

COMPANY NAME: RITCHE TRUCKING & EXCAVATING INC
 CUSTOMER EQUIP NUM: A327
 COMPARTMENT NAME: ENGINE
 SERIAL NUMBER: 74200618
 MANUFACTURER: CATERPILLAR
 MODEL: D11N
 JOB SITE:
 EXT WARR NUMBER:
 EXT WARR EXPIRE DATE:

SHOP JOB NUM: MM45706
 COMP SERIAL NUM:
 COMPARTMENT MODEL:
 COMP MANUFACTURER:
 SAMPLE LABEL NUM:
 FLUID BRAND/WEIGHT:
 FLUID TYPE:
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SOS Services Laboratory
 5300 Paxton St.
 Harrisburg, PA 17111-2525
 717-564-2121

LAB CONTROL NUMBER: B150-4R100-0443
 SAMPLE DATE: 08-Mar-2018
 PROCESS DATE: 10-Apr-2018
 EQUIPMENT METER: 3357 HR
 METER ON FLUID: FLUID CHANGED: No
 MAKE UP FLUID: MAKE UP FLUID UNITS: FILTER CHANGED

NO ACTION REQUIRED
 NORMAL WEAR METAL READINGS. CONTINUE NORMALLY SCHEDULED SAMPLING.

Wear Metals (ppm)	Cu	Fa	Cr	Al	Pb	Sn	Si	Na	K	Mo	Ni	Ca	Mg	Zn	P
B150-4R100-0443	3	15	0	1	0	0	0	10	0	62	0	1038	259	818	795

Oil Condition / Particle Count (ct/cm)	GT	OXI	MT	SUL	W	A	F	V100
B150-4R100-0443	31	22	12	30	N	N	N	11.1

Ag = Silver, Al = Aluminum, B = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Mg = Magnesium, Mo = Molybdenum, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, V = Vanadium, Zn = Zinc, A = Antimony, F = Fuel, W = Water, P = Particle, N = Nitrogen, T = Trace, E = Excessive, MIT = Nitrogen, OXI = Oxidation, ST = Soot, SUL = Sulfur, ISO = ISO Rating, PFC = Percent Fuel Content, PDI = Particle Degrading Index, NAV = Salt Water, FL = Fuel, POE = Total Acid Number, TBN = Total Base Number, HCO = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C
 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.

COMPANY NAME : RITCHEE TRUCKING & EXCAVATING INC
 CUSTOMER EQUIP NUM : A327
 SHIP JOB NUM : MM45706
 COMP SERIAL NUM :
 COMPARTMENT NAME : TRANSMISSION POWER SHIFT
 SERIAL NUMBER : 74206818
 COMPARTMENT MODEL :
 MANUFACTURER : CATERPILLAR
 COMP MANUFACTURER :
 MODEL : D11N
 SAMPLE LABEL NUM :
 JOB SITE :
 FLUID BRAND/WEIGHT :
 FLUID TYPE :
 EXT WARR NUMBER :
 EXT WARR EXPIRE DATE :

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LAB CONTROL NUMBER B150-48106-0514 **SAMPLE DATE** 15-Apr-2018 **PROCESS DATE** 18-Apr-2018 **EQUIPMENT METER** 3559 HR **METER ON FLUID** No **FLUID CHANGED** No
MAKE UP FLUID **MAKE UP FLUID UNITS** **FILTER CHANGED**
Member 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.**

Wearfields (ppm)	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	Mn	Ca	Mg	Zn	P	
B150-48106-0514	26	16	0	2	42	0	6	5	0	1	0	2923	22	659	801

Oil Condition / Particle Count (ctn)	BT	ODD	MFT	SUL	W	A	V100	ISO
B150-48106-0514	0	9	6	22	N	N	0.4	VP

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Iron, P = Phosphorus, K = Potassium, Mg = Magnesium, Mn = Manganese, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, V = Vanadium, Zn = Zinc, A = Antinezza, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Escalator, MFT = Millifin, OMI = Oxidation, BT = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, PDI = Particle Counting Index, NAVY = Salt Water, PLH = Fresh Power, TAN = Total Acid Number, TAN = Total Base Number, TSD = Test Probe result, V100 = Viscosity @100C, V40 = Viscosity @40C.
 Notice: This analysis is conducted 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.

COMPANY NAME : ROSEBUD MINING/QUATTANNING
 CUSTOMER EQUIP NUM : A327
 COMPARTMENT NAME : HYDRAULIC SYSTEM
 SERIAL NUMBER : 74200818
 MANUFACTURER : CATERPILLAR
 MODEL : D11N
 JOB SITE :
 EXT WARRA NUMBER :
 EXT WARRA EXPIRE DATE :

SHOP JOB NUM : MM45705
 COMP SERIAL NUM :
 COMPARTMENT MODEL :
 COMP MANUFACTURER :
 SAMPLE LABEL NUM :
 FLUID BRAND/WEIGHT :
 FLUID TYPE :
 EXT WARRA EXPIRE DATE :

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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
B150-48100-0815	05-Apr-2018	10-Apr-2018	357 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 RLD THE SYSTEM OF CONTAMINANTS/DEBRIS. RESAMPLE IN 125 HOURS TO MONITOR.

Wear Metals (ppm)	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	Mn	Ca	Mg	Zn	P	
B150-48100-0815	30	22	2	22	2	0	19	5	5	2	0	2132	30	956	638

Oil Condition / Particle Count (ct/m)	BT	OXI	NIT	SUL	W	A	V100	ISO
B150-48100-0815	0	6	6	20	N	N	64	VP

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Mg = Magnesium, Mn = Manganese, Na = Sodium, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, V = Vanadium, Zn = Zinc, A = Antiknock, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Excessive, NIT = Nitrogen, OXI = Oxidation, CR = Score, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, POI = Particle Quantifying Index, NAV = Sulf Water, FL P = Flash Point, TAN = Total Acid Number, TBN = Total Base Number, HCO = Karl Fisher result, V100 = Viscosity@100C, V40 = Viscosity@40C
 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.

LEFT FINAL DRIVE A BOAT THE SAME

COMPANY NAME: ROSEBUD MINING/QT TANNING
 CUSTOMER EQUIP NUM: A327
 DEPARTMENT NAME: FINAL DRIVE REAR RIGHT
 SERIAL NUMBER: 74200618
 MANUFACTURER: CATERPILLAR
 MODEL: D11H
 JOB SITE: EXT WARR NUMBER: EXT WARR EXPIRE DATE:

SHOP JOB NUM: MM45706
 COMP SERIAL NUM:
 COMPARTMENT MODEL:
 COMP MANUFACTURER:
 SAMPLE LABEL NUM:
 FLUID BRAND/WEIGHT:
 FLUID TYPE:
 EXT WARR EXPIRE DATE:

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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
B150-48100-1519	06-Apr-2018	10-Apr-2018	3557 HR		NO			
NORMAL WEAR METAL READINGS. CONTINUE NORMALLY SCHEDULED SAMPLING.								
No Action Required								

Wear Metals (ppm)	Cu	Fe	Cr	Al	Pb	Sn	Si	Mn	K	Mo	Ni	Ca	Mg	Zn	P
B150-48100-1519	0	16	0	1	0	0	7	3	0	7	0	2650	42	944	800

Oil Condition / Particle Count (ct/ml)	W	V100	180	4µ	6µ	10µ	14µ	21µ	25µ	30µ	39µ
B150-48100-1519	N	16.4	2372/17	42339	21357	1093	177	22	7	3	1

Ag = Silver, Al = Aluminum, B = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Mg = Magnesium, Mo = Molybdenum, Ni = Nickel, Pb = Lead, Si = Silicon, Sn = Tin, V = Vanadium, Zn = Zinc, A = Antimony, F = Fuel, W = Water, P = Positive, N = Negative, T = Trace, E = Excursion, NIT = Nitration, OXI = Oxidation, ST = Seal, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Ford Content, PDI = Particle Counting Index, NAVY = Navy Seal Water, FL Fr = Flash Point, TAN = Total Acid Number, TBN = Total Base Number, H2O = Karl Fisher read, V100 = Viscosity @ 100C, V40 = Viscosity @ 40C
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