

Equipment - Component
FURGON 2448 - Engine - Diesel Motor Diesel-4JJ1

Site/Vessel Name - Code
COORDINADORA MERCANTIL MEDELLIN - 21636

Customer
COORDINADORA MERCANTIL

Manufacturer - Model
Isuzu - 4JJ1

LubeAnalyst Code
01431539/EOH01

Registered Lubricant
Shell - Rimula R4 X 15W-40



Normal

Diagnosis

Todos los parámetros del aceite estan bien. No se manifiestan problemas por desgaste de la maquinaria.

Sample Information

Sample Number	4913179139	4913166457	4913134218	4913121883	4913121903
Sample Condition					
Sample Date	09/Mar/2021	31/Jul/2020	04/Aug/2019	23/May/2019	23/Mar/2019
Sample Received	19/Mar/2021	20/Aug/2020	16/Aug/2019	07/Jun/2019	07/May/2019
Sample Completed	25/Mar/2021	23/Aug/2020	21/Aug/2019	10/Jun/2019	09/May/2019
Lubricant in use	Rimula R4 X 15W-40	Rimula R4 X 15W-40	Rimula R4 X 15W-40	Rimula R4 X 15W-40	Rimula R4 X 15W-40
Equipment Life	131639 (Kilometres)	124591 (Kilometres)	108878 (Kilometres)	100567 (Kilometres)	92573 (Kilometres)
Lubricant Life	8000 (Kilometres)	6000 (Kilometres)	8000 (Kilometres)	8000 (Kilometres)	8150 (Kilometres)
Top-up Volume			3.00 (Gallons (US))	3.00 (Gallons (US))	3.00 (Gallons (US))
Sample from Oil Drain	No	Yes	Yes	Yes	Yes

Physical Characteristics

Viscosity 100°C cSt	13.4	13.2	13.3	13.3	13.1
TBN (D 2896) mg KOH/g	UTT*	UTT*	UTT*	UTT*	UTT*
TAN (D 664) mg KOH/g	UTT*	UTT*	UTT*	UTT*	UTT*

Wear

Iron (Fe) ppm	20	12	16	14	5
Chromium (Cr) ppm	0	0	0	0	0
Tin (Sn) ppm	0	0	0	0	0
Lead (Pb) ppm	1	0	0	1	0
Copper (Cu) ppm	1	0	1	1	1
Nickel (Ni) ppm	0	0	0	0	0
Aluminium (Al) ppm	2	2	3	2	1
Vanadium (V) ppm	0	0	1	1	1
Silver (Ag) ppm	0	0	0	0	0
Titanium (Ti) ppm	0	0	0	0	0
Manganese (Mn) ppm	0	1	2	1	1

Contamination

Water (FT-IR) %	0.00	0.00	0.00	0.00	0.00
Glycol (FT-IR) %	0.00	0.00	0.00	0.00	0.00
Sodium (Na) ppm	6	5	3	3	3
Silicon (Si) ppm	8	9	10	11	7
Fuel (FT-IR) %	0.00	1.01	0.00	0.00	0.00
Soot (FT-IR) Abs cm ⁻¹	0.08	0.08	0.07	0.08	0.00

Additives

Calcium (Ca) ppm	3448	3704	3685	3096	2653
Zinc (Zn) ppm	1254	1496	1308	1118	1102
Phosphorus (P) ppm	1027	1143	1161	1361	1070
Molybdenum (Mo) ppm	35	39	48	34	26
Magnesium (Mg) ppm	16	12	14	9	9
Boron (B) ppm	377	431	475	425	306

Oil Condition

Oxidation (FT-IR) Abs cm ⁻¹	0.07	0.06	0.06	0.06	0.05
Nitration (FT-IR) Abs cm ⁻¹	0.05	0.03	0.04	0.03	0.02
Sulfation (FT-IR) Abs cm ⁻¹	0.02	0.02	0.00	0.02	0.02