

RTICHE EQUIPMENT, INC.
PAUL BARNETTE
P.O. BOX 1588
PRINCETON, WV 24740

FAX: 304-325-6525
 PHONE: 304-325-6525
SAMPLE TYPE: OIL
 SAMPLE SHIP TIME (days): 1

COMPANY NAME: RTICHE EQUIPMENT, INC.
 CUSTOMER EQUIP NUM: A327
 DEPARTMENT NAME: ENGINE
 SERIAL NUMBER: 74200618
 MANUFACTURER: CATERPILLAR
 MODEL: D11N
 JOB SITE:
 EXT WARR NUMBER:

SHOP JOB NUM: 4206767
 COMP SERIAL NUM:
 DEPARTMENT MODEL:
 COMP MANUFACTURER:
 SAMPLE LABEL NUM:
 FLUID BRAND/WEIGHT:
 FLUID TYPE:
 EXT WARR EXPIRE DATE:
 FUEL CONSUMED:

Carter
 Fluids Analysis Laboratory
 1330 Lynchburg Turnpike
 Salem, VA 24153-5457
 540-387-1111
 www.catermachinery.com



LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS	FILTER CHANGED
D100-50315-0151	09-Nov-2020	10-Nov-2020	3485 HR	391 HR	No			
No Action Required								
NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE SAMPLING AT THE NORMAL INTERVAL.								
B150-48100-0443	06-Mar-2018	10-Apr-2018	3357 HR		No			
No Action Required								
NORMAL WEAR METAL READINGS. CONTINUE NORMALLY SCHEDULED SAMPLING.								

Wear Metals (ppm)	Wear Metals (ppm)																		
	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	B	Mo	Ni	Ag	Ti	V	Ca	Mg	Zn	P
D100-50315-0151	2	18	0	5	1	1	7	3	0	218	74	0	0	0	0	1834	98	1081	950
B150-48100-0443	3	15	0	1	0	0	0	10	0	62	0	0	0	0	0	1058	259	918	796

Oil Condition / Particle Count (cells)	Oil Condition / Particle Count (cells)									
	ST	OXI	NIT	SUL	W	A	F	V100	POI	
D100-50315-0151	0	15	8	21	N	N	N	12.8	12	
B150-48100-0443	31	22	12	30	N	N	N	11.1		

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Li = Lithium, Mg = Magnesium, Mo = Molybdenum, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, S = Sulfur, V = Vanadium, Zn = Zinc, A = Antifreeze, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Excessive, NIT = Nitration, OXI = Oxidation, ST = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, POI = Particle Quantifying Index, NaW = Salt Water, FL Pt = Filter Point, TAN = Total Acid Number, TBN = Total Base Number, H2O = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C, PVI = Particle Volume Indicator

Notice: This analysis is intended as an aid in predicting mechanical wear. No guarantee, expressed or implied, is made against failure of this piece of equipment or a component thereof.

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PAUL BARNETTE
P.O. BOX 1588
PRINCETON, WV 24740

FAX: 304-325-6525
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SAMPLE TYPE: OIL
 SAMPLE SHIP TIME (day's): 1

COMPANY NAME : RTCHIE EQUIPMENT, INC.
 CUSTOMER EQUIP NUM : A327
 COMPARTMENT NAME : TRANSMISSION POWER SHIFT
 SERIAL NUMBER : 74200618
 MANUFACTURER : CATERPILLAR
 MODEL : D11N
 JOB SITE :
 EXT WARR NUMBER :

SHOP JOB NUM : 4206767
 COMP SERIAL NUM :
 COMPARTMENT MODEL :
 COMP MANUFACTURER :
 SAMPLE LABEL NUM :
 FLUID BRAND/WEIGHT :
 FLUID TYPE :
 EXT WARR EXPIRE DATE :
 FUEL CONSUMED :



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LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS	FILTER CHANGED
D100-50315-0121	09-Nov-2020	10-Nov-2020	3485 HR	3485 HR	No			
Monitor Compartment ISO PARTICLE COUNT READING EXCEEDS RECOMMENDED CLEANLINESS LEVEL. CHECK POSSIBLE SOURCE OF CONTAMINATION. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE IN 250 HOURS TO MONITOR.								
B150-48108-0514	15-Apr-2018	18-Apr-2018	3399 HR		No			
Monitor Compartment VISIBLE LARGE PARTICLES IN SAMPLE. NORMAL WEAR METAL READINGS. EXAMINE THE OIL, INSPECT ANY SCREEN(S) OIL FILTER(S) FOR LARGE DEBRIS. RESAMPLE IN 250 HOURS TO MONITOR.								

Wear Metals (ppm)	Wear Metals (ppm)																		
	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	B	Mo	Ni	Ag	Ti	V	Ca	Mg	Zn	P
D100-50315-0121	24	12	0	2	15	0	13	2	0	22	1	0	0	1	0	2565	32	1065	889
B150-48108-0514	28	16	0	2	42	0	6	5	0	0	1	0	0	0	0	2523	22	839	801

Oil Condition / Particle Count (ctn/l)	Oil Condition / Particle Count (ctn/l)																
	ST	OXI	NIT	SUL	W	A	V100	PQI	ISO	4µ	6µ	10µ	14µ	18µ	21µ	38µ	50µ
D100-50315-0121	0	7	6	16	N	N	11.3	4	2220/18	32147	5761	874	390	286	249	128	89
B150-48108-0514	0	9	8	22	N	N	8.4	VP									

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Li = Lithium, Mg = Magnesium, Mo = Molybdenum, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, S = Sulfur, V = Vanadium, Zn = Zinc, A = Antifreeze, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Excessive, NIT = Nitration, OXI = Oxidation, ST = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, PQI = Particle Quantifying Index, NAW = Salt Water, FL Pt = Flank Point, TAN = Total Acid Number, TBN = Total Base Number, H2O = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C, PVl = Particle Volume Indicator

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COMPANY NAME : RTICHE EQUIPMENT, INC.
 CUSTOMER EQUIP NUM : A3Z7
 COMPARTMENT NAME : HYDRAULIC SYSTEM
 SERIAL NUMBER : 74Z00618
 MANUFACTURER : CATERPILLAR
 MODEL : D11N
 JOB SITE :
 EXT WARR NUMBER :
 FUEL CONSUMED :

SHOP JOB NUM : 4206767
 COMP SERIAL NUM :
 COMPARTMENT MODEL :
 COMP MANUFACTURER :
 SAMPLE LABEL NUM :
 FLUID BRAND/WEIGHT :
 FLUID TYPE :
 EXT WARR EXPIRE DATE :
 FUEL CONSUMED :

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SAMPLE TYPE: OIL,
SAMPLE SHIP TIME (days): 1

LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS	FILTER CHANGED
D100-50315-0123	09-Nov-2020	10-Nov-2020	3485 HR	3485 HR	No			

Monitor Compartment
 ISO PARTICLE COUNT READING EXCEEDS RECOMMENDED CLEANLNESS LEVEL. CHECK POSSIBLE SOURCE OF CONTAMINATION. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE IN 250 HOURS TO MONITOR.

B150-48100-0815 06-Apr-2018 10-Apr-2018 3357 HR No

Monitor Compartment
 VISIBLE LARGE PARTICLES IN SAMPLE. ALUMINUM AND SILICON ARE ELEVATED INDICATING DIRT ENTRY MAY BE PRESENT. OTHER READINGS APPEAR TO BE NORMAL. EXAMINE THE OIL, INSPECT ANY SCREEN(S) OIL FILTER(S) FOR LARGE DEBRIS. CONSIDER CHANGING THE OIL BEFORE THE NEXT SCHEDULED OIL CHANGE TO RID THE SYSTEM OF CONTAMINANTS/DEBRIS. RESAMPLE IN 125 HOURS TO MONITOR.

Wear Metals (ppm)	Cu	Fe	Cr	Al	Pb	Sn	SI	Na	K	B	Mo	NI	Ag	TI	V	Ca	Mg	Zn	P
D100-50315-0123	8	6	0	3	0	0	7	1	0	9	1	0	0	0	0	2207	15	1107	924
B150-48100-0815	30	22	2	22	2	0	39	5	5	2	0	0	0	0	0	2132	30	958	858

Oil Condition / Particle Count (ct/ml)	ST	OXI	NIT	SUL	W	A	V100	PQI	ISO	4µ	6µ	10µ	14µ	18µ	21µ	30µ	50µ
D100-50315-0123	0	5	4	16	N	N	7.7	0	2220/13	20754	7428	1152	49	26	21	12	9
B150-48100-0815	0	6	6	20	N	N	6.4	VP									

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Li = Lithium, Mg = Magnesium, Mo = Molybdenum, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, S = Sulfur, V = Vanadium, Zn = Zinc, A = Antifreeze, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Excessive, NIT = Nitration, OXI = Oxidation, ST = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, PQI = Particle Quantifying Index, NAW = Sulf Water, FL P = Flash Point, TAN = Total Acid Number, TBN = Total Base Number, H2O = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C, PVI = Particle Volume Indicator

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COMPANY NAME : RTICHE EQUIPMENT, INC.
 CUSTOMER EQUIP NUM : A327
 COMPARTMENT NAME : FINAL DRIVE REAR RIGHT
 SERIAL NUMBER : 74200618
 MANUFACTURER : CATERPILLAR
 MODEL : D11N
 JOB SITE :
 EXT WARR NUMBER :
 SAMPLE SHIP TIME (days) : 1

SHOP JOB NUM : 4206767
 COMP SERIAL NUM :
 COMPARTMENT MODEL :
 COMP MANUFACTURER :
 SAMPLE LABEL NUM :
 FLUID BRAND/WEIGHT :
 FLUID TYPE :
 EXT WARR EXPIRE DATE :
 FUEL CONSUMED :



LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS	FILTER CHANGED
D100-50315-0180	09-Nov-2020	10-Nov-2020	3485 HR	3485 HR	No			
NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE SAMPLING AT THE NORMAL INTERVAL.								
No Action Required								
B150-48100-1519	06-Apr-2018	10-Apr-2018	3357 HR		No			
NORMAL WEAR METAL READINGS. CONTINUE NORMALLY SCHEDULED SAMPLING.								
No Action Required								

Wear Metals (ppm)	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	B	Mn	Ni	Ag	Ti	V	Ca	Mg	Zn	P
D100-50315-0180	0	9	0	2	1	0	14	2	0	45	4	0	0	0	0	2372	33	974	793
B150-48100-1519	0	18	0	1	0	0	7	3	0	7	7	0				2550	42	944	800

Oil Condition / Particle Count (ct/ml)	ST	OXI	NIT	SUL	W	V100	PCI	ISO	4µ	6µ	10µ	14µ	21µ	38µ
D100-50315-0180	0	8	6	17	N	18.4	2	NORMAL						
B150-48100-1519					N	18.4		2322/17	42539	21357	1083	177	22	1

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Li = Lithium, Mg = Magnesium, Mn = Molybdenum, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, S = Sulfur, V = Vanadium, Zn = Zinc, A = Antifreeze, F = Fuel, W = Water, P = Positive, N = Negative, OXI = Oxidation, ST = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, PCI = Particle Counting Index, NAW = Salt Water, FL Pt = Flash Point, TAN = Total Acid Number, TBN = Total Base Number, H2O = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C, PVI = Particle Volume Indicator

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SAMPLE TYPE: OIL
 SAMPLE SHIP TIME (days): 1

COMPANY NAME: RTCHIE EQUIPMENT, INC.
 CUSTOMER EQUIP NUM: A3Z7
 COMPARTMENT NAME: FINAL DRIVE REAR LEFT
 SERIAL NUMBER: 74200618
 MANUFACTURER: CATERPILLAR
 MODEL: D11N
 JOB SITE:
 EXT WARR NUMBER:

SHOP JOB NUM: 4206767
 COMP SERIAL NUM:
 COMPARTMENT MODEL:
 COMP MANUFACTURER:
 SAMPLE LABEL NUM:
 FLUID BRAND/WEIGHT:
 FLUID TYPE:
 EXT WARR EXPIRE DATE:
 FUEL CONSUMED:



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LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS	FILTER CHANGED
D100-50315-0178	09-Nov-2020	10-Nov-2020	3485 HR	3485 HR	No			
<div style="border: 1px solid green; padding: 2px; display: inline-block;">No Action Required</div> NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE SAMPLING AT THE NORMAL INTERVAL.								
B150-48100-1520	06-Apr-2018	10-Apr-2018	3357 HR		No			
<div style="border: 1px solid green; padding: 2px; display: inline-block;">No Action Required</div> NORMAL WEAR METAL READINGS. CONTINUE NORMALLY SCHEDULED SAMPLING.								

Wear Metals (ppm)	Wear Metals (ppm)																		
	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	B	Mo	Ni	Ag	Ti	V	Ca	Mg	Zn	P
D100-50315-0178	0	5	0	2	0	0	19	1	0	18	1	0	0	0	0	2161	31	882	783
B150-48100-1520	0	26	0	6	0	0	18	4	2		7	0				2673	42	968	797

Oil Condition / Particle Count (cells/ml)	Oil Condition / Particle Count (cells/ml)													
	ST	OXI	NIT	SUL	W	V100	PQI	ISO	4µ	6µ	10µ	14µ	21µ	38µ
D100-50315-0178	0	6	6	16	N	18.0	5	NORMAL						
B150-48100-1520					N	18.3	232220	41934	30378	5884	421	27	0	

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Li = Lithium, Mg = Magnesium, Mo = Molybdenum, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, S = Sulfur, V = Vanadium, Zn = Zinc, A = Antifreeze, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Excessive, NIT = Nitration, OXI = Oxidation, ST = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, PQI = Particle Quantifying Index, NAW = Selt Water, FL P = Fluid Point, TAN = Total Acid Number, TBN = Total Base Number, H2O = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C, FVI = Particle Volume Indicator

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