

QC Engine Machine Id QC230725MOB2 Component Diesel Engine Fluid DIESEL ENGINE OIL SAE 40 (--- GAL)

RECOMMENDATION

We advise that you check for the source of water entry. We recommend that you drain the oil from the component if this has not already been done. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample.

WEAR

All component wear rates are normal.

CONTAMINATION

There is a moderate amount of fuel present in the oil. There is a light concentration of water present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. Viscosity of sample indicates oil is within SAE 10W30 range, advise investigate. The oil is no longer serviceable due to the presence of contaminants.

Test UOM Method Limit/Ab Current History1 History2 Sample Number Client Info 08 Apr 2024 05 Apr 2024 04 Apr 2024 Machine Age hrs Client Info 0 0 0 Oill Age hrs Client Info 0 0 0 Filter Age hrs Client Info N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A Sample Status							
Sample Date Client Info 08 Apr 2024 05 Apr 2024 04 Apr 2024 Machine Age hrs Client Info 0 0 0 Oll Age hrs Client Info 0 0 0 Oll Changed Iclient Info N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A Iron ppm ASTM D5185(m) >100 19 19 19 Chromium ppm ASTM D5185(m) >20 <1 <1 <1 Nickel ppm ASTM D5185(m) >20 <1 <1< <1 <1 Itanium ppm ASTM D5185(m) >20 <1 <1< <1< <1< <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1< <1< <1< <1< <1< <1< <1<	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age hrs Client Info 0 0 0 0 Oil Age hrs Client Info 0 0 0 0 Filter Age hrs Client Info N/A N/A N/A N/A Filter Changed Client Info N/A N/A N/A N/A Sample Status ASTM05186(m) >100 19 19 19 Chromium ppm ASTM05186(m) >20 <1 <1 <1 Nickel ppm ASTM05186(m) >20 <1 <1 <1 <1 Titanium ppm ASTM05186(m) >3 0 0 0 0 0 Aluminum ppm ASTM05186(m) >30 9 9 9 1 <	Sample Number		Client Info		WC0925436	WC0925433	WC0925432
Oil Age hrs Client Info 0 0 0 Filter Age hrs Client Info N/A N/A N/A N/A Filter Changed Client Info N/A N/A N/A N/A Sample Status ABNORMAL ABNORMAL ABNORMAL ABNORMAL Iron ppm ASTM05185(m) >100 19 19 19 Chromium ppm ASTM05185(m) >20 <1 <1 <1 Nickel ppm ASTM05185(m) >20 <1 <1 <1 Nickel ppm ASTM05185(m) >3 0 0 0 Aluminum ppm ASTM05185(m) >20 4 4 4 Lead ppm ASTM05185(m) >330 9 9 9 Tin ppm ASTM05185(m) >25 6 6 6 Potassium ppm ASTM05185(m) >22 0.2783 0.334 0.2666	Sample Date		Client Info		08 Apr 2024	05 Apr 2024	04 Apr 2024
Filter Age hrs Client Info N/A N/A N/A Filter Changed Client Info N/A N/A N/A N/A Sample Status Client Info N/A ABNORMAL ABNORMAL ABNORMAL Iron ppm ASTM D5185(m) >100 19 19 19 Chromium ppm ASTM D5185(m) >20 <1 <1 <1 Nickel ppm ASTM D5185(m) >20 <1 <1 <1 <1 Nickel ppm ASTM D5185(m) >20 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Machine Age	hrs	Client Info		0	0	0
Oil Changed Client Info N/A N/A N/A Filter Changed Client Info N/A N/A N/A Sample Status Client Info N/A ABNORMAL ABNORMAL Sample Status ABNORMAL ABNORMAL ABNORMAL ABNORMAL Iron ppm ASTM D5185(m) >20 <1 <1 <1 Nickel ppm ASTM D5185(m) >4 <1 0 <1 Nickel ppm ASTM D5185(m) >3 0 0 0 Aluminum ppm ASTM D5185(m) >3 0 0 0 Auminum ppm ASTM D5185(m) >30 9 9 9 Tin ppm ASTM D5185(m) >10 0 0 0 Vanadium ppm ASTM D5185(m) >25 6 6 6 Potassium ppm ASTM D5185(m) >20 A 17 17 17 Fuel % <td< th=""><th>Oil Age</th><th>hrs</th><th>Client Info</th><th></th><th>0</th><th>0</th><th>0</th></td<>	Oil Age	hrs	Client Info		0	0	0
Filter Changed Sample Status Client Info N/A N/A N/A N/A Iron ppm ASTM D5185(m)<>100 19 19 19 Chromium ppm ASTM D5185(m)<>20 <1 <1 <1 Nickel ppm ASTM D5185(m)<>20 <1 <1 <1 Nickel ppm ASTM D5185(m)<>3 0 0 <1 Nickel ppm ASTM D5185(m)<>3 0 0 <1 Miminum ppm ASTM D5185(m)<>30 9 9 9 Aluminum ppm ASTM D5185(m)<>30 9 9 9 Tin ppm ASTM D5185(m)<>15 0 0 0 Vanadium ppm ASTM D5185(m)<>25 6 6 6 Potassium ppm ASTM D5185(m)<>20 A 17 A 17 Fuel % ASTM D5185(m)<>20 A 5.2 A 5.2 Water % ASTM D5034<>200 <t< th=""><th>Filter Age</th><th>hrs</th><th>Client Info</th><th></th><th>0</th><th>0</th><th>0</th></t<>	Filter Age	hrs	Client Info		0	0	0
Sample Status ASTM D5185(m) >100 19 19 19 Iron ppm ASTM D5185(m) >20 <1 <1 <1 Nickel ppm ASTM D5185(m) >20 <1 <1 <1 Nickel ppm ASTM D5185(m) >20 <1 <1 <1 Titanium ppm ASTM D5185(m) >3 0 0 0 Aluminum ppm ASTM D5185(m) >30 0 0 0 Aluminum ppm ASTM D5185(m) >30 9 9 9 Tin ppm ASTM D5185(m) >15 0 0 0 Vanadium ppm ASTM D5185(m) >25 6 6 6 Potassium ppm ASTM D5185(m) >22 A 17 17 Fuel % ASTM D5185(m) >20 A 17 A 17 Fuel % ASTM D5185(m) >20 A <th>Oil Changed</th> <th></th> <th>Client Info</th> <th></th> <th>N/A</th> <th>N/A</th> <th>N/A</th>	Oil Changed		Client Info		N/A	N/A	N/A
Iron ppm ASTM D5185(m) >100 19 19 19 Chromium ppm ASTM D5185(m) >20 <1 <1 <1 Nickel ppm ASTM D5185(m) >20 <1 0 <1 Titanium ppm ASTM D5185(m) >3 0 0 0 Aluminum ppm ASTM D5185(m) >20 4 4 4 Lead ppm ASTM D5185(m) >20 4 4 4 Lead ppm ASTM D5185(m) >20 4 4 4 Lead ppm ASTM D5185(m) >20 4 17 17 Copper ppm ASTM D5185(m) >25 6 6 6 Potassium ppm ASTM D5185(m) >20 ▲ 17 ▲ 17 ↓ 17 Fuel % ASTM D5185(m) >20 ▲ 0.278 ▲ 0.334 ▲ 0.266 pm Water ppm ASTM D7922 NE	Filter Changed		Client Info		N/A	N/A	N/A
Chromium ppm ASTM D5185(m) >20 <1	Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Chromium ppm ASTM D5185(m) >20 <1							
Nickel ppm ASTM D5185(m) >4 <1	-		()				
Titanium ppm ASTM D5185(m) S 3 3 Silver ppm ASTM D5185(m) >3 0 0 0 Aluminum ppm ASTM D5185(m) >20 4 4 4 Lead ppm ASTM D5185(m) >20 4 4 4 Lead ppm ASTM D5185(m) >20 4 4 4 Lead ppm ASTM D5185(m) >20 4 1 <1 <1 Copper ppm ASTM D5185(m) >330 9 9 9 9 Tin ppm ASTM D5185(m) >15 0 0 0 0 Vanadium ppm ASTM D5185(m) >25 6 6 6 6 Potassium ppm ASTM D5185(m) >20 0.278 0.334 0.266 pmWater ppm ASTM D7822* NEG NEG NEG NEG Solt % AST		ppm	()				
Silver ppm ASTM D5185(m) >3 0 0 0 Aluminum ppm ASTM D5185(m) >20 4 4 4 Lead ppm ASTM D5185(m) >40 <1 <1 <1 Copper ppm ASTM D5185(m) >330 9 9 9 9 Tin ppm ASTM D5185(m) >15 0 0 0 0 Vanadium ppm ASTM D5185(m) >25 6 6 6 6 Potassium ppm ASTM D5185(m) >20 4 17 4 17 4 17 Fuel % ASTM D5185(m) >20 4 0.278 0.334 4 0.266 ppm Water ppm ASTM D6304* >0.2 A 0.33 0.3 0.3 Soot % % ASTM D7622* NEG NEG NEG NEG Sodium ppm ASTM D5185(m) >20 10.2 10.2 10.2 Sod		ppm	()	>4			
Aluminum ppm ASTM D5185(m) >20 4 4 4 Lead ppm ASTM D5185(m) >40 <1 <1 <1 Copper ppm ASTM D5185(m) >330 9 9 9 Tin ppm ASTM D5185(m) >15 0 0 0 Vanadium ppm ASTM D5185(m) >25 6 6 6 Potassium ppm ASTM D5185(m) >20 A 17 A 17 A 17 Fuel % ASTM D5185(m) >20 A 17 A 17 A 17 Fuel % ASTM D5185(m) >20 A 2783 A 3347 A 2666 ppm Water ppm ASTM D7922* NEG NEG NEG Soot % % ASTM D7624* >20 10.2 10.2 10.2 Sulfation Abs/cm ASTM D715* >30 20.4 20.3 20.4 Emulsified Water scalar Visua* >0.2		ppm	· /		-		
Lead ppm ASTM D5185(m) >40 <1			()				
Copper ppm ASTM D5185(m) >330 9 9 9 Tin ppm ASTM D5185(m) >15 0 0 0 Vanadium ppm ASTM D5185(m) >15 0 0 0 Silicon ppm ASTM D5185(m) >25 6 6 6 Potassium ppm ASTM D5185(m) >20 ▲ 17 ▲ 17 ▲ 17 Fuel % ASTM D5185(m) >20 ▲ 0.278 ▲ 0.334 ▲ 0.266 ppm Water ppm ASTM D6304* >0.2 ▲ 0.278 ▲ 0.334 ▲ 0.266 ppm Water ppm ASTM D6304* >2000 ▲ 2783 ▲ 3347 ▲ 2666 Glycol % ASTM D7844* >3 0.3 0.3 0.3 Nitration Abs/cm ASTM D7624* >20 10.2 10.2 10.2 Sulfation Abs/.1mm ASTM D5185(m) >216 74 .77 .76 Boron ppm		ppm	(/		-		
Tin ppm ASTM D5185(m) >15 0 0 0 Vanadium ppm ASTM D5185(m) >15 0 0 0 0 Silicon ppm ASTM D5185(m) >25 6 6 6 6 Potassium ppm ASTM D5185(m) >20 17 17 17 Fuel % ASTM D5185(m) >20 4 17 4 17 Fuel % ASTM D50804* >0.2 4 0.278 4 0.334 4 0.266 ppm Water ppm ASTM D6044* >2000 4 2783 3 3347 2 666 Glycol % ASTM D7824* >200 A EG NEG NEG NEG Sodium Abs/cm ASTM D7624* >20 10.2 10.2 10.2 10.2 Sodium ppm ASTM D5185(m) >216 74 77 76 Boron ppm ASTM D5185(. ,				
Vanadium ppm ASTM D5185(m) 0 0 0 Silicon ppm ASTM D5185(m)<>25 6 6 6 Potassium ppm ASTM D5185(m)<>20 ▲ 17 ▲ 17 ▲ 17 ▲ 17 Fuel % ASTM D5185(m) >20 ▲ 17 ▲ 17 ▲ 17 ▲ 17 Fuel % ASTM D5185(m) >20 ▲ 0.278 ▲ 0.3344 ▲ 0.2666 ppm Water ppm ASTM D6304* >0.2 ▲ 0.2783 ▲ 3347 ▲ 2666 Glycol % ASTM D7824* >3 0.3 0.3 0.3 Nitration Abs/cm ASTM D7624* >20 10.2 10.2 10.2 Sulfation Abs/tmm ASTM D7182* >0.2 NEG ▲ .2% 2.4 Emulsified Water scalar Visual* >0.2 NEG 4 .2% 2.6 Boron ppm ASTM D5185(m) 250 40 39 38 Barium ppm <th></th> <th>ppm</th> <th>()</th> <th></th> <th>-</th> <th></th> <th>-</th>		ppm	()		-		-
Silicon ppm ASTM D5185(m) >25 6 6 6 Potassium ppm ASTM D5185(m) >20 A 17 A 17 Fuel % ASTM D5185(m) >20 A 17 A 17 Fuel % ASTM D5034* >0.2 A 0.278 A 0.334 A 0.266 ppm Water ppm ASTM D6304* >2000 A 2783 A 3347 A 2666 Glycol % ASTM D7922* NEG NEG NEG S 10.2			()	>15	-		
Potassium ppm ASTM D5185(m) >20 ▲ 17 ▲ 17 ▲ 17 Fuel % ASTM D7593* >5 ▲ 5.1 ▲ 5.2 ▲ 5.2 Water % ASTM D6304* >0.2 ▲ 0.2783 ▲ 0.334 ▲ 0.266 ppm Water ppm ASTM D6304* >2000 ▲ 2783 ▲ 3347 ▲ 2666 Glycol % ASTM D7922* NEG NEG NEG Soot % % ASTM D7624* >20 10.2 10.2 10.2 Sulfation Abs/rm ASTM D7624* >20 10.2 10.2 10.2 Sulfation Abs/rm ASTM D71415* >30 20.4 20.3 20.4 Emulsified Water scalar Visual* >0.2 NEG .2% ▲ .2% Sodium ppm ASTM D5185(m) 250 40 39 38 Barium ppm ASTM D5185(m) 100 46 46 46 Magnesium ppm <th>Vanadium</th> <th>ppm</th> <th>ASTM D5185(m)</th> <th></th> <th>0</th> <th>0</th> <th>0</th>	Vanadium	ppm	ASTM D5185(m)		0	0	0
Potassium ppm ASTM D5185(m) >20 ▲ 17 ▲ 17 ▲ 17 Fuel % ASTM D7593* >5 ▲ 5.1 ▲ 5.2 ▲ 5.2 Water % ASTM D6304* >0.2 ▲ 0.2783 ▲ 0.334 ▲ 0.266 ppm Water ppm ASTM D6304* >2000 ▲ 2783 ▲ 3347 ▲ 2666 Glycol % ASTM D7922* NEG NEG NEG Soot % % ASTM D7624* >20 10.2 10.2 10.2 Sulfation Abs/rm ASTM D7624* >20 10.2 10.2 10.2 Sulfation Abs/rm ASTM D71415* >30 20.4 20.3 20.4 Emulsified Water scalar Visual* >0.2 NEG .2% ▲ .2% Sodium ppm ASTM D5185(m) 250 40 39 38 Barium ppm ASTM D5185(m) 100 46 46 46 Magnesium ppm <th>Silicon</th> <th>nnm</th> <th>ASTM D5185(m)</th> <th>>25</th> <th>6</th> <th>6</th> <th>6</th>	Silicon	nnm	ASTM D5185(m)	>25	6	6	6
Fuel % ASTM D7593* >5 A 5.1 A 5.2 A 5.2 Water % ASTM D6304* >0.2 A 0.2783 A 0.334 A 0.266 ppm Water ppm ASTM D6304* >2000 A 2783 A 3347 A 2666 Glycol % ASTM D7922* NEG NEG NEG NEG Soot % % ASTM D7844* >3 0.3 0.3 0.3 0.3 Nitration Abs/cm ASTM D7624* >20 10.2 10.2 10.2 Sulfation Abs/cm ASTM D7154* >30 20.4 20.3 20.4 Emulsified Water scalar Visual* >0.2 NEG A .2% A.2% Sodium ppm ASTM D5185(m) >216 74 77 76 Boron ppm ASTM D5185(m) 216 74 77 76 Boron ppm ASTM D5185(m) 100 46 46 46 Manganese ppm ASTM D5185(m) 100 46 46 46			()		-		
Water % ASTM D6304* >0.2 A 0.278 A 0.334 A 0.266 ppm Water ppm ASTM D6304* >2000 A 2783 A 3347 A 2666 Glycol % ASTM D7922* NEG NEG NEG Soot % % ASTM D7844* >3 0.3 0.3 0.3 Nitration Abs/cm ASTM D7624* >20 10.2 10.2 10.2 Sulfation Abs/cm ASTM D7624* >20 10.2 10.2 20.4 Emulsified Water scalar Visual* >0.2 NEG A .2% A .2% Sodium ppm ASTM D5185(m) >216 74 77 76 Boron ppm ASTM D5185(m) 250 40 39 38 Barium ppm ASTM D5185(m) 100 46 46 46 Magnesium ppm ASTM D5185(m) 100 46 46 46 Manganese ppm <td< th=""><th></th><th></th><th>()</th><th></th><th></th><th></th><th></th></td<>			()				
ppm Water ppm ASTM D6304* >2000 A 2783 A 3347 A 2666 Glycol % ASTM D7922* NEG NEG NEG Soot % % ASTM D7922* 0.3 0.3 0.3 0.3 Nitration Abs/cm ASTM D7624* >20 10.2 10.2 10.2 Sulfation Abs/cm ASTM D7624* >20 10.2 10.2 20.4 Sulfation Abs/cm ASTM D7624* >20 NEG A 2% A 2% Sulfation Abs/cm ASTM D715* >30 20.4 20.3 20.4 Emulsified Water scalar Visual* >0.2 NEG A 2% A 2% Sodium ppm ASTM D5185(m) >216 74 77 76 Boron ppm ASTM D5185(m) 100 41 41<							
Image: pp Max Max <thm< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th></thm<>							
Soot % % ASTM D7844* >3 0.3 0.3 0.3 Nitration Abs/cm ASTM D7624* >20 10.2 10.2 10.2 Sulfation Abs/.1mm ASTM D7624* >20 20.4 20.3 20.4 Emulsified Water scalar Visual* >0.2 NEG ▲ .2% ▲ .2% Sodium ppm ASTM D5185(m) >216 ● 74 ● 77 ● 76 Boron ppm ASTM D5185(m) 250 40 39 38 Barium ppm ASTM D5185(m) 100 <1 <1 <1 Molybdenum ppm ASTM D5185(m) 100 46 46 46 Maganese ppm ASTM D5185(m) 3000 1454 1459 1482 Phosphorus ppm ASTM D5185(m) 3000 1454 1459 1482 Phosphorus ppm ASTM D5185(m) 1350 1021 998 1013 Sulfur				2000			
Nitration Abs/cm ASTM D7624* >20 10.2 10.2 10.2 Sulfation Abs/.tmm ASTM D7624* >30 20.4 20.3 20.4 Emulsified Water scalar Visual* >0.2 NEG .2% .2% Sodium ppm ASTM D5185(m) >216 74 77 76 Boron ppm ASTM D5185(m) 250 40 39 38 Barium ppm ASTM D5185(m) 100 <1 <1 <1 Molybdenum ppm ASTM D5185(m) 100 46 46 46 Manganese ppm ASTM D5185(m) 100 46 46 46 Magnesium ppm ASTM D5185(m) 0 0 0 0 Magnesium ppm ASTM D5185(m) 3000 1454 1459 1482 Phosphorus ppm ASTM D5185(m) 1350 1021 998 1013 Sulfur ppm<	,			>3			
Sulfation Abs/.1mm ASTM D7415* >30 20.4 20.3 20.4 Emulsified Water scalar Visual* >0.2 NEG ▲ .2% ▲ .2% Sodium ppm ASTM D5185(m) >216 ● 74 ● 77 ● 76 Boron ppm ASTM D5185(m) 250 40 39 38 Barium ppm ASTM D5185(m) 10 <1 <1 <1 Molybdenum ppm ASTM D5185(m) 100 46 46 46 Manganese ppm ASTM D5185(m) 100 46 46 46 Magnesium ppm ASTM D5185(m) 100 0 0 0 Magnesium ppm ASTM D5185(m) 3000 1454 1459 1482 Phosphorus ppm ASTM D5185(m) 1350 1021 998 1013 Sulfur ppm ASTM D5185(m) 14250 2558 2557 2535 Oxidation							
Emulsified Water scalar Visual* >0.2 NEG .2% .2% Sodium ppm ASTM D5185(m) >216 74 77 76 Boron ppm ASTM D5185(m) 250 40 39 38 Barium ppm ASTM D5185(m) 250 40 39 38 Barium ppm ASTM D5185(m) 10 <1 <1 <1 Molybdenum ppm ASTM D5185(m) 100 46 46 46 Manganese ppm ASTM D5185(m) 0 0 0 0 Magnesium ppm ASTM D5185(m) 450 613 610 615 Calcium ppm ASTM D5185(m) 3000 1454 1459 1482 Phosphorus ppm ASTM D5185(m) 1350 1021 998 1013 Sulfur ppm ASTM D5185(m) 4250 2558 2557 2535 Oxidation Abs/.1mm					-		
Sodium ppm ASTM D5185(m) >216 74 77 76 Boron ppm ASTM D5185(m) 250 40 39 38 Barium ppm ASTM D5185(m) 10 <1 <1 <1 Molybdenum ppm ASTM D5185(m) 100 46 46 46 Manganese ppm ASTM D5185(m) 100 46 46 46 Magnesium ppm ASTM D5185(m) 00 0 0 0 Calcium ppm ASTM D5185(m) 3000 1454 1459 1482 Phosphorus ppm ASTM D5185(m) 3000 1021 998 1013 Sulfur ppm ASTM D5185(m) 4250 2558 2557 2535 Oxidation Abs/.1mm ASTM D2896* 8.5 9.01 8.65 9.18 Visc @ 40°C cSt ASTM D7279(m) 138 75.6 75.6 75.8 Visc @ 100°C cSt<							
Boron ppm ASTM D5185(m) 250 40 39 38 Barium ppm ASTM D5185(m) 10 <1 <1 <1 Molybdenum ppm ASTM D5185(m) 100 46 46 46 Manganese ppm ASTM D5185(m) 100 46 46 46 Magnesium ppm ASTM D5185(m) 0 0 0 0 Magnesium ppm ASTM D5185(m) 450 613 610 615 Calcium ppm ASTM D5185(m) 3000 1454 1459 1482 Phosphorus ppm ASTM D5185(m) 1300 1021 998 1013 Sulfur ppm ASTM D5185(m) 4250 2558 2557 2535 Oxidation Abs/.1mm ASTM D2896* 8.5 9.01 8.65 9.18 Visc @ 40°C cSt ASTM D7279(m) 138 75.6 75.6 75.8 Visc @ 100°C							
Barium ppm ASTM D5185(m) 10 <1	Sodium	ppm	ASTM D5185(m)	>216	7 4	77	76
Molybdenum ppm ASTM D5185(m) 100 46 46 46 Manganese ppm ASTM D5185(m) 0 0 0 0 Magnesium ppm ASTM D5185(m) 450 613 610 615 Calcium ppm ASTM D5185(m) 3000 1454 1459 1482 Phosphorus ppm ASTM D5185(m) 1150 857 848 849 Zinc ppm ASTM D5185(m) 1350 1021 998 1013 Sulfur ppm ASTM D5185(m) 4250 2558 2557 2535 Oxidation Abs/.1mm ASTM D2986* 8.5 9.01 8.65 9.18 Visc @ 40°C cSt ASTM D7279(m) 138 75.6 75.6 75.8 Visc @ 100°C cSt ASTM D7279(m) 14.4 11.3 11.4 11.4	Boron	ppm	ASTM D5185(m)	250	40	39	38
Manganese ppm ASTM D5185(m) O O O Magnesium ppm ASTM D5185(m) 450 613 610 615 Calcium ppm ASTM D5185(m) 3000 1454 1459 1482 Phosphorus ppm ASTM D5185(m) 1150 857 848 849 Zinc ppm ASTM D5185(m) 1350 1021 998 1013 Sulfur ppm ASTM D5185(m) 1350 1021 998 1013 Sulfur ppm ASTM D5185(m) 4250 2558 2557 2535 Oxidation Abs/.1mm ASTM D5185(m) 4250 16.5 16.4 Base Number (BN) mg KOH/g ASTM D2896* 8.5 9.01 8.65 9.18 Visc @ 40°C cSt ASTM D7279(m) 138 75.6 75.6 75.8 Visc @ 100°C cSt ASTM D7279(m) 14.4 11.3 11.4 11.4	Barium	ppm	ASTM D5185(m)	10	<1	<1	<1
Magnesium ppm ASTM D5185(m) 450 613 610 615 Calcium ppm ASTM D5185(m) 3000 1454 1459 1482 Phosphorus ppm ASTM D5185(m) 1150 857 848 849 Zinc ppm ASTM D5185(m) 1350 1021 998 1013 Sulfur ppm ASTM D5185(m) 4250 2558 2557 2535 Oxidation Abs/.1mm ASTM D5185(m) 4250 16.5 16.4 Base Number (BN) mg KOHg ASTM D2896* 8.5 9.01 8.65 9.18 Visc @ 40°C cSt ASTM D7279(m) 138 A 75.6 A 75.6 75.8 Visc @ 100°C cSt ASTM D7279(m) 14.4 11.3 11.4 11.4	Molybdenum	ppm	ASTM D5185(m)	100	46	46	46
Calcium ppm ASTM D5185(m) 3000 1454 1459 1482 Phosphorus ppm ASTM D5185(m) 1150 857 848 849 Zinc ppm ASTM D5185(m) 1350 1021 998 1013 Sulfur ppm ASTM D5185(m) 4250 2558 2557 2535 Oxidation Abs/.1mm ASTM D5185(m) 4250 2558 16.5 16.4 Base Number (BN) mg KOH/g ASTM D2896* 8.5 9.01 8.65 9.18 Visc @ 40°C cSt ASTM D7279(m) 138 A 75.6 A 75.6 75.8 Visc @ 100°C cSt ASTM D7279(m) 14.4 11.3 A 11.4 11.4	Manganese	ppm	ASTM D5185(m)		0	0	0
Phosphorus ppm ASTM D5185(m) 1150 857 848 849 Zinc ppm ASTM D5185(m) 1350 1021 998 1013 Sulfur ppm ASTM D5185(m) 4250 2558 2557 2535 Oxidation Abs/.1mm ASTM D5185(m) 4250 2558 2557 2535 Oxidation Abs/.1mm ASTM D71414* >25 16.5 16.5 16.4 Base Number (BN) mg KOH/g ASTM D2896* 8.5 9.01 8.65 9.18 Visc @ 40°C cSt ASTM D7279(m) 138 A 75.6 A 75.6 75.8 Visc @ 100°C cSt ASTM D7279(m) 14.4 11.3 A 11.4 11.4	Magnesium	ppm	ASTM D5185(m)	450	613	610	615
Zinc ppm ASTM D5185(m) 1350 1021 998 1013 Sulfur ppm ASTM D5185(m) 4250 2558 2557 2535 Oxidation Abs/.1mm ASTM D5185(m) 4250 16.5 16.5 16.4 Base Number (BN) mg KOH/g ASTM D2896* 8.5 9.01 8.65 9.18 Visc @ 40°C cSt ASTM D7279(m) 138 A 75.6 A 75.6 75.8 Visc @ 100°C cSt ASTM D7279(m) 14.4 A 11.3 A 11.4 A 11.4	Calcium	ppm	ASTM D5185(m)	3000	1454	1459	1482
Sulfur ppm ASTM D5185(m) 4250 2558 2557 2535 Oxidation Abs/.1mm ASTM D7144* >25 16.5 16.5 16.4 Base Number (BN) mg KOH/g ASTM D2896* 8.5 9.01 8.65 9.18 Visc @ 40°C cSt ASTM D7279(m) 138 A 75.6 A 75.6 75.8 Visc @ 100°C cSt ASTM D7279(m) 14.4 11.3 11.4 11.4	Phosphorus	ppm	ASTM D5185(m)	1150	857	848	849
Oxidation Abs/.1mm ASTM D7414* >25 16.5 16.5 16.4 Base Number (BN) mg KOH/g ASTM D2896* 8.5 9.01 8.65 9.18 Visc @ 40°C cSt ASTM D7279(m) 138 A 75.6 A 75.6 A 75.8 Visc @ 100°C cSt ASTM D7279(m) 14.4 A 11.3 A 11.4 A 11.4		ppm	. ,				
Base Number (BN) mg KOH/g ASTM D2896* 8.5 9.01 8.65 9.18 Visc @ 40°C cSt ASTM D7279(m) 138 A 75.6 75.6 75.8 Visc @ 100°C cSt ASTM D7279(m) 14.4 A 11.3 A 11.4 11.4		ppm	ASTM D5185(m)	4250		2557	
Visc @ 40°C cSt ASTM D7279(m) 138 ▲ 75.6 ▲ 75.6 ▲ 75.8 Visc @ 100°C cSt ASTM D7279(m) 14.4 ▲ 11.3 ▲ 11.4 ▲ 11.4							
Visc @ 100°C cSt ASTM D7279(m) 14.4 ▲ 11.3 ▲ 11.4 ▲ 11.4	· · · /	mg KOH/g	ASTM D2896*	8.5	9.01	8.65	9.18
	_			138			▲ 75.8
Viscosity Index (VI) Scale ASTM D2270* 102 140 142 142	-		(/				
	Viscosity Index (VI)	Scale	ASTM D2270*	102	140	142	142

WEAR

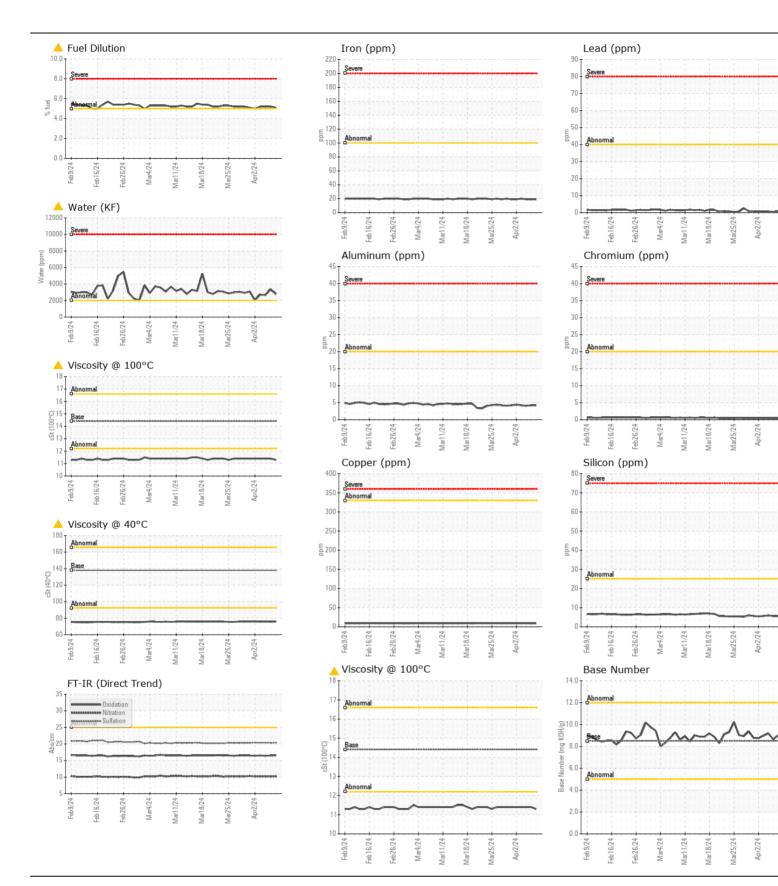
CONTAMINATION

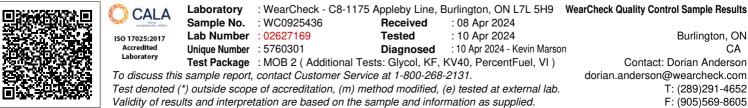
FLUID CONDITION

NORMAL

ABNORMAL

ABNORMAL





Submitted By: ? Page 2 of 2