

WEAR NORMAL CONTAMINATION ABNORMAL FLUID CONDITION NORMAL

Machine Id B93A331EK03009461 Component Hydraulic System

{not provided} (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.



All component wear rates are normal.

CONTAMINATION

There is a high amount of silt (particulates < 14 microns in size) present in the oil.

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oils additive package is suitable for further service.

Test UOM Method Limit/Ab Current History1 History2 Sample Number Client Info 22 E4024 Machine Age hrs Client Info 3124 Machine Age hrs Client Info 3124 Oil Age hrs Client Info Not Change Gil Changed Client Info Not Change Sample Status ASTM D8185 Sample Status ASTM D8185 >10 PQ ASTM D8185 >10 Silver ppm <							
Sample Date Client Info 22 Feb 2024 Machine Age hrs Client Info 3124 Oil Age hrs Client Info 0 Oil Changed Client Info Not Changd Filter Age nrs Client Info Not Changd Sample Status ASTM D5185 >20 0 Sample Status ASTM D5185 >10 <-1 Nickel ppm ASTM D5185 >10 <-1 Silver ppm ASTM D5185 >10 0 Silver ppm ASTM D5185 >75 0 Silver ppm ASTM D5185 >20 0 Vanadium ppm ASTM D5185 >20 0	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age Oil Age Filter Age Filter Age Filter Age hrs Client Info 3124 Filter Age Filter Changed Client Info Not Changd Sample Status Client Info Not Changd PQ ASTM D8184 9 PQ ASTM D5185m >20 0 Nickel ppm ASTM D5185m >10 0 Nickel ppm ASTM D5185m >10 0 Nickel ppm ASTM D5185m >10 <1 Nickel ppm ASTM D5185m >10 <1 Aluminum ppm ASTM D5185m >10 0 Lead ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >20 0	Sample Number		Client Info		JR0204260		
Oil Age hrs Client Info 3124 Filter Age hrs Client Info 0 Oil Changed Client Info Not Changd Sample Status ABNORMAL PQ ASTM D5185m >20 0 Iron ppm ASTM D5185m >10 -1 Nickel ppm ASTM D5185m >10 0 Silver ppm ASTM D5185m >10 0 Lead ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >10 0 Visual NONE NONE Valed scalar 'Visual NONE Valed ppm ASTM D5185m >20 0 <th>Sample Date</th> <th></th> <th>Client Info</th> <th></th> <th>22 Feb 2024</th> <th></th> <th></th>	Sample Date		Client Info		22 Feb 2024		
Filter Age hrs Client Info 0 Oil Changed Client Info Not Changd Sample Status Client Info Not Changd PQ ASTM D8184 9 Iron ppm ASTM D5185m >20 0 Chromium ppm ASTM D5185m >10 <1 Nickel ppm ASTM D5185m 0 Silver ppm ASTM D5185m 0 Aluminum ppm ASTM D5185m 0 Copper ppm ASTM D5185m 0 Vanadum ppm ASTM D5185m 0 Valued scalar *Visual NONE NONE Silicon ppm ASTM D5185m 20 0 Value <td< th=""><th>Machine Age</th><th>hrs</th><th>Client Info</th><th></th><th>3124</th><th></th><th></th></td<>	Machine Age	hrs	Client Info		3124		
Oil Changed Client Info Not Changd Sample Status ABNORMAL PQ ASTM D8184 9 PQ ASTM D8186 >20 0 Nickel ppm ASTM D5185 >20 0 Nickel ppm ASTM D5185 >10 0 Nickel ppm ASTM D5185 0 Silver ppm ASTM D5185 >10 0 Lead ppm ASTM D5185 >10 0 Vanadium ppm ASTM D5185 >10 0 Vanadum ppm ASTM D5185 >20 4 Yellow Metal scalar *Visual NONE Yellow Metal scalar *Visual NONE	Oil Age	hrs	Client Info		3124		
Filter Changed Client Info Not Changd Sample Status ASTM D8184 9 PQ ASTM D8185 >20 0 Iron ppm ASTM D5185m >20 0 Nickel ppm ASTM D5185m 0 0 Silver ppm ASTM D5185m 0 0 Silver ppm ASTM D5185m 0 0 Aluminum ppm ASTM D5185m >10 C1 Lead ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >0 0 Vellow Metal scalar *Visual NONE NONE Silicon ppm ASTM D7647 >500 A 3254 <th>Filter Age</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>0</th> <th></th> <th></th>	Filter Age	hrs	Client Info		0		
Filter Changed Sample Status Client Info Not Changd ABNORMAL PQ ASTM D8184 9 PQ ASTM D8185 >20 0 Iron ppm ASTM D5185m >10 <1 Nickel ppm ASTM D5185m 10 0 Nickel ppm ASTM D5185m 0 Silver ppm ASTM D5185m 10 0 Aluminum ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >10 0 Visual NONE Vanadium ppm ASTM D5185m >20 0	Oil Changed		Client Info		Not Changd		
Sample Status ABNORMAL PQ ASTM D8184 9 Iron ppm ASTM D5185m >20 0 Nickel ppm ASTM D5185m >10 0 Nickel ppm ASTM D5185m 0 0 Aluminum ppm ASTM D5185m >10 0 Aluminum ppm ASTM D5185m >10 0 Aluminum ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >20 0 Vanadium ppm ASTM D5185m >20 0 Vellow Metal scalar *Visual NONE P			Client Info		v		
PQ ASTM D8184 9 Iron ppm ASTM D5185m<>20 0 Ochromium ppm ASTM D5185m >10 0 Nickel ppm ASTM D5185m 0 0 Silver ppm ASTM D5185m 0 Lead ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >20 0 Vanadium ppm ASTM D5185m >20 0 Vanadium ppm ASTM D5185m >20 0 Vellow Metal scalar<*Visual NONE NONE	0						
Iron ppm ASTM D5185m >20 0 Nickel ppm ASTM D5185m >10 0 Titanium ppm ASTM D5185m 0 Aluminum ppm ASTM D5185m 0 Aluminum ppm ASTM D5185m >10 0 Aluminum ppm ASTM D5185m >10 0 Lead ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >10 0 Yallow Metal scalar *Visual NONE NONE Yellow Metal scalar *Visual NONE NONE Yellow Metal scalar *Visual NONE Silicon ppm ASTM D7647 >100							
Chromium ppm ASTM D5185m >10 <1	PQ		ASTM D8184		9		
Nickel ppm ASTM D5185m >10 0 Titanium ppm ASTM D5185m 0 Silver ppm ASTM D5185m 10 0 Aluminum ppm ASTM D5185m >10 0 Lead ppm ASTM D5185m >75 0 Copper ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >20 4 Vellow Metal scalar "Visual NONE Silicon ppm ASTM D5185m >20 4 Particles >4µm ASTM D7647 >100 Particles >4µm ASTM D7647 >30 0	Iron	ppm	ASTM D5185m	>20	0		
Titanium ppm ASTM D5185m 0 Silver ppm ASTM D5185m >10 <1 Aluminum ppm ASTM D5185m >10 0 Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 20 4 Vanadium ppm ASTM D5185m >20 0 Silicon ppm ASTM D5185m >20 0 Paticles >4µm ASTM D7647 >5000 ▲ 2251 Particles >14µm ASTM D7647 >30	Chromium	ppm	ASTM D5185m	>10	<1		
Silver ppm ASTM D5185m 0 Aluminum ppm ASTM D5185m<>10 <1 Lead ppm ASTM D5185m<>10 0 Copper ppm ASTM D5185m<>75 0 Tin ppm ASTM D5185m 0 White Metal scalar *Visual NONE NONE Yellow Metal scalar *Visual NONE NONE Potassium ppm ASTM D5185m<>20 4 Patricles >4µm ASTM D7647 >5000 A39254 Patricles >4µm ASTM D7647 >100 Patricles >4µm ASTM D7647 >100 Patricles >21µm ASTM D7647 >10 0 Patricles >38µm ASTM D7647 10	Nickel	ppm	ASTM D5185m	>10	0		
Aluminum ppm ASTM D5185m >10 <1	Titanium	ppm	ASTM D5185m		0		
Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m<>75 0 Tin ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 0 White Metal scalar *Visual NONE NONE Yellow Metal scalar *Visual NONE NONE Silicon ppm ASTM D5185m<>20 4 Potassium ppm ASTM D5185m<>20 0 Particles >4µm ASTM D7647 >5000 ▲ 39254 Particles >4µm ASTM D7647 >100 Particles >4µm ASTM D7647 >100 Particles >21µm ASTM D7647 >10 0 Soli Clean	Silver	ppm	ASTM D5185m		0		
Copper ppm ASTM D5185m >75 0 Tin ppm ASTM D5185m 0 White Metal scalar *Visual NONE NONE White Metal scalar *Visual NONE NONE Yellow Metal scalar *Visual NONE NONE Solicon ppm ASTM D5185m<>20 4 Potassium ppm ASTM D5185m<>20 0 Water WC Method >0.1 NEG Particles >4µm ASTM D7647 >100 4251 Particles >21µm ASTM D7647 >40 19 Particles >21µm ASTM D7647 >10 0 Sold cleanliness ISO 4406 (c) >191714 Solt cleanliness scalar	Aluminum	ppm	ASTM D5185m	>10	<1		
Tin ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 White Metal scalar *Visual NONE NONE Yellow Metal scalar *Visual NONE NONE Silicon ppm ASTM D5185m >20 4 Potassium ppm ASTM D5185m >20 0 Paticles >4µm ASTM D7647 >5000 Particles >6µm ASTM D7647 >160 111 Particles >6µm ASTM D7647 >10 0 Particles >1µm ASTM D7647 >10 0 Particles >21µm ASTM D7647 >30 0 Particles >21µm ASTM D7647 >30 0 Particles >21µm <th>Lead</th> <th>ppm</th> <th>ASTM D5185m</th> <th>>10</th> <th>0</th> <th></th> <th></th>	Lead	ppm	ASTM D5185m	>10	0		
Vanadium ppm ASTM D5185m 0 White Metal scalar *Visual NONE NONE Yellow Metal scalar *Visual NONE Silicon ppm ASTM D5185m<>20 4 Potassium ppm ASTM D5185m<>20 0 Paticles >4µm ASTM D7647 >5000 A 39254 Particles >6µm ASTM D7647 >100 A 4251 Particles >6µm ASTM D7647 >10 0 Particles >38µm ASTM D7647 >30 Particles >38µm ASTM D7647 >30 Particles >38µm ASTM D7647 >30 Silt scalar *Visual NONE Debris<	Copper	ppm	ASTM D5185m	>75	0		
White Metal scalar *Visual NONE NONE Yellow Metal scalar *Visual NONE NONE Silicon ppm ASTM D5185m >20 0 Potassium ppm ASTM D5185m >20 0 Water WC Method >0.1 NEG Particles >4µm ASTM D7647 >1000 ▲ 2251 Particles >21µm ASTM D7647 >100 0 Particles >21µm ASTM D7647 >10 0 Particles >21µm ASTM D7647 >10 0 Particles >38µm ASTM D7647 >3 0 Silt scalar *Visual NONE NONE Sand/Dirt scalar *Visual NORL NORL	Tin	ppm	ASTM D5185m	>10	0		
Yellow Metal scalar *Visual NONE NONE Silicon ppm ASTM D5185m >20 0 Potassium ppm ASTM D5185m >20 0 Water WC Method >0.1 NEG Particles >4µm ASTM D7647 >5000 ▲ 39254 Particles >21µm ASTM D7647 >1300 ▲ 4251 Particles >21µm ASTM D7647 >40 19 Particles >21µm ASTM D7647 >10 0 Particles >21µm ASTM D7647 >3 0 Particles >21µm ASTM D7647 >3 0 Particles >21µm ASTM D7647 >3 0 Silt scalar *Visual NONE NONE Sod	Vanadium	ppm	ASTM D5185m		0		
Silicon ppm ASTM D5185m >20 4 Potassium ppm ASTM D5185m >20 0 Water WC Method >0.1 NEG Particles >4µm ASTM D7647 >5000 ▲ 39254 Particles >6µm ASTM D7647 >100 ▲ 4251 Particles >14µm ASTM D7647 >100 111 Particles >38µm ASTM D7647 >10 0 Particles >71µm ASTM D7647 >10 0 Particles >71µm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >1917/14 22/19/14 Sand/Dirt scalar *Visual NONE Sand/Dirt scalar *Visual NORML NORML <t< th=""><th>White Metal</th><th>scalar</th><th>*Visual</th><th>NONE</th><th>NONE</th><th></th><th></th></t<>	White Metal	scalar	*Visual	NONE	NONE		
Potassium ppm ASTM D5185m >20 0 Water WC Method >0.1 NEG Particles >4µm ASTM D7647 >5000 ▲ 39254 Particles >6µm ASTM D7647 >100 ▲ 4251 Particles >14µm ASTM D7647 >100 111 Particles >38µm ASTM D7647 >10 0 Particles >71µm ASTM D7647 >10 0 Particles >71µm ASTM D7647 >10 0 Particles >71µm ASTM D7647 >30 0 Silt scalar Yisual NONE NONE Sud/Dirt scalar Yisual NORM NORML Appearance scalar Yisual NORM NORM	Yellow Metal	scalar	*Visual	NONE	NONE		
Potassium ppm ASTM D5185m >20 0 Water WC Method >0.1 NEG Particles >4µm ASTM D7647 >5000 ▲ 39254 Particles >6µm ASTM D7647 >100 ▲ 4251 Particles >14µm ASTM D7647 >100 111 Particles >38µm ASTM D7647 >10 0 Particles >71µm ASTM D7647 >10 0 Particles >71µm ASTM D7647 >10 0 Particles >71µm ASTM D7647 >30 0 Silt scalar Yisual NONE NONE Sud/Dirt scalar Yisual NORM NORML Appearance scalar Yisual NORM NORM							
Water WC Method >0.1 NEG Particles >4µm ASTM D7647 >5000 ▲ 39254 Particles >6µm ASTM D7647 >1300 ▲ 4251 Particles >14µm ASTM D7647 >160 111 Particles >21µm ASTM D7647 >40 19 Particles >21µm ASTM D7647 >40 19 Particles >38µm ASTM D7647 >10 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >1917/14 Silt scalar *Visual NONE Sand/Dirt scalar *Visual NORM NORML Appearance scalar *Visual NORM NORML Sodium ppm ASTM D5185m 0 Boron ppm	Silicon	ppm	ASTM D5185m	>20	4		
Particles >4µm ASTM D7647 >5000 ▲ 39254 Particles >6µm ASTM D7647 >1300 ▲ 4251 Particles >6µm ASTM D7647 >160 111 Particles >14µm ASTM D7647 >40 19 Particles >21µm ASTM D7647 >40 19 Particles >38µm ASTM D7647 >3 0 Particles >71µm ASTM D7647 >3 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >1917/14 ▲ 22/19/14 Silt scalar *Visual NONE NONE Sand/Dirt scalar *Visual NORM NORML Appearance scalar *Visual NORM NORML Odor scalar *Visual NORM NORM <th>Potassium</th> <th>ppm</th> <th>ASTM D5185m</th> <th>>20</th> <th>0</th> <th></th> <th></th>	Potassium	ppm	ASTM D5185m	>20	0		
Particles >6μm ASTM D7647 >1300 ▲ 4251 Particles >14μm ASTM D7647 >160 111 Particles >21μm ASTM D7647 >40 19 Particles >38µm ASTM D7647 >10 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >191714 22/19/14 Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NORM NORML Appearance scalar *Visual NORML NORML Odor scalar *Visual NORML NORML Boron ppm ASTM D5185m 0	Water		WC Method	>0.1	NEG		
Particles >14µm ASTM D7647 >160 111 Particles >21µm ASTM D7647 >40 19 Particles >38µm ASTM D7647 >10 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >19/17/14 ▲ 22/19/14 Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NORE NONE Appearance scalar *Visual NORML NORML Odor scalar *Visual NORML NORML Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0	Particles >4µm		ASTM D7647	>5000	A 39254		
Particles >21µm ASTM D7647 >40 19 Particles >38µm ASTM D7647 >10 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >19/17/14 22/19/14 Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Appearance scalar *Visual NORML NORML Odor scalar *Visual NORML NORML Sodium ppm ASTM D5185m 0 Boron ppm ASTM D5185m 0 Magnese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m	Particles >6µm		ASTM D7647	>1300	🔺 4251		
Particles >38µm ASTM D7647 >10 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >19/17/14 ▲ 22/19/14 Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Appearance scalar *Visual NORML NORML Odor scalar *Visual NORML NORML Molybdenum ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 100	Particles >14µm		ASTM D7647	>160	111		
Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >19/17/14 22/19/14 Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Appearance scalar *Visual NORL NORML Odor scalar *Visual NORL NORML Godor scalar *Visual NORL NORML Molybelenum ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybelenum ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 100	Particles >21µm		ASTM D7647	>40	19		
Oil Cleanliness ISO 4406 (c) >19/17/14 22/19/14 Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Appearance scalar *Visual NORM NORML NORML Odor scalar *Visual NORM NORML Odor scalar *Visual NORM NORML Emulsified Water scalar *Visual >0.1 NEG Sodium ppm ASTM D5185m 0 Boron ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Magnesi	Particles >38µm		ASTM D7647	>10	0		
Siltscalar*VisualNONENONEDebrisscalar*VisualNONENONESand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLCdorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGSodiumppmASTM D5185m0BoronppmASTM D5185m0BariumppmASTM D5185m0MalganeseppmASTM D5185m0MagnesiumppmASTM D5185m100PhosphorusppmASTM D5185m3182ZincppmASTM D5185m1187SulfurppmASTM D5185m3129Acid Number (AN)mg KOHgASTM D50451.65	Particles >71µm		ASTM D7647	>3	0		
Debrisscalar*VisualNONENONESand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGSodiumppmASTM D5185m0BoronppmASTM D5185m0BariumppmASTM D5185m0MolybdenumppmASTM D5185m0MagnesiumppmASTM D5185m0MagnesiumppmASTM D5185m100PhosphorusppmASTM D5185m3182ZincppmASTM D5185m1187SulfurppmASTM D5185m3129Acid Number (AN)mg KOHgASTM D80451.65	Oil Cleanliness		ISO 4406 (c)	>19/17/14	🔺 22/19/14		
Sand/Dirt scalar *Visual NONE Appearance scalar *Visual NORML NORML Odor scalar *Visual NORML NORML Odor scalar *Visual NORML NORML Emulsified Water scalar *Visual >0.1 NEG Sodium ppm ASTM D5185m 0 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 100 Phosphorus ppm ASTM D5185m <th>Silt</th> <th>scalar</th> <th>*Visual</th> <th>NONE</th> <th>NONE</th> <th></th> <th></th>	Silt	scalar	*Visual	NONE	NONE		
Appearance scalar *Visual NORML NORML Odor scalar *Visual NORML NORML Emulsified Water scalar *Visual >0.1 NEG Sodium ppm ASTM D5185m 0 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 100 Calcium ppm ASTM D5185m 3182 Phosphorus ppm ASTM D5185m 913 Zinc ppm ASTM D5185m 3129 Sulfur ppm ASTM D	Debris	scalar	*Visual	NONE	NONE		
Odor scalar *Visual NORML NORML Emulsified Water scalar *Visual >0.1 NEG Sodium ppm ASTM D5185m 0 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m <1 Phosphorus ppm ASTM D5185m 3182 Zinc ppm ASTM D5185m 913 Sulfur ppm ASTM D5185m 3129 Acid Number (AN) mg KOHg ASTM D8045 1.65	Sand/Dirt	scalar	*Visual	NONE	NONE		
Emulsified Water scalar *Visual >0.1 NEG Sodium ppm ASTM D5185m 0 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m <1 Calcium ppm ASTM D5185m 3182 Phosphorus ppm ASTM D5185m 913 Zinc ppm ASTM D5185m 1187 Sulfur ppm ASTM D5185m 3129 Acid Number (AN) mg KOHg ASTM D8045 1.65	Appearance	scalar	*Visual	NORML	NORML		
Sodium ppm ASTM D5185m 0 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 100 Magnesium ppm ASTM D5185m 100 Calcium ppm ASTM D5185m 3182 Phosphorus ppm ASTM D5185m 913 Zinc ppm ASTM D5185m 1187 Sulfur ppm ASTM D5185m 3129 Acid Number (AN) mg KOHg ASTM D8045 1.65	Odor	scalar	*Visual	NORML	NORML		
Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Magnese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 100 Calcium ppm ASTM D5185m 3182 Phosphorus ppm ASTM D5185m 913 Zinc ppm ASTM D5185m 1187 Sulfur ppm ASTM D5185m 3129 Acid Number (AN) mg KOH/g ASTM D8045 1.65	Emulsified Water	scalar	*Visual	>0.1	NEG		
Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Magnese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 100 Calcium ppm ASTM D5185m 3182 Phosphorus ppm ASTM D5185m 913 Zinc ppm ASTM D5185m 1187 Sulfur ppm ASTM D5185m 3129 Acid Number (AN) mg KOH/g ASTM D8045 1.65					•		
Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 100 Calcium ppm ASTM D5185m 3182 Phosphorus ppm ASTM D5185m 913 Zinc ppm ASTM D5185m 1187 Sulfur ppm ASTM D5185m 3129 Acid Number (AN) mg KOH/g ASTM D8045 1.65							
Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m <10 Magnesium ppm ASTM D5185m 100 Calcium ppm ASTM D5185m 3182 Phosphorus ppm ASTM D5185m 913 Zinc ppm ASTM D5185m 1187 Sulfur ppm ASTM D5185m 3129 Acid Number (AN) mg KOH/g ASTM D8045 1.65							
Manganese ppm ASTM D5185m <1							
Magnesium ppm ASTM D5185m 100 Calcium ppm ASTM D5185m 3182 Phosphorus ppm ASTM D5185m 913 Zinc ppm ASTM D5185m 1187 Sulfur ppm ASTM D5185m 3129 Acid Number (AN) mg KOH/g ASTM D8045 1.65	•						
Calcium ppm ASTM D5185m 3182 Phosphorus ppm ASTM D5185m 913 Zinc ppm ASTM D5185m 1187 Sulfur ppm ASTM D5185m 3129 Acid Number (AN) mg KOHg ASTM D8045 1.65	-						
Phosphorus ppm ASTM D5185m 913 Zinc ppm ASTM D5185m 1187 Sulfur ppm ASTM D5185m 3129 Acid Number (AN) mg KOHg ASTM D8045 1.65	•						
Zinc ppm ASTM D5185m 1187 Sulfur ppm ASTM D5185m 3129 Acid Number (AN) mg KOH/g ASTM D8045 1.65							
Sulfur ppm ASTM D5185m 3129 Acid Number (AN) mg KOH/g ASTM D8045 1.65							
Acid Number (AN) mg KOH/g ASTM D8045 1.65							
Visc @ 40°C cSt ASTM D445 58.6	. ,						
	Visc @ 40°C	cSt	ASTM D445		58.6		



