

Machine Id 970003 Component Diesel Engine SHELL ROTELLA T 15W40 (--- QTS)

RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. 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.

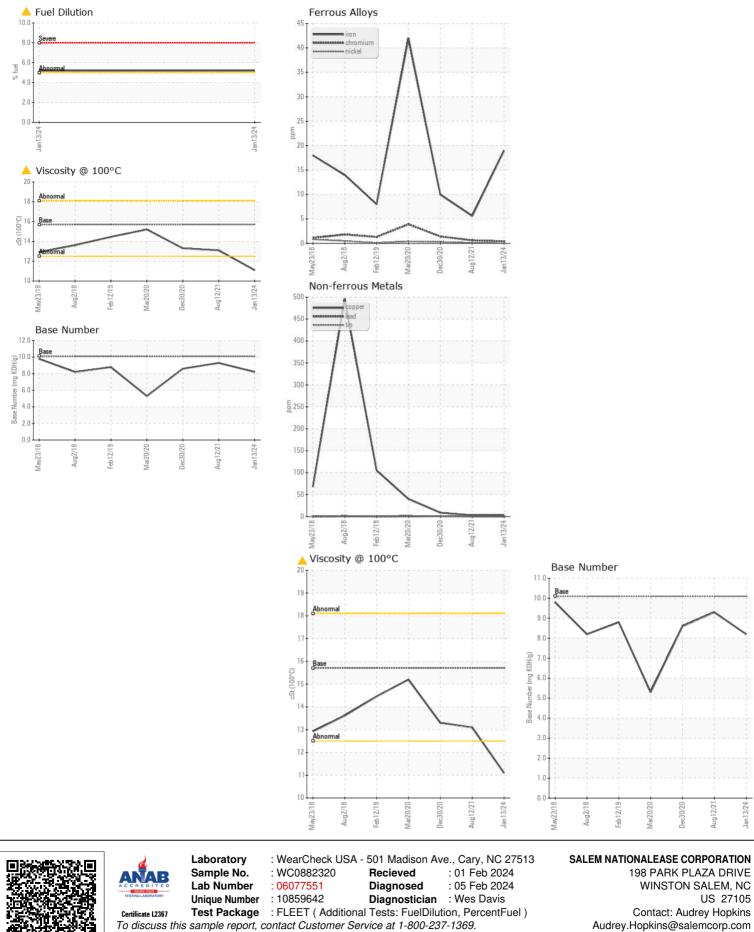
CONTAMINATION

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

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Sample Date Client Info 13 Jan 2024 12 Aug 2021 30 Dec 2021 Machine Age mls Client Info 186063 133013 119927 Oil Age mls Client Info 0 0 13500 Filter Age mls Client Info 0 0 13500 Oil Changed Client Info N/A Changed Changed Filter Changed Client Info N/A Changed Changed Sample Status Client Info N/A Changed Changed Iron ppm ASTM D5185m<>100 19 6 10 Chromium ppm ASTM D5185m<>20 <1							
Sample DateClient Info13 Jan 20212 Aug 202130 Dec 202Machine AgemilsClient Info0013500Oil AgemilsClient Info0013500Oil ChangedClient InfoN/AChangedChangedFilter AgemlsClient InfoN/AChangedChangedSample StatusClient InfoN/AChangedChangedIronppmASTM D5185n>10019610ChromiumppmASTM D5185n>20<1<11NickelppmASTM D5185n>30<1<1NickelppmASTM D5185n>30<1<1SilverppmASTM D5185n>30339TitaniumppmASTM D5185n>30339TinppmASTM D5185n>300<1<1CopperppmASTM D5185n>30339TinppmASTM D5185n>15<1<10VanadiumppmASTM D5185n>20A40Vellow Metalscalar"VisualNONENONENONENONESiliconppmASTM D5185n>20A40Vellow Metalscalar"VisualNONENONENONESolitationppmASTM D5185n>20A40Solitation%NSTM D7624	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age mis Client Info 186063 133013 119927 Oil Age mis Client Info 0 0 13500 Filter Age mis Client Info N/A Changed Changed Filter Changed Client Info N/A Changed Changed Filter Changed Client Info N/A Changed Changed Sample Status Filter Changed Client Info N/A Changed Changed Iron ppm ASTM D5185m >100 19 6 10 Chromium ppm ASTM D5185m >20 <1 <1 1 Nickel ppm ASTM D5185m >40 0 <1 <1 0 Aluminum ppm ASTM D5185m >10 0 0 0 0 Vanadum ppm ASTM D5185m >20 S 3 3 9 Tin ppm ASTM D5185m >25 6 3	Sample Number		Client Info		WC0882320	WC0478094	WC0478321
Oil AgemisClient Info0013500Filter AgemisClient InfoN/AChangedChangedOil ChangedClient InfoN/AChangedChangedSample StatusClient InfoN/AChangedChangedIronppmASTM D5185m>10019610ChromiumppmASTM D5185m>240<1<1NickelppmASTM D5185m>30<1<1SilverppmASTM D5185m>30<1<1CopperppmASTM D5185m>330<1<1CopperppmASTM D5185m>330339TinppmASTM D5185m>330339TinppmASTM D5185m>41<100VanadiumppmASTM D5185m>20A00VanadiumppmASTM D5185m>20A00VanadiumppmASTM D5185m>20A40VanadiumppmASTM D5185m>20A40VanadiumppmASTM D5185m>20AA0VanadiumppmASTM D5185m>20AA0VanadiumppmASTM D5185m>20AA0VanadiumppmASTM D5185m>20AA0VanadiumppmASTM D5185m>20	Sample Date		Client Info		13 Jan 2024	12 Aug 2021	30 Dec 2020
Filter AgemisClient Info0013500Oil ChangedClient InfoN/AChangedChangedFilter ChangedClient InfoN/AChangedChangedSample StatusASTM D5185m>10019610IronppmASTM D5185m>20<1<11NickelppmASTM D5185m>20<1<1<11NickelppmASTM D5185m>20<1<1<1SilverppmASTM D5185m>30<1<1<1SilverppmASTM D5185m>30<1<1<1<1CopperppmASTM D5185m>30<1<1<1<1VanadiumppmASTM D5185m>400<1<1<1<1VanadiumppmASTM D5185m>15<1<1<0<0<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10<10 <th>Machine Age</th> <th>mls</th> <th>Client Info</th> <th></th> <th>186063</th> <th>133013</th> <th>119927</th>	Machine Age	mls	Client Info		186063	133013	119927
Oil Changed Filter Changed Sample StatusClient InfoN/AChanged Changed Changed ASTM D5185mN/AChanged Changed Changed ASTM D5185mN/AChanged Changed ASTM D5185mN/AChanged Changed ASTM D5185mN/AChanged Changed ASTM D5185mN/AChanged Changed ASTM D5185mN/ANORMAL NORMALNORMAL NORMALIronppmASTM D5185m ASTM D5185m>20<1<11NickelppmASTM D5185m ASTM D5185m>20<1<1<1SilverppmASTM D5185m ASTM D5185m>20536LeadppmASTM D5185m ASTM D5185m>400<1<1OpperppmASTM D5185m ASTM D5185m>303399TinppmASTM D5185m ASTM D5185m>20A<100VanadiumppmASTM D5185m ASTM D5185m>20A<100Vellow Metalscalar"VisualNONENONENONENONENONESiliconppmASTM D5185m ASTM D5185m>20A400<10VaterwC Method>0.2AA0<1.0<1.0<1.0SiliconppmASTM D5185m ASTM D5185mAAA0<1.0<1.0SiliconppmASTM D5185m ASTM D5185mAAAA0<1.0<1.0<1.0S	Oil Age	mls	Client Info		0	0	13500
Filter Changed Sample StatusClient InfoN/AChanged ABNORMALChanged NORMALChanged NORMALIronppmASTM D5185m>10019610ChromiumppmASTM D5185m>20<1<11NickelppmASTM D5185m>20<1<11NickelppmASTM D5185m>30<1<1<1SilverppmASTM D5185m>30<10<1<1CopperppmASTM D5185m>30339<10<1<1<10VanadiumppmASTM D5185m>15<1<1000 <t< th=""><th>Filter Age</th><th>mls</th><th>Client Info</th><th></th><th>0</th><th>0</th><th>13500</th></t<>	Filter Age	mls	Client Info		0	0	13500
Sample Status ABNORMAL NORMAL NORMAL NORMAL Iron ppm ASTM D5185m<>100 19 6 10 Chromium ppm ASTM D5185m >20 <1 <1 1 Nickel ppm ASTM D5185m >4 0 <1 <1 <1 Nickel ppm ASTM D5185m >3 0 <1 <1 <1 Silver ppm ASTM D5185m >30 0 <1 <1 0 Aluminum ppm ASTM D5185m >20 5 3 6 Copper ppm ASTM D5185m >15 <1 <1 0 0 Vanadium ppm ASTM D5185m >15 <1 <1 0	Oil Changed		Client Info		N/A	Changed	Changed
Iron ppm ASTM D5185m >100 19 6 10 Chromium ppm ASTM D5185m >20 <1 <1 1 Nickel ppm ASTM D5185m >4 0 <1 <1 Titanium ppm ASTM D5185m >3 0 <1 0 Aluminum ppm ASTM D5185m >20 5 3 6 Lead ppm ASTM D5185m >20 5 3 6 Copper ppm ASTM D5185m >40 0 <1 <1 0 Vanadium ppm ASTM D5185m >15 <1 <1 0 0 0 Vanadium ppm ASTM D5185m >15 <1 <1 0	Filter Changed		Client Info		N/A	Changed	Changed
Norm ppm ASTM D5188m >20 <1	Sample Status				ABNORMAL	NORMAL	NORMAL
Norm ppm ASTM D5188m >20 <1							
Nickel ppm ASTM D5185m >-4 0 <1	Iron	ppm		>100	19	6	10
Titanium ppm ASTM D5185m <1		ppm	ASTM D5185m	>20	<1	<1	1
Silver ppm ASTM D5185m >3 0 <1	Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Aluminum ppm ASTM D5185m >20 5 3 6 Lead ppm ASTM D5185m >40 0 <1 <1 Copper ppm ASTM D5185m >330 3 3 9 Tin ppm ASTM D5185m >15 <1 <1 0 Vanadium ppm ASTM D5185m >15 <1 <1 0 Vanadium ppm ASTM D5185m >15 <1 <1 0 Vanadium ppm ASTM D5185m >25 6 3 4 Potassium ppm ASTM D5185m >20 4 4 0 Fuel % ASTM D5185m >20 4 4 0 Fuel % ASTM D5185m >20 4 4 0 Fuel % ASTM D7844 >3 0.3 0.3 0.4 Nitration Abs/im "ASTM D7844 >3 0.3 0.4 <	Titanium	ppm	ASTM D5185m		<1	<1	<1
Lead ppm ASTM D5185m >40 0 <1		ppm			-		
Copper ppm ASTM D5185m >330 3 3 9 Tin ppm ASTM D5185m >15 <1 <1 0 Vanadium ppm ASTM D5185m NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Silicon ppm ASTM D5185m<>25 6 3 4 Potassium ppm ASTM D5185m<>25 6 3 4 Potassium ppm ASTM D5185m<>20 4 4 0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG Sott % % "ASTM D7624 >20 7.7 6.7 8.5 Sulfation Abs/.tm< "ASTM D7151 >30 21.4 18.9 21 Silt scalar *Visual NONE NONE NONE NORE <th>Aluminum</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>-</th> <th>3</th> <th></th>	Aluminum	ppm	ASTM D5185m		-	3	
Tin ppm ASTM D5185m >15 <1		ppm		- 10	-		
Vanadium ppm ASTM D5185m 0 0 0 0 White Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Silicon ppm ASTM D5185m >25 6 3 4 Potassium ppm ASTM D5185m >20 4 4 0 Fuel % ASTM D5185m >20 A 4 0 Water WC Method >0.2 NEG NEG NEG Soot % % ASTM D7624 >20 7.7 6.7 8.5 Sulfation Abs/.mm		ppm			-		
White Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Silicon ppm ASTM D5185m >20 4 4 0 Fuel % ASTM D5185m >20 4 4 0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG Soot % % *ASTM D7844 >3 0.3 0.3 0.4 Nitration Abs/cm< *ASTM D7624 >20 7.7 6.7 8.5 Sulfation Abs/cm< *ASTM D7624 >20 7.7 6.7 8.5 Sulfation Abs/cm< *ASTM D715 >30 21.4 18.9 21 Silt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML<				>15			÷
Yellow Metal scalar *Visual NONE NONE NONE NONE Silicon ppm ASTM D5185m<>20 4 4 0 Fuel % ASTM D5185m<>20 4 4 0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG Soot % % *ASTM D7844 >3 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 7.7 6.7 8.5 Sulfation Abs/tm *ASTM D7614 >30 21.4 18.9 21 Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NORE NORM NORM NORM NORM Appearance scalar *Visual NORM NORML NORML NORML Gor scalar *Visual NORM NORML NORML <					-	÷	÷
Silicon ppm ASTM D5185m< >25 6 3 4 Potassium ppm ASTM D5185m >20 4 4 0 Fuel % ASTM D3524 >5 ▲ 5.2 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG Soot % % *ASTM D7844 >3 0.3 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 7.7 6.7 8.5 Sulfation Abs/Imm *ASTM D7415 >30 21.4 18.9 21 Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NOR NORM NORM NORM NORM Appearance scalar *Visual NORM NORML NORML NORM Boron ppm ASTM D5185m 0		scalar			-		
Potassium ppm ASTM D5185m >20 4 4 0 Fuel % ASTM D3524 >5 ▲ 5.2 <1.0	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Potassium ppm ASTM D5185m >20 4 4 0 Fuel % ASTM D3524 >5 ▲ 5.2 <1.0	Silicon	000	ACTM DE10E~	<.>2E	6	2	4
Fuel % ASTM D3524 >5 \checkmark 5.2 <1.0					-		
Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG NEG Soot % % *ASTM D7844 >3 0.3 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 7.7 6.7 8.5 Sulfation Abs/tmm *ASTM D7624 >20 7.7 6.7 8.5 Sulfation Abs/tmm *ASTM D7415 >30 21.4 18.9 21 Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE Sand/Dirt scalar *Visual NORM NORML NORML NORML Appearance scalar *Visual NORM NORML NORML NORML Gdivert scalar *Visual NOR NORML NORML NORML Baron ppm ASTM D5185m 0.							÷
Glycol WC Method NEG NEG NEG Soot % % *ASTM D7844 >3 0.3 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 7.7 6.7 8.5 Sulfation Abs/imm *ASTM D7415 >30 21.4 18.9 21 Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NOR NORM		70					
Soot % % *ASTM D7844 >3 0.3 0.4 Nitration Abs/cm *ASTM D7624 >20 7.7 6.7 8.5 Sulfation Abs/tm *ASTM D7624 >20 7.7 6.7 8.5 Silt scalar *Visual NONE NONE NONE NONE NORE Appearance scalar *Visual NORM NORML NORM NORM Sociaa *Sita Sita Sita Sita Sita Sita Sita S				>0.2			
Nitration Abs/cm *ASTM D7624 >20 7.7 6.7 8.5 Sulfation Abs/.1mm *ASTM D7415 >30 21.4 18.9 21 Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NOR NORE NONE NORE NONE Appearance scalar *Visual NORL NORML NORM NORMU NOR ASTM D5185m 16 3 15	,	0/_		<u>\</u> 3			
SulfationAbs/.1mm*ASTM D7415>3021.418.921Siltscalar*VisualNONENONENONENONENONEDebrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m3163157BariumppmASTM D5185m0.0100MolybdenumppmASTM D5185m1.2645957ManganeseppmASTM D5185m24885883791CalciumppmASTM D5185m1064928964969ZincppmASTM D5185m11601116611511151SulfurppmASTM D5185m4996304827572473OxidationAbs/.1mm*ASTM D289610.18.29.38.6							
Siltscalar*VisualNONENONENONENONENONEDebrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMNORMLNORMLNORMLNORMLNORMIOdorscalar*VisualNORMNORMLNORMLNORMLNORMLNORMLNORMIEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m3163157BariumppmASTM D5185m0.0100MolybdenumppmASTM D5185m1.2645957ManganeseppmASTM D5185m24885883791CalciumppmASTM D5185m1064928964969ZincppmASTM D5185m116011166111511151SulfurppmASTM D5185m4996304827572473OxidationAbs/.1mm*ASTM D289610.18.29.38.6							
Debrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMIOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m3163157BariumppmASTM D5185m0.0100MolybdenumppmASTM D5185m1.2645957ManganeseppmASTM D5185m24885883791CalciumppmASTM D5185m1064928964969ZincppmASTM D5185m116011166111511151SulfurppmASTM D5185m19.013.415.6Base Number (BN)mg KOHgASTM D289610.18.29.38.6							
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m012BoronppmASTM D5185m3163157BariumppmASTM D5185m0.0100MolybdenumppmASTM D5185m1.2645957ManganeseppmASTM D5185m24885883791CalciumppmASTM D5185m229299611531397PhosphorusppmASTM D5185m1160116611511151SulfurppmASTM D5185m1160116611511151SulfurppmASTM D5185m4996304827572473OxidationAbs/.1mm*ASTM D289610.18.29.38.6							
Appearance scalar *Visual NORML					_		
Odor scalar *Visual NORML NOR NORML NORML <th< th=""><th></th><th></th><th></th><th></th><th>-</th><th></th><th></th></th<>					-		
Emulsified Water scalar *Visual >0.2 NEG NEG NEG Sodium ppm ASTM D5185m 0 1 2 Boron ppm ASTM D5185m 316 3 15 7 Barium ppm ASTM D5185m 0.0 1 0 0 Molybdenum ppm ASTM D5185m 1.2 64 59 57 Manganese ppm ASTM D5185m 1.2 64 59 57 Magnesium ppm ASTM D5185m 24 885 883 791 Calcium ppm ASTM D5185m 2292 996 1153 1397 Phosphorus ppm ASTM D5185m 1064 928 964 969 Zinc ppm ASTM D5185m 1160 11161 1151 Sulfur ppm ASTM D5185m 4996 3048 2757 2473 Oxidation Abs/:1mm *ASTM D2896 10.1 8.2<							NORML
Sodium ppm ASTM D5185m 0 1 2 Boron ppm ASTM D5185m 316 3 15 7 Barium ppm ASTM D5185m 0.0 1 0 0 Molybdenum ppm ASTM D5185m 0.0 1 0 0 Manganese ppm ASTM D5185m 1.2 64 59 57 Manganesum ppm ASTM D5185m 1.2 64 59 57 Manganesum ppm ASTM D5185m 24 885 883 791 Calcium ppm ASTM D5185m 2292 996 1153 1397 Phosphorus ppm ASTM D5185m 1064 928 964 969 Zinc ppm ASTM D5185m 1160 1166 1151 1151 Sulfur ppm ASTM D5185m 4996 3048 27577 2473 Oxidation Abs/.1mm<*ASTM D7414					-		
Boron ppm ASTM D5185m 316 3 15 7 Barium ppm ASTM D5185m 0.0 1 0 0 Molybdenum ppm ASTM D5185m 1.2 64 59 57 Manganese ppm ASTM D5185m 1.2 64 59 57 Magnesium ppm ASTM D5185m 24 885 883 791 Calcium ppm ASTM D5185m 242 996 1153 1397 Phosphorus ppm ASTM D5185m 1064 928 964 969 Zinc ppm ASTM D5185m 1160 1166 1151 1151 Sulfur ppm ASTM D5185m 4996 3048 2757 2473 Oxidation Abs/.1mm<*ASTM D7414 >25 19.0 13.4 15.6 Base Number (BN) mg KOH/g ASTM D2896 10.1 8.2 9.3 8.6						0	
Barium ppm ASTM D5185m 0.0 1 0 0 Molybdenum ppm ASTM D5185m 1.2 64 59 57 Manganese ppm ASTM D5185m 1.2 64 59 57 Manganese ppm ASTM D5185m 2.4 885 883 791 Calcium ppm ASTM D5185m 242 996 1153 1397 Phosphorus ppm ASTM D5185m 2292 996 1153 1397 Phosphorus ppm ASTM D5185m 1064 928 964 969 Zinc ppm ASTM D5185m 1160 1166 1151 1151 Sulfur ppm ASTM D5185m 4996 3048 2757 2473 Oxidation Abs/.1mm<*ASTM D7414	Sodium	ppm	ASTM D5185m		0	1	2
Molybdenum ppm ASTM D5185m 1.2 64 59 57 Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 24 885 883 791 Calcium ppm ASTM D5185m 2292 996 1153 1397 Phosphorus ppm ASTM D5185m 1064 928 964 969 Zinc ppm ASTM D5185m 1160 1166 1151 1151 Sulfur ppm ASTM D5185m 4996 3048 2757 2473 Oxidation Abs/.1mm *ASTM D7414 >25 19.0 13.4 15.6 Base Number (BN) mg KOH/g ASTM D2896 10.1 8.2 9.3 8.6	Boron	ppm	ASTM D5185m	316	3	15	7
Manganese ppm ASTM D5185m 0 <1	Barium	ppm	ASTM D5185m	0.0	1	0	0
Magnesium ppm ASTM D5185m 24 885 883 791 Calcium ppm ASTM D5185m 2292 996 1153 1397 Phosphorus ppm ASTM D5185m 1064 928 964 969 Zinc ppm ASTM D5185m 1160 1166 1151 1151 Sulfur ppm ASTM D5185m 4996 3048 2757 2473 Oxidation Abs/.1mm *ASTM D7414 >25 19.0 13.4 15.6 Base Number (BN) mg KOH/g ASTM D2896 10.1 8.2 9.3 8.6	Molybdenum	ppm	ASTM D5185m	1.2	64	59	57
Calcium ppm ASTM D5185m 2292 996 1153 1397 Phosphorus ppm ASTM D5185m 1064 928 964 969 Zinc ppm ASTM D5185m 1160 1166 1151 1151 Sulfur ppm ASTM D5185m 4996 3048 2757 2473 Oxidation Abs/.1mm *ASTM D7414 >25 19.0 13.4 15.6 Base Number (BN) mg KOH/g ASTM D2896 10.1 8.2 9.3 8.6	Manganese	ppm	ASTM D5185m		0	<1	<1
Phosphorus ppm ASTM D5185m 1064 928 964 969 Zinc ppm ASTM D5185m 1160 1166 1151 1151 Sulfur ppm ASTM D5185m 4996 3048 2757 2473 Oxidation Abs/.1mm *ASTM D7414 >25 19.0 13.4 15.6 Base Number (BN) mg KOH/g ASTM D2896 10.1 8.2 9.3 8.6	Magnesium	ppm	ASTM D5185m	24	885	883	791
Zinc ppm ASTM D5185m 1160 1166 1151 1151 Sulfur ppm ASTM D5185m 4996 3048 2757 2473 Oxidation Abs/.1mm *ASTM D7414 >25 19.0 13.4 15.6 Base Number (BN) mg KOH/g ASTM D2896 10.1 8.2 9.3 8.6	Calcium	ppm	ASTM D5185m	2292	996	1153	1397
Sulfur ppm ASTM D5185m 4996 3048 2757 2473 Oxidation Abs/.1mm *ASTM D7414 >25 19.0 13.4 15.6 Base Number (BN) mg KOH/g ASTM D2896 10.1 8.2 9.3 8.6	Phosphorus	ppm	ASTM D5185m	1064	928	964	969
Oxidation Abs/.1mm *ASTM D7414 >25 19.0 13.4 15.6 Base Number (BN) mg KOH/g ASTM D2896 10.1 8.2 9.3 8.6	Zinc	ppm	ASTM D5185m	1160	1166	1151	1151
Base Number (BN) mg KOH/g ASTM D2896 10.1 8.2 9.3 8.6	Sulfur	ppm	ASTM D5185m	4996	3048	2757	2473
	Oxidation	Abs/.1mm	*ASTM D7414	>25	19.0	13.4	15.6
Visc @ 100°C cSt ASTM D445 15.7 🔶 11.1 / 13.1 13.3	Base Number (BN)	mg KOH/g	ASTM D2896	10.1	8.2	9.3	8.6
	Visc @ 100°C	cSt	ASTM D445	15.7	🔺 11.1 🌙	13.1	13.3



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

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

Contact/Location: Audrey Hopkins - SALWIN

F: x:

T: (336)767-9642