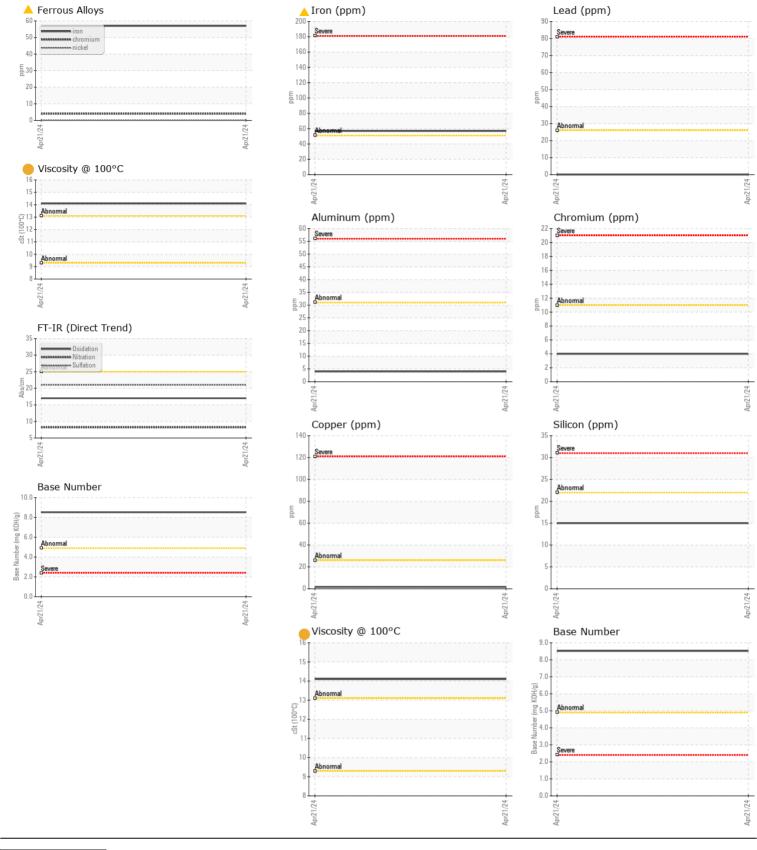
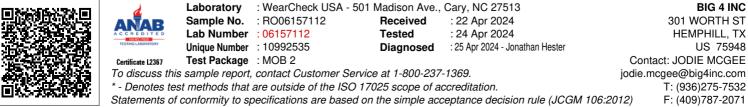


Machine Id JOHN DEERE 850JR DOZER 616 (S/N T0850JR178352) Component Diesel Engine Eluid

JOHN DEERE ENGINE OIL PLUS 50 II 10W30 (7 GAL)

Sample Number Client Into Source Client Into Standpio Data at the next service interval to monitor. Sample Data Client Into 1223 Machine Age hrs Client Into 1223 Oil Age hrs Client Into 0 Oil Age hrs Client Into 0				·····/		~~~~		
Sample Number Client Into Source Client Into Standpio Data at the next service interval to monitor. Sample Data Client Into 1223 Machine Age hrs Client Into 1223 Oil Age hrs Client Into 0 Oil Age hrs Client Into 0	RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
at the next service interval to monitor. Single bala day Chin into 0 12 p2 abs	Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.	Sample Number		Client Info		RO06157112		
Machine Age Ints Clinal Into 1323 Image Image Oil Age hrs Clinal Into 0 Image		Sample Date		Client Info		21 Apr 2024		
Filter Age Inc Client Info Changed Client Info Changed		Machine Age	hrs	Client Info		1323		
Oil Changed Filter Changed Sample Status Client Info (Shanged Sample Status Changed (Shanged Sample Status) Sample Status (Shanged Sample Status) <th>Oil Age</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>0</th> <th></th> <th></th>		Oil Age	hrs	Client Info		0		
Filter Changed Sample Status Client Into Monage (Notage)		Filter Age	hrs	Client Info		0		
Sample Status ABNORM and control of the status Near Iron ppm ASIN (0516) >51 ▲57 4.0 Name ppm ASIN (0516) >51 4.0 Nackel ppm ASIN (0516) >1 4.0 Nackel ppm ASIN (0516) >1 4.0 Silve of the status ppm ASIN (0516) >1 4.0 Aluminum ppm ASIN (0516) >20 0 Vanadium ppm ASIN (0516) >20 0 Vanadium ppm ASIN (0516) >20 10 Vanadium ppm ASIN (0516) >20 15 Vanadium ppm ASIN (0516) >20 15 The sin indication of any contamination in the oil. Sin (0		Oil Changed		Client Info		Changed		
NEAR Iron pp ASIN 0585m >51 A 57 The iron level is abnormal. All other component wear rates are normal. Pp ASIN 0585m >1 4 Silver ppm ASIN 0585m >3 0 Silver ppm ASIN 0585m >3 0 Auminum ppm ASIN 0585m >3 0 Auminum ppm ASIN 0585m >26 0 Auminum ppm ASIN 0585m >26 0 Tin ppm ASIN 0585m >26 0 Tin ppm ASIN 0585m >26 0 Tin ppm ASIN 0585m >26 1 Tin ppm ASIN 0585m >22 15		Filter Changed		Client Info		Changed		
Chromium ppm ASTM (58)sm >11 4 Nickel ppm ASTM (58)sm >1 1 Titanium ppm ASTM (58)sm >3 0 Silver ppm ASTM (58)sm >31 4 Silver ppm ASTM (58)sm >26 0 Copper ppm ASTM (58)sm >26 0 Tim ppm ASTM (58)sm >26 0 Vanadium ppm ASTM (58)sm >4 1 Vanadium ppm ASTM (58)sm >2 15 Three is no indication of any contamination in the oil. Silicon ppm ASTM (58)sm >20 7 Silicon ppm ASTM (57)sm >20 1.0 Sol % %		Sample Status				ABNORMAL		
Chromium ppm ASTM (58)sm >11 4 Nickel ppm ASTM (58)sm >1 1 Titanium ppm ASTM (58)sm >3 0 Silver ppm ASTM (58)sm >31 4 Silver ppm ASTM (58)sm >26 0 Copper ppm ASTM (58)sm >26 0 Tim ppm ASTM (58)sm >26 0 Vanadium ppm ASTM (58)sm >4 1 Vanadium ppm ASTM (58)sm >2 15 Three is no indication of any contamination in the oil. Silicon ppm ASTM (58)sm >20 7 Silicon ppm ASTM (57)sm >20 1.0 Sol % %								
The iron level is abnormal. All other component wear rates are normal. Nickel ppm ASTM 05185m >5 <1	WEAR							
Nicker ppm ASTM 1058 cl cl<	The iron level is abnormal. All other component wear rates are normal.							
Silver pp ASTM D5185n -3 0 Aluminum pp ASTM D5185n -31 4 Aluminum pp ASTM D5185n -31 4 Copper pp ASTM D5185n -26 2 Copper pp ASTM D5185n -26 2 Vanadium pp ASTM D5185n -26 2 Vanadium pp ASTM D5185n -26 2 Vanadium pp ASTM D5185n -22 15 CONTAMINATION Silicon pp ASTM D5185n -22 15 There is no indication of any contamination in the oil. Silicon pp ASTM D5185n -22 15 Gilycol WCM Method -21 <-1.0			ppm		>5			
Aluminum ppm ASTM D5185n >31 4 Lead ppm ASTM D5185n >26 0 Lead ppm ASTM D5185n >26 0 Tin ppm ASTM D5185n >4 1 Vanadium ppm ASTM D5185n >4 1 Vanadium ppm ASTM D5185n >4 1 Vanadium ppm ASTM D5185n >22 15 CONTAMINATION Silicon ppm ASTM D5185n >22 15 There is no indication of any contamination in the oil. Silicon ppm ASTM D5185n >22 15 Water WCM Method >2.01 <1.0 Water WCM Method >3.0.4 Siti scalar Visual NONE NONE Siti scalar V			ppm	ASTM D5185m				
Lead ppm ASTM D5185m >26 0 Copper ppm ASTM D5185m >26 2 Tin ppm ASTM D5185m >4 0 Vanadium ppm ASTM D5185m V 0 Vanadium ppm ASTM D5185m V NONE NONE NONE Vanadium ppm ASTM D5185m >22 15		Silver	ppm			0		
Copper ppm ASIM D8186m >26 2 Tin ppm ASIM D8186m 0		Aluminum	ppm	ASTM D5185m	>31			
Tin ppm ASIM DS185m >4 1 Vanaduum ppm ASIM DS185m 0 White Metal scalar 'Visual NONE NONE Value Metal scalar 'Visual NONE NONE CONTAMINATION Stilicon ppm ASIM DS185m -20 7 Potassium ppm ASIM DS185m -20 7 Water WC Method -0.21 NEG Water WC Method -0.21 NEG Water WC Method -0.21 NEG Solt %0 % Matr MCMethod NOR NOR Solt %0 % Matr Solt %10764 -30 10.4		Lead	ppm	ASTM D5185m	>26	0		
Vanadium ppm ASTM D5185m 0 White Metal scalar Visual NONE NONE Value Metal scalar Visual NONE NONE CONTAMINATION Silicon ppm ASTM D5185m<>-22 15 There is no indication of any contamination in the oil. Potassim ppm ASTM D5185m<>-22 15 Water WC Method >-2.1 <1.0 Glycol WC Method >-2.1 <1.0 Soci % % % YSTM D7644<>-30 0.4 Sulfation ASTM D71645<>-20 8.2 Sulfation ASTM D71645<>-20 8.2 Sulfation ASTM D71645<>-20 8.2 Sand/D101		Copper	ppm	ASTM D5185m	>26	2		
White Metal Yellow Metal scalar *Visual NONE Yellow Metal scalar *Visual NONE NONE CONTAMINATION ppm ASTM D5185m >22 15 There is no indication of any contamination in the oil. ppm ASTM D5185m >20 7 Water WC Method >0.21 NEG Glycol WC Method >0.21 NEG Solo % % STM D784 >20 8.2 Sulfation Abs/tm *ASTM D744 >20 8.2 Sulfation Abs/tm *ASTM D744 >20 8.2 Sulfation Abs/tm *ASTM D744 >20 8.2 Sulfation Abs/tm *Visual NONE NORE		Tin	ppm	ASTM D5185m	>4	1		
Yellow Metal scalar "Visual NONE CONTAMINATION ppm ASTM D5185m >22 15 There is no indication of any contamination in the oil. Potassium ppm ASTM D5185m >20 7 Water WC Method >2.1 <1.0 Glycol WC Method >2.1 <1.0 Glycol WC Method >2.1 NEG Soft % % YASTM D784 >3 0.4 Suffation Abs/cm YASTM D784 >3 0.4 Suffation Abs/cm YaSTM D784 >3 0.4 Suffation Abs/cm YaStM D7415 >30 21.0 Sand/Dirt scalar Yusual NONE NONE <td< th=""><th></th><th>Vanadium</th><th>ppm</th><th>ASTM D5185m</th><th></th><th>0</th><th></th><th></th></td<>		Vanadium	ppm	ASTM D5185m		0		
Silicon ppm ASTM D5185m >22 15 There is no indication of any contamination in the oil. Potassium ppm ASTM D5185m >20 7 Fuel WC Method >2.1 <1.0 Water WC Method >0.21 NEG Glycol WC Method >0.21 NEG Sol 7% % 'ASTM D784 >3 0.4 Sulfation Abs/rm< 'ASTM D784 >3 0.4 Sulfation Abs/rm< 'ASTM D784 >3 0.4 Sulfation Abs/rm< 'ASTM D784 >30 0.4 Debris scalar 'Visual NONE NONE Appearance scalar 'Visual NORML NORML		White Metal	scalar	*Visual	NONE	NONE		
Potassium ppm ASTM D6185m >20 7 Fuel WC Method >2.1 <1.0 Water WC Method >2.21 NEG Glycol WC Method >2.21 NEG Solt % % YSTM D7144 >3 0.4 Nitration Abs/:mm YSTM D7144 >3 0.4 Sulfation Abs/:mm YSTM D7144 >3 0.4 Sulfation Abs/:mm YSTM D7145 >30 21.0 Sulfation Abs/:mm YIsual NONE NONE Sand/D71t scalar YIsual NORM NORM Abgrearance scalar YIsual NORM NORM Fuel viscosity is higher than normal. The BN result indicates that		Yellow Metal	scalar	*Visual	NONE	NONE		
Potassium ppm ASTM D6185m >20 7 Fuel WC Method >2.1 <1.0 Water WC Method >2.21 NEG Glycol WC Method >2.21 NEG Solt % % YSTM D7144 >3 0.4 Nitration Abs/:mm YSTM D7144 >3 0.4 Sulfation Abs/:mm YSTM D7144 >3 0.4 Sulfation Abs/:mm YSTM D7145 >30 21.0 Sulfation Abs/:mm YIsual NONE NONE Sand/D71t scalar YIsual NORM NORM Abgrearance scalar YIsual NORM NORM Fuel viscosity is higher than normal. The BN result indicates that								
There is no indication of any contamination in the oil. Fuel WC Method >2.1 <1.0 Water I WC Method >0.21 NEG Glycol WC Method >0.21 NEG Soft % %S Mot Method >0.21 NEG Soft % %S Mot Method >0.21 NEG Soft % %St MD 7624 >20 8.2 Nitration Abs/tm *ASTM D7644 >30 21.0 Sulfation Abs/tm *ASTM D7644 >30 21.0 Sulfation Abs/tm *ASTM D7644 >30 21.0 Sulfation Abs/tm *ASTM D744 S30 21.0 Sulfation Abs/tm *ASTM D744 S30 21.0 Sulfation Scalar *Visual NORM NORM Sulfation scalar *Visual NORM NORM	CONTAMINATION		ppm					
Vulter Wolkellood Sol:1 Picer Picer Water Wolkellood Sol:1 NEG Water Wolkellood Sol:1 NEG Glycol WC Method Sol:1 NEG Soot % % *ASTM D764 Sol 0.4 Nitration Abs/cm *ASTM D764 Sol 21.0 Sulfation Abs/cm *ASTM D764 Sol 21.0 Debris scalar *Visual NONE NONE Appearance scalar *Visual NORML NORML Enulstified Water scalar *Visual NORML NORML	There is no indication of any contamination in the oil.		ppm			7		
Giycol WC Method NEG Soot % % 'ASTM D7844 >3 0.4 Nitration Abs/cm 'ASTM D7842 >20 8.2 Sulfation Abs/tm 'ASTM D7815 >30 21.0 Sulfation Abs/tm 'Nisual NONE NONE Sard/Dirt scalar 'Visual NONE NONE Octor scalar 'Visual NORM NORME Octor scalar 'Visual NORM NORME Octor scalar 'Visual NORM NORME The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type. Sodium ppm ASTM D5185n 12 Molybdenum ppm ASTM D5185n 18		Fuel						
Soot % % *ASTM D7844 >3 0.4 Nitration Abs/cm *ASTM D7624 >20 8.2 Sulfation Abs/lm *Visual NONE NONE Debris scalar *Visual NONE NONE Appearance scalar *Visual NORML NORML Cdor scalar *Visual NORML NORML Emulsified Water scalar *Visual NORML NORML B		Water		WC Method	>0.21	NEG		
Nitration Abs/cm *ASTM D7624 >20 8.2 Sulfation Abs/tm *ASTM D7415 >30 21.0 Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Appearance scalar *Visual NORL NORM Appearance scalar *Visual NORL NORM Cdor scalar *Visual NORL NORM Cdor scalar *Visual NORM Cdor scalar *Visual NORM The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type. Sodium pm ASTM D5185m 2 Manganese ppm ASTM D5185m 4		Glycol		WC Method		NEG		
Sulfation Abs/.tmm 'ASTM D7415 >30 21.0 Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Sand/Dirt scalar *Visual NORM NORM Appearance scalar *Visual NORM NORM Odor scalar *Visual NORM NORM Doto scalar *Visual NORM NORM		Soot %	%	*ASTM D7844	>3	0.4		
Siltscalar*VisualNONENONEDebrisscalar*VisualNONENONEIISand/Dirtscalar*VisualNONENONEIIAppearancescalar*VisualNORMNORMIIAppearancescalar*VisualNORMNORMIICdorscalar*VisualNORMNORMIICdorscalar*VisualNORMNORMIICdorscalar*VisualNORMNORMIIEmulsified Waterscalar*VisualNORMNORMIISodiumppmASTM D5185m>312IIBoronppmASTM D5185mI18IIIBariumppmASTM D5185mI18IIIMaganeseppmASTM D5185mI18IIIMagnesiumppmASTM D5185mI112IIIPhosphorusppmASTM D5185mI112IIISulfurppASTM D5185mI112IIISulfurppASTM D5185mI112IIISulfurppASTM D5185mI112IIISulfurppASTM D5185mI112III			Abs/cm	*ASTM D7624	>20	8.2		
Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Appearance scalar *Visual NORM NORML NORML Odor scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML FLUID CONDITION Sodium ppm ASTM D5185m 2 Boron ppm ASTM D5185m 2 Molybdenum ppm ASTM D5185m 2 Maganesum ppm ASTM D5185m 4		Sulfation	Abs/.1mm	*ASTM D7415	>30	21.0		
Sand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.21NEGSodiumppmASTM D5185m>312BoronppmASTM D5185m<126BariumppmASTM D5185m<2MolybdenumppmASTM D5185m<18ManganeseppmASTM D5185m<<4MangenesiumppmASTM D5185m<68CalciumppmASTM D5185m<68SulfurppmASTM D5185m<3459SulfurppmASTM D5185m<1112SulfurppmASTM D5185m<3459SulfurppmASTM D5185m<3459SulfurppmASTM D5185m<3459SulfurppmASTM D5185m<3459SulfurppmASTM D5185m<3459SulfurppmASTM D5185m<8.52Base Number		Silt	scalar	*Visual	NONE	NONE		
Appearance scalar *Visual NORML NORML Odor scalar *Visual NORML NORML Emulsified Water scalar *Visual >0.21 NEG FLUID CONDITION Sodium ppm ASTM D5185m >31 2 Boron ppm ASTM D5185m >31 2 Barium ppm ASTM D5185m -2 Molybdenum ppm ASTM D5185m 18 Magnesium ppm ASTM D5185m 68 Magnesium ppm ASTM D5185m 18 Calcium ppm ASTM D5185m 112 Phosphorus ppm ASTM D5185m 1112 Sulfur ppm ASTM D5185m 1112 Sulfur ppm ASTM D5185m 17.0		Debris	scalar		NONE	NONE		
Odorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.21NEGFLUID CONDITIONSodiumppmASTM D5185m>312BoronppmASTM D5185m<126BariumppmASTM D5185m2MolybdenumppmASTM D5185m18ManganeseppmASTM D5185m68MagnesiumppmASTM D5185m68MagnesiumppmASTM D5185m68CalciumppmASTM D5185m1112MagnesiumppmASTM D5185m1112CalciumppmASTM D5185m3459SulfurppmASTM D5185m3459SulfurppmASTM D5185m3459SulfurppmASTM D5185m3459SulfurppmASTM D5185m3459SulfurppmASTM D5185m3459SulfurppmASTM D5185m3459Sase Number (BN)ms KMD (RH)ASTM D5185m8.52		Sand/Dirt	scalar	*Visual	NONE	NONE		
Emulsified Water scalar *Visual >0.21 NEG FLUID CONDITION Sodium ppm ASTM D5185m >31 2 Boron ppm ASTM D5185m >31 126 Barium ppm ASTM D5185m 2 Molybdenum ppm ASTM D5185m 188 Manganese ppm ASTM D5185m 188 Magnesium ppm ASTM D5185m 688 Calcium ppm ASTM D5185m 688 Phosphorus ppm ASTM D5185m 688 Zinc ppm ASTM D5185m 9000 Sulfur ppm ASTM D5185m 1112 Sulfur ppm ASTM D5185m 3459		Appearance	scalar	*Visual	NORML	NORML		
Sodium ppm ASTM D5185m >31 2 Boron ppm ASTM D5185m >31 26 Barium ppm ASTM D5185m 2 Molybdenum ppm ASTM D5185m 2 Manganese ppm ASTM D5185m 188 Magnesium ppm ASTM D5185m 68 Calcium ppm ASTM D5185m 68 Magnesium ppm ASTM D5185m 900 Calcium ppm ASTM D5185m 900 Vinct ppm ASTM D5185m 1112 Calcium ppm ASTM D5185m 1112 Sulfur ppm ASTM D5185m 3459 Oxidation Abs/.tmm 'ASTM D5185m 3459 Base Number (BN) mg KOHg ASTM D2896		Odor	scalar	*Visual	NORML	NORML		
Boron ppm ASTM D5185m 126 Barium ppm ASTM D5185m 2 Molybdenum ppm ASTM D5185m 2 Manganese ppm ASTM D5185m 18 Magnesium ppm ASTM D5185m 68 Magnesium ppm ASTM D5185m 68 Calcium ppm ASTM D5185m 68 Phosphorus ppm ASTM D5185m 9900 Zinc ppm ASTM D5185m 1112 Sulfur ppm ASTM D5185m 3459 Oxidation Abs/.1mm *ASTM D5185m 3459 Base Number (BN) mg KOHg ASTM D2896 8.52		Emulsified Water	scalar	*Visual	>0.21	NEG		
Boron ppm ASTM D5185m 126 Barium ppm ASTM D5185m 2 Molybdenum ppm ASTM D5185m 2 Manganese ppm ASTM D5185m 18 Magnesium ppm ASTM D5185m 68 Magnesium ppm ASTM D5185m 68 Calcium ppm ASTM D5185m 68 Phosphorus ppm ASTM D5185m 9900 Zinc ppm ASTM D5185m 1112 Sulfur ppm ASTM D5185m 3459 Oxidation Abs/.1mm *ASTM D5185m 3459 Base Number (BN) mg KOHg ASTM D2896 8.52								
The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type. Barium ppm ASTM D5185m 2 Molybdenum ppm ASTM D5185m 18 Manganese ppm ASTM D5185m <11 Magnesium ppm ASTM D5185m 68 Calcium ppm ASTM D5185m 68 Phosphorus ppm ASTM D5185m 900 Zinc ppm ASTM D5185m 1112 Sulfur ppm ASTM D5185m 3459 Oxidation Abs/.1mm *ASTM D7141 >25 17.0 Base Number (BN) mg KOHg ASTM D2896 8.52	FLUID CONDITION				>31			
barrini ppm Norm boroni 2 and and Molybdenum ppm ASTM D5185m 18 Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 68 Magnesium ppm ASTM D5185m 68 Calcium ppm ASTM D5185m 9900 Phosphorus ppm ASTM D5185m 9900 Zinc ppm ASTM D5185m 1112 Sulfur ppm ASTM D5185m 3459 Oxidation Abs/.1mm<*ASTM D7141 >25 17.0 Base Number (BN) mg KOHg ASTM D2896 8.52	The oil viscosity is higher than normal. The BN result indicates that							
Molybdenum ppm ASTM D5185m 18 Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 68 Calcium ppm ASTM D5185m 68 Phosphorus ppm ASTM D5185m 9900 Zinc ppm ASTM D5185m 1112 Sulfur ppm ASTM D5185m 3459 Oxidation Abs/.1mm *ASTM D7414<>25 17.0 Base Number (BN) mg KOHy ASTM D2896 8.52	there is suitable alkalinity remaining in the oil. Confirm oil type.							
Magnesium ppm ASTM D5185m 68 Calcium ppm ASTM D5185m 2138 Phosphorus ppm ASTM D5185m 900 Zinc ppm ASTM D5185m 1112 Sulfur ppm ASTM D5185m 3459 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 Base Number (BN) mg KOH/g ASTM D2896 8.52		,						
Calcium ppm ASTM D5185m 2138 Phosphorus ppm ASTM D5185m 900 Zinc ppm ASTM D5185m 1112 Sulfur ppm ASTM D5185m 3459 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 Base Number (BN) mg KOH/g ASTM D2896 8.52		-						
Phosphorus ppm ASTM D5185m 900 Zinc ppm ASTM D5185m 1112 Sulfur ppm ASTM D5185m 3459 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 Base Number (BN) mg KOH/g ASTM D2896 8.52		U U	ppm					
Zinc ppm ASTM D5185m 1112 Sulfur ppm ASTM D5185m 3459 Oxidation Abs/.tmm<*ASTM D7414			ppm					
Sulfur ppm ASTM D5185m 3459 Oxidation Abs/.tmm *ASTM D7414 >25 17.0 Base Number (BN) mg KOH/g ASTM D2896 8.52			ppm					
Oxidation Abs/.1mm *ASTM D7414 >25 17.0 Base Number (BN) mg KOH/g ASTM D2896 8.52			ppm			1112		
Base Number (BN) mg KOH/g ASTM D2896 8.52		Sulfur	ppm	ASTM D5185m		3459		
		Oxidation	Abs/.1mm	*ASTM D7414	>25	17.0		
Visc @ 100°C cSt ASTM D445 (- 14.1 /		Base Number (BN)	mg KOH/g	ASTM D2896		8.52		
-		Visc @ 100°C	cSt	ASTM D445		9 14.1		





Contact/Location: JODIE MCGEE - BIGHEM Page 2 of 2