Visual	NORML	NORML	NORML	
Appearance Odor		Visual	NORML	NORML	NORML	
Emulsified Water		Visual	>0.2	NEG	NEG	
Free Water		Visual		NEG	NEG	
FLUID PROPER		method	limit/base	current	history1	history
Visc @ 100°C		ASTM D445		10.9	10.7	
GRAPHS						
Ferrous Alloys						
35 iron						
30 - chromium						
25-						
e <sup>20</sup>						
E 20 15						
10-						
5						
0			/24			
Dec2/23			Mar14/24			
Non-ferrous Meta	als		-			
<sup>12</sup> T						
10 - copper lead		and the second	*********			
tin		AND DESCRIPTION OF THE OWNER.				
8	(CRADARDER					
E. 6 -						
4						
2						
0						
0			4/24			
			Mar14/24			
Viscosity @ 100°C	C		Mar14/24	Base Numb	er	
Dec25/2/3	C		+2/+ Line M	Base Numb	er	
Viscosity @ 100°0	C				er	
Viscosity @ 100°C	C		7.0		er	
Viscosity @ 100°C	C		7.0		er	
Viscosity @ 100°C	C		7.0		er	
Viscosity @ 100°C	C		7.0		er	
Viscosity @ 100°C	C		7.0		er	
Viscosity @ 100°C	C		7.0		er	
Viscosity @ 100°C	C		7.0 6.0 (B)H 5.0 LBU J 4.0 aqumpe 3.0 seg 2.0		er	
Viscosity @ 100°C	C		7.0 6.0 (0) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1		er	
Viscosity @ 100°C	C		7.0 6.0 (0) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1		er	
Viscosity @ 100°C	C		7.0 6.0 (0)HOX 64.0 buy 14.0 buy 14.0 b		er	
Viscosity @ 100°C		Ave., Cary	7.0 6.0 (0)HOX 64.0 400 Jan 900 Jan 90			ERSON LIN
tory : WearCheck USA - 50 * WC0859060	01 Madison Receive	ed : 2	7.0 6.0 (0)HOX 000 3.0 900 4.0 900 4.0 9000 4.0 900000000000000000000000000000000000		JEFF	30 4TH AVE
tory : WearCheck USA - 50 No. : WC0859060 mber : 06131636	01 Madison Receive Tested	ed : 20 : 20	7.0 6.0 94.0 94.0 95.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9	Dec22/23	JEFF	30 4TH AVE BILLINGS, I
Viscosity @ 100°C	01 Madison Receive	ed : 20 : 20	7.0 6.0 (0)HOX 000 3.0 900 4.0 900 4.0 9000 4.0 900000000000000000000000000000000000	Dec22/23	<b>JEFF</b> 18	ERSON LIN 30 4TH AVE BILLINGS, I US 591
tory : WearCheck USA - 50 PNo. : WC0859060 mber : 10951101 ckage : FLEET	01 Madison Receive Tested Diagno	ed : 28 : 28 sed : 28	y, NC 27513 8 Mar 2024 8 Mar 2024 - W	Dec22/23	JEFF 18 Contact: Bl	30 4TH AVE BILLINGS, I US 591 LLINGS SH
viscosity @ 100°C	01 Madison Receive Tested Diagno	ed : 28 : 28 sed : 28 0-237-136	7.0 6.0 9. 9. 9.	Dec22/23	<b>JEFF</b> 18	30 4TH AVE BILLINGS, US 591 LLINGS SH
viscosity @ 100°C	01 Madison Receive Tested Diagno	ed : 28 : 28 sed : 28 0-237-136	7.0 6.0 9. 9. 9.	Dec22/23	JEFF 18 Contact: Bl	30 4TH AVE BILLINGS, US 591 LLINGS SH



Contact/Location: BILLINGS SHOP ? - JEFBIL