

SOUTHLAND RESOURCES
KENNY HERRING
PO BOX 770
COTTONDALE, AL 36453

FAX: 205-553-3099
 PHONE: 205-554-1550
 SAMPLE TYPE: **OIL**
 SAMPLE SHIP TIME (days): **5**

COMPANY NAME: **SOUTHLAND RESOURCES INC**
 CUSTOMER EQUIP NUM: **436**
 SERIAL NUMBER: **7P200566**
 MANUFACTURER: **CATERPILLAR**
 MODEL: **D1HR**
 JOB SITE: **EXT WARR NUMBER: 107723**
 SHOP JOB NUM: **COMP SERIAL NUM: 436**
 COMPARTMENT NAME: **ENGINE**
 COMP MANUFACTURER: **COMP SERIAL MODEL: P**
 SAMPLE LABEL NUM: **P**
 FLUID BRAND/WEIGHT: **15W-40**
 FLUID TYPE: **FLUID BRAND/WEIGHT: 15W-40**
 EXT WARR EXPIRE DATE: **11-Oct-04**
 FUEL CONSUMED:

Thompson
Fluids Analysis Laboratory
2401 Pinson Hwy.
Tarrant, AL 35217-0367
205-244-7868
www.thompsoncontractor.com

LAB CONTROL NUMBER	SAMPLE DATE	PROCESS DATE	EQUIPMENT METER	METER ON FLUID	FLUID CHANGED	MAKE UP FLUID	MAKE UP FLUID UNITS	FILTER CHANGED
D430-49157-0794	01-Jun-2019	06-Jun-2019	0	0	Yes			Yes
NORMAL WEAR METAL READINGS. OTHER READINGS APPEAR NORMAL. NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE SAMPLING AT THE NORMAL INTERVAL.								
No Action Required								
D430-49134-0071	13-May-2019	14-May-2019	48421 HR	9 HR	No			No
OIL CHANGE HAS REMOVED BUILD-UP. NO ANTIFREEZE DETECTED. RESAMPLE IN 125 HOURS TO MONITOR.								
Monitor Compartment								
D430-49129-0546	05-May-2019	09-May-2019	48412 HR	48412 HR	Yes			Yes
POSITIVE ANTIFREEZE DETECTED. ELEVATED COPPER AND SODIUM INDICATE COOLANT ENTRY. CHECK FOR COOLANT LOSS OR OIL INSIDE THE RADIATOR. RESAMPLE AFTER REPAIRS TO CHECK FOR CARRY-OVER.								
Action Required								
D430-49073-0817	07-Mar-2019	14-Mar-2019	0	0	Yes			Yes
POSITIVE ANTIFREEZE DETECTED. LOW SODIUM AND POTASSIUM MAY INDICATE OIL ADDITIVE OR SMALL LEAK THAT WILL BE HARD TO FIND. CHECK FOR COOLANT LOSS OR OIL INSIDE THE RADIATOR. WATCH NEXT SAMPLE.								
Action Required								

Wear Metals (ppm)															
Cu	Fe	Cr	Al	Pb	Sn	Si	Nb	K	B	Mo	Ni	Ag	Ti	V	Mn
D430-49157-0794	56	3	0	0	0	0	11	2	381	118	0	0	0	0	1232
D430-49134-0071	40	2	0	0	0	0	5	4	415	116	0	0	0	0	1202
D430-49129-0546	155	4	0	0	0	0	5	78	7	312	131	0	0	0	1159
D430-49073-0817	5	3	0	0	0	0	5	44	9	335	123	0	0	0	1240
Oil Condition / Particle Count (c/um)															
ST	OXI	MT	SUL	W	A	F	V100	PGC							
D430-49157-0794	0	16	6	22	N	N	14.2								
D430-49134-0071	0	15	5	20	N	N	13.8								
D430-49129-0546	1	15	5	21	N	P	13.3	0.0845							
D430-49073-0817	0	15	5	21	N	P	13.4	1.0							

Ag = Silver, Al = Aluminum, B = Boron, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, P = Phosphorus, K = Potassium, Li = Lithium, Mg = Magnesium, Mo = Molybdenum, Nb = Niobium, 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, MT = Nitration, OXI = Oxidation, ST = Soot, SUL = Sulfation, ISO = ISO Rating, PFC = Percent Fuel Content, PGI = Particle Quantifying Index, NW = 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

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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COMPANY NAME: SOUTHLAND RESOURCES INC
 CUSTOMER EQUIP NUM: 436
 COMPARTMENT NAME: HYDRAULIC SYSTEM
 SERIAL NUMBER: 7P200566
 MANUFACTURER: CAT
 MODEL: D11R
 JOB SITE:
 EXT WARR NUMBER: 107723
 EXT WARR EXPIRE DATE: 11-04-04
 FUEL CONSUMED:

FAX: 205-553-3099
 PHONE: 205-554-1550
 SAMPLE TYPE: OIL
 SAMPLE SHIP TIME (days): 7

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 2401 Pinson Hwy.
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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
D430-49073-0818	07-Mar-2019	14-Mar-2019	0	0	Yes			Yes
NORMAL WEAR METAL READINGS. NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE SAMPLING AT THE NORMAL INTERVAL.								
No Action Required								
D430-43053-0524	18-Feb-2013	22-Feb-2013	0	0	No			
NORMAL WEAR METAL READINGS. NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE SAMPLING AT THE NORMAL INTERVAL.								
No Action Required								
D430-42317-0214	09-Nov-2012	12-Nov-2012	48061 HR	2252 HR	Yes			
OIL AND FILTER REPLACED ON WORK ORDER B41713. ISO 21/16 UNCHANGED. WEAR TREND APPEARS NORMAL FOR THIS COMPARTMENT.								
No Action Required								

Wear Metals (ppm)	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	B	Mo	Ni	Ag	Ti	V	Mn	Cd	Ca	Mg	Zn	P	Ba
DA30-49073-0818	27	3	0	1	2	0	15	5	0	2	1	0	0	0	0	0	0	3221	12	691	720	0
DA30-43053-0524	7	3	0	1	1	0	22	2	1	1	1	0						3891	14	988	885	0
DA30-42317-0214	9	3	0	1	0	0	19	0	1	1	1	0						3997	14	986	917	0

Oil Condition	Particle Count (ctn/l)	ST	OXI	MT	SUL	W	A	V100	ISO	4μ	6μ	10μ	14μ	16μ	21μ	35μ	50μ
D430-49073-0818	0	5	4	14	N	N	N	6.9	22/20/14	28930	5250	626	135	47	25	3	1
D430-43053-0524	0	12	6	21	N	N	N	6.7	23/22/19	60102	36421	10540	2885	1048	571	35	10
D430-42317-0214	0	12	6	21	N	N	N	6.2	23/21/16	51292	19850	2683	508	156	86	17	11

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COMPANY NAME : SOUTHLAND RESOURCES INC
CUSTOMER EQUIP NUM : 436
COMPARTMENT NAME : TRANSMISSION POWER SHIFT
SERIAL NUMBER : 7P2D0566
MANUFACTURER : CATERPILLAR
MODEL : D11R
JOB SITE :
EXT WARR NUMBER : 107723
SAMPLE SHIP TIME (days) : 7

SHOP JOB NUM :
COMP SERIAL NUM :
COMPARTMENT MODEL :
COMP MANUFACTURER :
SAMPLE LABEL NUM : P
FLUID BRAND/WEIGHT : 30
FLUID TYPE :
EXT WARR EXPIRE DATE : 11-04-04
FUEL CONSUMED :

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D430-49073-0819	07-Mar-2019	14-Mar-2019	0	0	Yes			Yes
ELEVATED COPPER ALONE USUALLY INDICATES HARMLESS OXIDATION. OTHER ANALYSIS READINGS APPEAR TO BE ACCEPTABLE. CONTINUE SAMPLING AT THE NORMAL INTERVAL.								
No Action Required								
D430-42317-0215	08-Nov-2012	12-Nov-2012	48061 HR	1011 HR	No		GAL	
B41713, HIGH BRASS - IRON - DIRT. SUGGEST FLUSH COMPARTMENT AND RESAMPLE IN 250 HOURS. CHECK FOR UNUSUAL PERFORMANCE, SHIFT HESITATION/SLIPPAGE, HEAT, NOISES, VIBRATIONS, FLUID LEVELS.								
Action Required								

Wear Metals (ppm)	Cu	Fe	Cr	Al	Pb	Sn	Si	Na	K	B	Mo	Ni	Ag	Ti	V	Mn	Cd	Ca	Mg	Zn	P	Ba
D430-49073-0819	733	30	0	1	29	2	10	3	0	7	1	1	0	0	0	0	0	3215	18	889	830	0
D430-42317-0215	278	45	0	6	15	6	24	4	3	7	3	0						3468	29	916	891	0

Oil Content / Particle Count (c/ml)	ST	OXI	NT	SUL	W	A	V100	ISO	4μ	6μ	10μ	14μ	16μ	21μ	38μ	50μ
D430-49073-0819	0	7	4	14	N	N	11.0	23/9/14	41559	4959	362	90	39	27	5	3
D430-42317-0215	0	11	7	23	N	N	11.7	23/20/19	58282	45674	20826	3897	1627	1205	453	275

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