



FINNING CANADA LTD. - Fluid Analysis Laboratory, 10910-170th Street, Edmonton, AB, T5S 1H6, CANADA
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CONTACT INFORMATION

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FAX:
Email: TERRY.

Interp By: Greg Eyre

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : TRANSMISSION DIFF
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 200202522
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 24
SAMPLE LOCATION :

No Action
Required

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE
NEXT SERVICE INTERVAL.

LAB #

N030-50013-0457

PROCESS DATE 13-Jan-20

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
20-Dec-19	N030-50013-0457	8834	8834	N	N	0	0	3	1	13	0	0	11	0	0	0	0	0	1126	3368	8	0	1	1	928
22-Oct-19	N030-49311-0460	8446	400	U		1	1	3	1	10	0	0	8	0	0	0	0	0	1170	3723	8	0	1	1	934
11-Feb-19	N030-49053-0342	8045	1000	Y	Y	2	0	3	0	26	0	0	43	0	0	0	0	0	1083	3131	8	0	1	0	819
27-Sep-18	N030-48276-0548	7485	7485	N	N	2	1	3	1	19	0	0	39	0	0	0	0	0	1107	3316	7	0	0	0	851

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A
20-Dec-19	N030-50013-0457	8834	8834	CHEVRON		30	N	N	10.7	90.0	102	0	5	12	4	N
22-Oct-19	N030-49311-0460	8446	400	CHEVRON	UNKNOWN	30	U		11.1	89.7	110	0	6	13	4	N
11-Feb-19	N030-49053-0342	8045	1000	PETRO-CAN	UNKNOWN	30	Y	Y	10.9	86.5	112	0	6	13	4	N
27-Sep-18	N030-48276-0548	7485	7485	PETRO-CAN	UNKNOWN		N	N	10.3	85.3	102	0	6	13	4	N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4µ	6µ	10µ	14µ	18µ	21µ	38µ	50µ	W
20-Dec-19	N030-50013-0457	N	N	22/17/12	22005	1187	69	32	17	9	1	0	N
22-Oct-19	N030-49311-0460	U		21/19/16	16396	4418	1124	358	117	56	2	0	N
11-Feb-19	N030-49053-0342	Y	Y	21/17/11	15671	818	55	15	7	4	1	1	N
27-Sep-18	N030-48276-0548	N	N	21/18/14	16309	1692	317	150	98	72	10	2	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cl = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, Ni = Nickel, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfur, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity @ 100C, V40 = Viscosity @ 40C, VI = Viscosity Index, W = Water, Zn = Zinc.

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



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CONTACT INFORMATION

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Email: TERRY.

Interp By: Greg Eyre

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 200263235
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 24
SAMPLE LOCATION :

No Action
Required

COPPER MAY BE SOURCED TO OIL COOLER LEACHING. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-50013-0455

PROCESS DATE 13-Jan-20

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
20-Dec-19	N030-50013-0455	8834	8834	N	N	3	3	4	1	3	0	1	125	0	0	0	1	0	885	1356	646	0	82	1	770
10-Dec-19	N030-49353-0322	8783	250	Y	Y	3	2	3	0	6	0	0	414	0	0	0	1	0	780	1240	601	0	71	1	741
22-Oct-19	N030-49311-0468	8446	177	U		3	4	4	0	8	0	0	397	0	0	0	1	0	797	1297	631	0	67	1	736
30-Aug-19	N030-49276-0740	8300	250	Y	Y	2	3	4	1	17	0	3	641	0	0	0	0	0	807	1208	778	0	74	5	719

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	V1	ST	OXI	SUL	NIT	A	F	PFc
20-Dec-19	N030-50013-0455	8834	8834	CHEVRON		5W-40	N	N	14.4	88.9	166	1	12	18	0	N	N	
10-Dec-19	N030-49353-0322	8783	250	CHEVRON	DELO XLE SE	5W-40	Y	Y	14.0	82.2	176	8	13	19	8	N	N	
22-Oct-19	N030-49311-0468	8446	177	CHEVRON	DELO XLE SE	5W-40	U		12.5	80.0	154	7	13	19	8	N	N	
30-Aug-19	N030-49276-0740	8300	250	CHEVRON	DELO XLE SE	5W-40	Y	Y	10.1	63.7	145	11	13	18	8	N	N	4.39

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
20-Dec-19	N030-50013-0455	N	N	N
10-Dec-19	N030-49353-0322	Y	Y	N
22-Oct-19	N030-49311-0468	U		N
30-Aug-19	N030-49276-0740	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitrogen, Na = Sodium, Ni = Nickel, Oxi = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity @ 100C, V40 = Viscosity @ 40C, V1 = Viscosity Index, W = Water, Zn = Zinc

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Interp By: Greg Eyre

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA :
REGION :

SAMPLE INFORMATION

COMPARTMENT NAME : HYDRAULIC SYSTEM
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL# : 200263152
SHOP JOB NUM :
SAMPLE TYPE : OIL
SAMPLE SHIP TIME (days) : 24
SAMPLE LOCATION :

No Action
Required

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE
NEXT SERVICE INTERVAL.

LAB #

N030-50013-0458

PROCESS DATE 13-Jan-20

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
20-Dec-19	N030-50013-0458	8834	8834	N	N	3	1	4	1	5	0	0	3	0	0	0	0	0	1263	2995	9	0	1	0	969
22-Oct-19	N030-49311-0471	8446	490	N		3	1	4	2	5	0	0	3	0	0	0	0	0	1292	3159	10	0	1	0	1036
11-Feb-19	N030-49953-0343	8045	2000	N	Y	5	2	5	0	5	0	0	3	0	0	0	0	0	1241	2789	9	0	1	0	988
27-Sep-18	N030-48276-0549	7485	7485	N	N	4	2	4	1	5	0	1	3	0	0	0	0	0	1266	3015	10	0	0	0	989

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A
20-Dec-19	N030-50013-0458	8834	8834	CHEVRON		5W-20	N	N	8.1	40.1	181	0	31	41	3	N
22-Oct-19	N030-49311-0471	8446	400	CHEVRON		5W-20	N		8.4	42.0	181	0	33	43	4	N
11-Feb-19	N030-49953-0343	8045	2000	PETRO-CAN		30	N	Y	8.8	43.7	185	0	34	44	4	N
27-Sep-18	N030-48276-0549	7485	7485	PETRO-CAN			N	N	8.8	42.8	191	0	34	45	4	N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4μ	6μ	10μ	14μ	18μ	21μ	38μ	50μ	W
20-Dec-19	N030-50013-0458	N	N	18/18/13	1740	472	109	43	17	7	0	0	N
22-Oct-19	N030-49311-0471	N		20/19/14	5717	2527	694	151	53	29	2	1	N
11-Feb-19	N030-49953-0343	N	Y	19/16/11	4047	345	45	14	7	5	2	2	N
27-Sep-18	N030-48276-0549	N	N	18/15/12	1645	306	72	26	11	6	1	1	N

A = Antiknock, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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Interp By: Greg Eyre

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : TANDEM LEFT
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 200201550
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 24
SAMPLE LOCATION :

No Action
Required

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-50013-0460

PROCESS DATE 13-Jan-20

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sh	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
20-Dec-19	N030-50013-0460	8834	8834	N	N	1	0	6	1	235	0	0	0	0	0	0	0	0	1139	3438	9	0	0	1	1064
22-Oct-19	N030-49311-0470	8446	400	N		1	1	5	1	144	0	0	0	0	0	0	0	0	1180	3691	9	0	0	1	1001
11-Feb-19	N030-49053-0337	8045	1000	Y		3	1	9	0	235	0	0	0	0	0	0	0	0	1311	3028	14	0	1	0	1021
27-Sep-18	N030-49276-0547	7485	7485	N	N	1	0	5	1	167	0	0	0	0	0	0	0	0	1083	3136	8	0	0	0	819

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT
20-Dec-19	N030-50013-0460	8834	8834	CHEVRON		30	N	N	10.8	92.2	101	0	5	12	3
22-Oct-19	N030-49311-0470	8446	400	CHEVRON	UNKNOWN	30	N		11.8	91.7	119	0	5	13	3
11-Feb-19	N030-49053-0337	8045	1000	PETRO-CAN	UNKNOWN	30	Y		11.3	102.0	96	0	6	18	4
27-Sep-18	N030-49276-0547	7485	7485	CHEVRON	UNKNOWN	30	N	N	15.2	116.5	136	0	6	13	3

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4µ	6µ	10µ	14µ	18µ	21µ	38µ	50µ	W
20-Dec-19	N030-50013-0460	N	N	24/23/20	83955	67771	32168	9138	1747	569	5	2	N
22-Oct-19	N030-49311-0470	N		24/23/21	80836	65668	33187	11203	2626	888	9	2	N
11-Feb-19	N030-49053-0337	Y		24/23/21	80637	66815	36035	12965	3034	987	12	3	N
27-Sep-18	N030-49276-0547	N	N	BLH									N

Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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Email: TERRY.

Interp By: Greg Eyra

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : TANDEM RIGHT
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 200263524
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 24
SAMPLE LOCATION :

No Action
Required

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-50013-0461

PROCESS DATE 13-Jan-20

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
20-Dec-19	N030-50013-0461	8834	8834	N	N	0	0	7	1	184	0	0	0	0	0	0	0	0	1137	3505	10	0	0	1	1055
22-Oct-19	N030-49311-0466	8446	400	N		1	1	6	1	134	0	0	0	0	0	0	0	0	1162	3693	9	0	0	1	1009
11-Feb-19	N030-49053-0338	8045	1000	Y		1	0	4	0	146	0	0	0	0	0	0	0	0	1042	2900	7	0	1	1	799
27-Sep-18	N030-48276-0548	7485	7485	N	N	1	0	4	0	107	0	0	0	0	0	0	0	0	1078	3071	8	0	0	1	809

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NTT
20-Dec-19	N030-50013-0461	8834	8834	CHEVRON		30	N	N	10.9	92.5	102	0	5	12	3
22-Oct-19	N030-49311-0466	8446	400	CHEVRON	UNKNOWN	30	N		11.0	89.6	108	0	5	13	3
11-Feb-19	N030-49053-0338	8045	1000	PETRO-CAN	UNKNOWN	30	Y		13.4	112.0	116	0	5	12	3
27-Sep-18	N030-48276-0548	7485	7485	CHEVRON	UNKNOWN	30	N	N	13.3	111.4	116	0	5	12	3

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4µ	6µ	10µ	14µ	18µ	21µ	38µ	50µ	W
20-Dec-19	N030-50013-0461	N	N	24/23/21	81727	66991	34961	12278	2873	947	9	2	N
22-Oct-19	N030-49311-0466	N		23/23/21	79687	63439	30618	10160	2593	938	10	2	N
11-Feb-19	N030-49053-0338	Y		24/23/21	82469	67138	33614	10772	2320	771	11	3	N
27-Sep-18	N030-48276-0548	N	N	RLH									N

Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity @ 100°C, V40 = Viscosity @ 40°C, VI = Viscosity Index, W = Water, Zn = Zinc

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Interp By: Gregory Scribner

EQUIPMENT

EQUIP NUM: 14611
SERIAL NUMBER: R9J01266
MODEL: 14M
MANUFACTURER: CAT
COMPANY NAME: WHEATLAND COUNTY
JOB SITE:
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME: ENGINE
COMP SERIAL NUM:
COMPARTMENT MODEL:
LABEL#: 200099251
SHOP JOB NUM:
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days): 6
SAMPLE LOCATION:

COPPER MAY BE SOURCED TO OIL COOLER LEACHING. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #
N030-50125-0479
PROCESS 04-May-20
DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
28-Apr-20	N030-50125-0479	9316	250	Y	Y	3	3	4	0	7	0	0	163	0	0	0	0	0	817	1244	657	0	78	1	710
25-Feb-20	N030-50066-0346	9054	250	Y	Y	4	3	4	0	8	0	1	584	0	0	0	1	0	792	1212	673	0	70	1	746
20-Dec-19	N030-50013-0455	8834	8834	N	N	3	3	4	1	3	0	1	126	0	0	0	1	0	885	1356	646	0	82	1	770
10-Dec-19	N030-48353-0322	8783	250	Y	Y	3	2	3	0	6	0	0	414	0	0	0	1	0	780	1240	601	0	71	1	741

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F
28-Apr-20	N030-50125-0479	9316	250	CHEVRON		5W-40	Y	Y	13.8	82.5	172	8	13	19	8	N	N
25-Feb-20	N030-50066-0346	9054	250	CHEVRON	DELO SYN	5W-40	Y	Y	13.8	83.6	170	12	13	18	8	N	N
20-Dec-19	N030-50013-0455	8834	8834	CHEVRON		5W-40	N	N	14.4	88.9	168	1	12	18	6	N	N
10-Dec-19	N030-48353-0322	8783	250	CHEVRON	DELO XLE SE	5W-40	Y	Y	14.0	82.2	176	8	13	19	8	N	N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
28-Apr-20	N030-50125-0479	Y	Y	N
25-Feb-20	N030-50066-0346	Y	Y	N
20-Dec-19	N030-50013-0455	N	N	N
10-Dec-19	N030-48353-0322	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, SI = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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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CONTACT INFORMATION

EQUIPMENT

CUSTOMER EQUIP NUM : 14611

SERIAL NUMBER : R9J01266

MODEL : 14M

MANUFACTURER : CAT

COMPANY NAME : WHEATLAND COUNTY

SAMPLE INFORMATION

COMPARTMENT NAME : TANDEM RIGHT

COMP SERIAL NUM :

COMPARTMENT MODEL :

LABEL# : 200320506

SHOP JOB NUM :

SAMPLE TYPE: OIL

SAMPLE SHIP TIME (days) : 10

SAMPLE LOCATION :

TERRY SMITH

WHEATLAND COUNTY

HWY 1 RR 1

STRATHMORE, AB

CAN T1P 1J6

PHONE: 403-934-3284

FAX:

Email: TERRY.

Interp By: Gregory Scribner

No Action
Required

UNABLE TO TEST FOR PARTICLE COUNT (ISO CODE) DUE TO EXCESS PARTICULATE. DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-S0066-0345

PROCESS 06-Mar-20

DATE

WEAR/CONTAMINATION - ADDITIVE/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P	
25-Feb-20	N030-S0066-0345	9054	1000	Y		1	0	7	1	245	0	0	0	0	0	0	0	0	0	1096	3356	10	0	0	1	955
20-Dec-19	N030-S7013-0461	8834	8834	N	N	0	0	7	1	184	0	0	0	0	0	0	0	0	0	1137	3505	10	0	0	1	1055
22-Oct-19	N030-49311-0466	8446	400	N		1	1	6	1	134	0	0	0	0	0	0	0	0	0	1162	3693	9	0	0	1	1009
11-Feb-19	N030-49053-0338	8045	1000	Y		1	0	4	0	146	0	0	0	0	0	0	0	0	0	1042	2900	7	0	1	1	799
OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION																										
SAMPLE																										

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	V1	ST	OXI	SUL	NIT
25-Feb-20	N030-S0066-0345	9054	1000	CHEVRON		30	Y		10.9	92.9	101	0	5	12	3
20-Dec-19	N030-S0013-0461	8834	8834	CHEVRON		30	N	N	10.9	92.5	102	0	5	12	3
22-Oct-19	N030-49311-0466	8446	400	CHEVRON	UNKNOWN	30	N		11.0	89.6	108	0	5	13	3
11-Feb-19	N030-49053-0338	8045	1000	PETRO-CAN	UNKNOWN	30	Y		13.4	112.0	116	0	5	12	3

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4μ	6μ	10μ	14μ	18μ	21μ	38μ	50μ	W
25-Feb-20	N030-S0066-0345	Y		BLH									
20-Dec-19	N030-S0013-0461	N	N	24/23/21	81727	66981	34961	12278	2873	947	9	2	N
22-Oct-19	N030-49311-0466	N		23/23/21	79687	63439	30618	10160	2593	936	10	2	N
11-Feb-19	N030-49053-0338	Y		24/23/21	82493	67138	33614	10772	2320	771	11	3	N

Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfur, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, V1 = Viscosity Index, W = Water, Zn = Zinc

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WHEATLAND COUNTY
HWY 1 RR 1
STRATHMORE, AB
CAN T1P 1J6
PHONE: 403-934-3284
FAX:
Email: TERRY.

Interp By: Gregory Scribner

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA :
REGION :

SAMPLE INFORMATION

COMPARTMENT NAME : TANDEM LEFT
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL# : 200321156
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 10
SAMPLE LOCATION :

No Action
Required

UNABLE TO TEST FOR PARTICLE COUNT (ISO CODE) DUE TO EXCESS PARTICULATE. DIRT AND WEAR METALS APPEAR TO BE AT
ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-50086-0344

PROCESS 3/6/2020

DATE

WEAR/CONTAMINATION - ADDITIVE/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
25-Feb-20	N030-50086-0344	9054	1000	Y		1	0	6	1	275	0	0	0	0	0	0	0	0	1083	3302	10	0	0	1	926
20-Dec-19	N030-50013-0460	8834	8834	N	N	1	0	6	1	235	0	0	0	0	0	0	0	0	1139	3438	9	0	0	1	1064
22-Oct-19	N030-49311-0470	8446	400	N		1	1	5	1	144	0	0	0	0	0	0	0	0	1180	3691	9	0	0	1	1001
11-Feb-19	N030-49053-0337	8045	1000	Y		3	1	9	0	235	0	0	0	0	0	0	0	0	1311	3028	14	0	1	0	1021

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT
25-Feb-20	N030-50086-0344	9054	1000	CHEVRON		30	Y		11.1	91.9	107	0	5	12	3
20-Dec-19	N030-50013-0460	8834	8834	CHEVRON		30	N	N	10.8	92.2	101	0	5	12	3
22-Oct-19	N030-49311-0470	8446	400	CHEVRON	UNKNOWN	30	N		11.8	91.7	119	0	5	13	3
11-Feb-19	N030-49053-0337	8045	1000	PETRO-CAN	UNKNOWN	30	Y		11.3	102.0	96	0	6	18	4

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4μ	6μ	10μ	14μ	18μ	21μ	38μ	50μ	W
25-Feb-20	N030-50086-0344	Y		BLH									N
20-Dec-19	N030-50013-0460	N	N	24/23/20	83955	67771	32188	9138	1747	569	5	2	N
22-Oct-19	N030-49311-0470	N		24/23/21	80836	65668	33187	11209	2626	888	9	2	N
11-Feb-19	N030-49053-0337	Y		24/23/21	80637	66815	36035	12965	3034	987	12	3	N

Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CAN T1P 1J6
PHONE: 403-934-3284
FAX:
Email: TERRY.

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA :
REGION :

SAMPLE INFORMATION

COMPARTMENT NAME : RADIATOR
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL# : 200270241
SHOP JOB NUM :
SAMPLE TYPE: COOLANT
SAMPLE SHIP TIME (days) : 10
SAMPLE LOCATION :

Interp By: Peter Lewandowski

**No Action
Required**

NITRITE INHIBITOR LEVEL IS TOO LOW TO PROVIDE CORROSION PROTECTION. ADD COOLANT ADDITIVE TO BOOST NITRITE. UNLESS NITRITE FREE COOLANT. ALL OTHER READINGS ARE WITHIN THE ACCEPTABLE RANGE. CONTINUE TO USE THIS COOLANT. RESAMPLE TO MONITOR.

LAB

N030-50066-9027

PROCESS 06-Mar-20

DATE

CORROSION ELEMENTS - COOLANT FORMULATION

SAMPLE DATE	SAMPLE ID	FLUID BRAND	TYPE	NO2
25-Feb-20	N030-50066-9027	CAT		0
20-Dec-19	N030-50013-9047	CAT		0
22-Oct-19	N030-49311-9038	CATELC		0
11-Feb-19	N030-49053-9013	CATELC		5

FREEZE/BOIL PROTECTION - CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	TYPE	FLUID CHANGE	GL	FP	BP	pH	CON	Foam
25-Feb-20	N030-50066-9027	9054	9054	CAT		N	59	-52	109	7.3	4810	norm
20-Dec-19	N030-50013-9047	8834	8834	CAT		N	59	-52	109	7.2	4914	norm
22-Oct-19	N030-49311-9038	8446	8446	CATELC		U	59	-52	109	7.2	4706	norm
11-Feb-19	N030-49053-9013	8045	8045	CATELC		U	57	-48	109	7.4	4615	norm

COOLANT PHYSICALS

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	TYPE	Color	App	Odor	Oil	Paint
25-Feb-20	N030-50066-9027	9054	9054	CAT		red	clear	norm	none	none
20-Dec-19	N030-50013-9047	8834	8834	CAT		red/dark	clear	norm	none	none
22-Oct-19	N030-49311-9038	8446	8446	CATELC		red	clear	norm	none	none
11-Feb-19	N030-49053-9013	8045	8045	CATELC		red	clear	norm	none	none

App = Appearance, BP = Boil Point, C, CON = Conductivity, FP = Freeze Point, C, GL = Glycol, NO2 = Nitrite, Paint = Precipitate Amount

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CONTACT INFORMATION

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PHONE: 403-934-3284
FAX:
Email: TERRY.

EQUIPMENT

CUSTOMER EQUIP NUM: 14611
SERIAL NUMBER: R9J01266
MODEL: 14M
MANUFACTURER: CAT
COMPANY NAME: WHEATLAND COUNTY
JOB SITE:
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME: HYDRAULIC SYSTEM
COMP SERIAL NUM:
COMPARTMENT MODEL:
LABEL#: 200320795
SHOP JOB NUM:
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days): 10
SAMPLE LOCATION:

Interp By: Gregory Scribner

No Action
Required

PARTICLE COUNT (ISO CODE) IS ELEVATED. DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS
APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-50066-0342

PROCESS 3/6/2020

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
25-Feb-20	N030-50066-0342	9054	1000	N	Y	4	2	5	1	6	0	0	3	0	0	0	0	0	1166	2764	9	0	1	1	984
20-Dec-19	N030-50013-0458	8834	8834	N	N	3	1	4	1	5	0	0	3	0	0	0	0	0	1263	2995	9	0	1	0	969
22-Oct-19	N030-49311-0471	8446	400	N	N	3	1	4	2	5	0	0	3	0	0	0	0	0	1292	3159	10	0	1	0	1036
11-Feb-19	N030-49063-0343	8045	2000	N	Y	5	2	5	0	5	0	0	3	0	0	0	0	0	1241	2789	9	0	1	0	969

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A
25-Feb-20	N030-50066-0342	9054	1000	CHEVRON		5W-20	N	Y	8.2	40.1	185	0	31	41	3	N
20-Dec-19	N030-50013-0458	8834	8834	CHEVRON		5W-20	N	N	8.1	40.1	181	0	31	41	3	N
22-Oct-19	N030-49311-0471	8446	400	CHEVRON		5W-20	N		8.4	42.0	181	0	33	43	4	N
11-Feb-19	N030-49063-0343	8045	2000	PETRO-CAN		30	N	Y	8.8	43.7	186	0	34	44	4	N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4u	6u	10u	14u	18u	21u	38u	50u	W
25-Feb-20	N030-50066-0342	N	Y	22/20/15	23089	7438	687	164	76	47	14	10	N
20-Dec-19	N030-50013-0458	N	N	18/16/13	1740	472	109	43	17	7	0	0	N
22-Oct-19	N030-49311-0471	N		20/19/14	5717	2527	694	151	53	29	2	1	N
11-Feb-19	N030-49063-0343	N	Y	19/16/11	4047	345	45	14	7	5	2	2	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NiT = Nickel, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CAN T1P 1J6
PHONE: 403-934-3284
FAX:
Email: TERRY.

Interp By: Gregory Scribner

EQUIPMENT

CUSTOMER EQUIP NUM: 14611
SERIAL NUMBER: R9J01266
MODEL: 14M
MANUFACTURER: CAT
COMPANY NAME: WHEATLAND COUNTY

JOB SITE:
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME: TRANSMISSION DIFF
COMP SERIAL NUM:
COMPARTMENT MODEL:
LABEL #: 200320491

SHOP JOB NUM:
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days): 10
SAMPLE LOCATION:

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

No Action
Required

LAB #

N030-50066-0343

PROCESS 3/6/2020

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
25-Feb-20	N030-50066-0343	9054	1009	Y		1	0	3	0	13	0	0	10	0	0	0	0	0	1097	3346	8	0	0	1	899
20-Dec-19	N030-50013-0457	8834	8834	N	N	0	0	3	1	13	0	0	11	0	0	0	0	0	1126	3366	8	0	1	1	928
22-Oct-19	N030-49311-0469	8446	400	U		1	1	3	1	10	0	0	8	0	0	0	0	0	1170	3723	8	0	1	1	934
11-Feb-19	N030-49053-0342	8045	1000	Y	Y	2	0	3	0	26	0	0	43	0	0	0	0	0	1083	3131	8	0	1	0	819

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A
25-Feb-20	N030-50066-0343	9054	1009	CHEVRON		30	Y		11.0	90.1	108	0	5	13	4	N
20-Dec-19	N030-50013-0457	8834	8834	CHEVRON		30	N	N	10.7	90.0	102	0	5	12	4	N
22-Oct-19	N030-49311-0469	8446	400	CHEVRON	UNKNOWN	30	U		11.1	89.7	110	0	6	13	4	N
11-Feb-19	N030-49053-0342	8045	1000	PETRO-CAN	UNKNOWN	30	Y	Y	10.9	86.5	112	0	6	13	4	N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4u	6u	10u	14u	18u	21u	38u	50u	W
25-Feb-20	N030-50066-0343	Y		22/18/12	25649	1735	99	21	11	8	3	2	N
20-Dec-19	N030-50013-0457	N	N	22/17/12	22005	1187	69	32	17	9	1	0	N
22-Oct-19	N030-49311-0469	U		21/19/16	18396	4418	1124	358	117	56	2	0	N
11-Feb-19	N030-49053-0342	Y	Y	21/17/11	15671	818	55	15	7	4	1	1	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CONTACT INFORMATION

TERRY SMITH
WHEATLAND COUNTY
HWY 1 RR 1
STRATHMORE, AB
CAN T1P 1J6
PHONE: 403-934-3284
FAX:
Email: TERRY.

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY

SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL# : 200320684
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 10
SAMPLE LOCATION :

Inter By: Gregory Scribner

REGION:

No Action
Required

COPPER MAY BE SOURCED TO OIL COOLER LEACHING. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-50066-0346

PROCESS 3/6/2020

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
25-Feb-20	N030-50066-0346	9054	250	Y	Y	4	3	4	0	8	0	1	584	0	0	0	1	0	792	1212	673	0	70	1	746
20-Dec-19	N030-50013-0455	8834	8834	N	N	3	3	4	1	3	0	1	126	0	0	0	1	0	885	1356	846	0	82	1	770
10-Dec-19	N030-49353-0322	8783	250	Y	Y	3	2	3	0	5	0	0	414	0	0	0	1	0	780	1240	601	0	71	1	741
22-Oct-19	N030-49311-0468	8446	177	U		3	4	4	0	8	0	0	397	0	0	0	1	0	797	1297	531	0	67	1	736

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F
25-Feb-20	N030-50066-0346	9054	250	CHEVRON		5W-40	Y	Y	13.8	83.6	170	12	13	18	8	N	N
20-Dec-19	N030-50013-0455	8834	8834	CHEVRON		5W-40	N	N	14.4	88.9	168	1	12	18	6	N	N
10-Dec-19	N030-49353-0322	8783	250	CHEVRON	DELOXIE SE	5W-40	Y	Y	14.0	82.2	176	8	13	19	8	N	N
22-Oct-19	N030-49311-0468	8446	177	CHEVRON	DELOXIE SE	5W-40	U		12.5	80.0	154	7	13	19	8	N	N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
25-Feb-20	N030-50066-0346	Y	Y	N
20-Dec-19	N030-50013-0455	N	N	N
10-Dec-19	N030-49353-0322	Y	Y	N
22-Oct-19	N030-49311-0468	U		N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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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EQUIPMENT

CUSTOMER EQUIP NUM : 14811
SERIAL NUMBER : R9J01286
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : RADIATOR
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 200270318
SHOP JOB NUM :
SAMPLE TYPE: COOLANT
SAMPLE SHIP TIME (days) : 24
SAMPLE LOCATION :

Interp By: Greg Eyre

Monitor Compartment

NITRITE INHIBITOR LEVEL IS BELOW THE ACCEPTABLE LIMIT TO PROVIDE ADEQUATE CORROSION/EROSION PROTECTION. SUGGEST TO MAKE AN ELC EXTENDER ADDITION AND RESAMPLE TO MONITOR.

LAB #

N030-50013-9047

PROCESS DATE 13-Jan-20

CORROSION ELEMENTS - COOLANT FORMULATION

SAMPLE DATE	SAMPLE ID	FLUID BRAND	TYPE	NO2
20-Dec-19	N030-50013-9047	CAT		0
22-Oct-19	N030-49311-9038	CATELC		0
11-Feb-19	N030-49053-9013	CATELC		5
28-Aug-15	N030-45251-9006	CATELC		302

FREEZE/BOIL PROTECTION - CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	TYPE	FLUID CHANGE	GL	FP	BP	pH	CON	Foam
20-Dec-19	N030-50013-9047	8834	8834	CAT		N	59	-52	109	7.2	4914	norm
22-Oct-19	N030-49311-9038	8446	8446	CATELC		U	59	-52	109	7.2	4706	norm
11-Feb-19	N030-49053-9013	8045	8045	CATELC		U	57	-48	109	7.4	4615	norm
28-Aug-15	N030-45251-9006	1998	1998	CATELC		U	61	-55	110	7.4	3730	None

COOLANT PHYSICALS

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	TYPE	Color	App	Odor	Oil	PAmt	PApp	PCol	PProp
20-Dec-19	N030-50013-9047	8834	8834	CAT		red/dark	clear	norm	none	none			
22-Oct-19	N030-49311-9038	8446	8446	CATELC		red	clear	norm	none	none			
11-Feb-19	N030-49053-9013	8045	8045	CATELC		red	clear	norm	none	none			
28-Aug-15	N030-45251-9006	1998	1998	CATELC		red	clear	norm	none	trace	fine	Black	NON MAGN

App = Appearance, BP = Boil Point(°C), CON = Conductivity, FP = Freeze Point(°C), GL = Glycol, NO2 = Nitrite, PAmt = Precipitate Amount

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Email: DARWIN.

Interp By: Peter Lewandowski

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-49311-0466

PROCESS 07-Nov-19

DATE

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : TANDEM RIGHT
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL# : 200202042
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 16
SAMPLE LOCATION :

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
22-Oct-19	N030-49311-0466	8446	400	N		1	1	6	1	134	0	0	0	0	0	0	0	0	1162	3693	9	0	0	1	1009
11-Feb-19	N030-49053-0338	8045	1000	Y		1	0	4	0	146	0	0	0	0	0	0	0	0	1042	2900	7	0	1	1	799
27-Sep-18	N030-49276-0546	7485	7485	N		N	N	1	0	4	0	107	0	0	0	0	0	0	1078	3071	8	0	0	1	809
22-Jan-18	N030-49025-0873	6331	6331	N		N	N	3	1	10	1	1369	1	0	1	0	0	0	1233	2996	10	0	0	1	1074

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	V1	ST	OXI	SUL	NIT
22-Oct-19	N030-49311-0466	8446	400	CHEVRON	UNKNOWN	30	N		11.0	89.6	108	0	5	13	3
11-Feb-19	N030-49053-0338	8045	1000	PETRO-CAN	UNKNOWN	30	Y		13.4	112.0	116	0	5	12	3
27-Sep-18	N030-49276-0546	7485	7485	CHEVRON	UNKNOWN	30	N	N	13.3	111.4	116	0	5	12	3
22-Jan-18	N030-49025-0873	6331	6331	PETRO-CAN	UNKNOWN	30	N	N	11.4	101.3	99	5	8	21	4

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4μ	6μ	10μ	14μ	18μ	21μ	38μ	50μ	W
22-Oct-19	N030-49311-0466	N		23/23/21	79687	63439	30618	10160	2593	938	10	2	N
11-Feb-19	N030-49053-0338	Y		24/23/21	82469	67138	33614	10772	2320	771	11	3	N
27-Sep-18	N030-49276-0546	N	N	BLH									N
22-Jan-18	N030-49025-0873	N	N	Black									N

Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, V1 = Viscosity Index, W = Water, Zn = Zinc

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EQUIPMENT

CUSTOMER EQUIP NUM: 14611
SERIAL NUMBER: R9J01266
MODEL: 14M
MANUFACTURER: CAT
COMPANY NAME: WHEATLAND COUNTY

SAMPLE INFORMATION

COMPARTMENT NAME: TRANSMISSION DIFF
COMP SERIAL NUM:
COMPARTMENT MODEL:
LABEL#: 200263197

Interp By: Peter Lewandowski

AREA:
REGION:

SHOP JOB NUM:
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days): 16
SAMPLE LOCATION:

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

ND30-49311-0469

PROCESS 07-Nov-19
DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
22-Oct-19	ND30-49311-0469	8446	400	U		1	1	3	1	10	0	0	8	0	0	0	0	0	1170	3723	8	0	1	1	934
11-Feb-19	ND30-49053-0342	8045	1000	Y	Y	2	0	3	0	26	0	0	43	0	0	0	0	0	1083	3131	8	0	1	0	819
27-Sep-18	ND30-48278-0548	7485	7485	N	N	2	1	3	1	19	0	0	39	0	0	0	0	0	1107	3316	7	0	0	0	851
22-Jan-18	ND30-48025-0510	6331	4335	N	N	3	2	4	1	80	0	1	194	0	0	0	0	0	1056	2555	9	0	0	0	1006

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A
22-Oct-19	ND30-49311-0469	8446	400	CHEVRON	UNKNOWN	30	U		11.1	89.7	110	0	6	13	4	N
11-Feb-19	ND30-49053-0342	8045	1000	PETRO-CAN	UNKNOWN	30	Y	Y	10.9	86.5	112	0	6	13	4	N
27-Sep-18	ND30-48278-0548	7485	7485	PETRO-CAN	UNKNOWN		N	N	10.3	85.3	102	0	6	13	4	N
22-Jan-18	ND30-48025-0510	6331	4335	PETRO-CAN	UNKNOWN		N	N	8.9	60.0	125	0	13	25	4	N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4μ	6μ	10μ	14μ	18μ	21μ	38μ	50μ	W
22-Oct-19	ND30-49311-0469	U		21/19/16	16396	4418	1124	358	117	56	2	0	N
11-Feb-19	ND30-49053-0342	Y	Y	21/17/11	15671	818	55	15	7	4	1	1	N
27-Sep-18	ND30-48278-0548	N	N	21/18/14	16309	1692	317	150	98	72	10	2	N
22-Jan-18	ND30-48025-0510	N	N	22/18/14	24176	1836	306	120	52	30	5	4	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA :
REGION :

SAMPLE INFORMATION

COMPARTMENT NAME : TANDEM LEFT
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL# : 200263377
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 16
SAMPLE LOCATION :

Interp By: Peter Lewandowski

**No Action
Required**

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE
NEXT SERVICE INTERVAL.

LAB #

N030-49311-0470

PROCESS 07-Nov-19

DATE

WEAR/CONTAMINATION - ADDITIVES/FORULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
22-Oct-19	N030-49311-0470	8446	400	N		1	1	5	1	144	0	0	0	0	0	0	0	0	1180	3691	9	0	0	1	1001
11-Feb-19	N030-49063-0337	8045	1000	Y		3	1	9	0	235	0	0	0	0	0	0	0	0	1311	3028	14	0	1	0	1021
27-Sep-18	N030-48278-0547	7485	7485	N		N	N	1	0	5	1	167	0	0	0	0	0	0	1083	3136	8	0	0	0	819
22-Jan-18	N030-49025-0872	6331	6331	N		N	N	4	1	16	2	2447	1	0	2	0	0	0	1223	2983	10	0	0	1	1053

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT
22-Oct-19	N030-49311-0470	8446	400	CHEVRON	UNKNOWN	30	N		11.8	91.7	119	0	5	13	3
11-Feb-19	N030-49063-0337	8045	1000	PETRO-CAN	UNKNOWN	30	Y		11.3	102.0	96	0	6	18	4
27-Sep-18	N030-48278-0547	7485	7485	CHEVRON	UNKNOWN	30	N		15.2	116.5	136	0	6	13	3
22-Jan-18	N030-49025-0872	6331	6331	PETRO-CAN	UNKNOWN	30	N		11.5	102.5	99	11	8	19	4

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4μ	6μ	10μ	14μ	18μ	21μ	38μ	50μ	W
22-Oct-19	N030-49311-0470	N		24/23/21	80836	65668	33187	11209	2626	888	9	2	N
11-Feb-19	N030-49063-0337	Y		24/23/21	80637	66815	36035	12965	3034	987	12	3	N
27-Sep-18	N030-48278-0547	N	N	BLH									N
22-Jan-18	N030-49025-0872	N	N	Black									N

Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitrogen, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, SI = Sulfur, SUL = Sulfur, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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Email: DARWIN.

Interp By: Peter Lewandowski

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY

JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : HYDRAULIC SYSTEM
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL# : 200263050

SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 16
SAMPLE LOCATION :

No Action
Required

WEAR METAL ANALYSIS INDICATES ACCEPTABLE WEAR RATE. OIL CONDITION ANALYSIS IS ACCEPTABLE. PARTICLE COUNT READING EXCEEDS RECOMMENDED CLEANLINESS LEVEL. RECOMMEND THE USE OF A ULTRA HIGH EFFICIENCY FILTER TO REDUCE EXCESS PARTICULATE IN SYSTEM. SEE THE CAT FILTER AND FLUID APPLICATION GUIDE FOR APPROPRIATE FILTER. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-49311-0471

PROCESS 07-Nov-19

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
22-Oct-19	N030-49311-0471	8446	400	N		3	1	4	2	5	0	0	3	0	0	0	0	0	1292	3159	10	0	1	0	1036
11-Feb-19	N030-49053-0343	8045	2000	N	Y	5	2	5	0	5	0	0	3	0	0	0	0	0	1241	2789	9	0	1	0	969
27-Sep-18	N030-49278-0549	7485	7485	N	N	4	2	4	1	5	0	1	3	0	0	0	0	0	1266	3015	10	0	0	0	989
22-Jan-18	N030-48025-0509	6331	6331	N	N	4	2	5	2	6	0	1	3	0	0	0	0	0	1190	2862	10	0	0	0	998

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A
22-Oct-19	N030-49311-0471	8446	400	CHEVRON		5W-20	N		8.4	42.0	181	0	33	43	4	N
11-Feb-19	N030-49053-0343	8045	2000	PETRO-CAN		30	N	Y	8.8	43.7	186	0	34	44	4	N
27-Sep-18	N030-48278-0549	7485	7485	PETRO-CAN			N	N	8.8	42.8	191	0	34	45	4	N
22-Jan-18	N030-48025-0509	6331	6331	PETRO-CAN			N	N	8.3	38.0	203	0	33	44	4	N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4µ	6µ	10µ	14µ	18µ	21µ	38µ	50µ	W
22-Oct-19	N030-49311-0471	N		20/19/14	5717	2527	694	151	53	29	2	1	N
11-Feb-19	N030-49053-0343	N	Y	19/16/11	4047	345	45	14	7	5	2	2	N
27-Sep-18	N030-48278-0549	N	N	18/15/12	1645	306	72	26	11	6	1	1	N
22-Jan-18	N030-48025-0509	N	N	21/17/14	12127	1130	314	119	47	24	3	1	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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Email: DARWIN.

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 200201806
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 16
SAMPLE LOCATION :

Interp By: Gregory Scribner

No Action
Required

COPPER MAY BE SOURCED TO OIL COOLER LEACHING. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-49311-0468

PROCESS 07-Nov-19

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
22-Oct-19	N030-49311-0468	8446	177	U		3	4	4	0	8	0	0	397	0	0	0	1	0	797	1297	631	0	67	1	736
30-Aug-19	N030-49278-0740	8300	250	Y	Y	2	3	4	1	17	0	3	641	0	0	0	0	0	807	1209	778	0	74	5	719
08-Jan-19	N030-49028-1315	7935	245	Y	Y	2	2	2	1	7	0	1	1	0	0	0	0	0	782	1240	721	0	69	1	696
16-Nov-18	N030-49351-0428	7690	252	Y	Y	2	3	2	1	8	0	0	1	0	0	0	0	0	834	1390	768	0	68	10	722

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F	PFC
22-Oct-19	N030-49311-0468	8446	177	CHEVRON	DELO XLE SE	5W-40	U		12.5	80.0	154	7	13	19	8	N	N	
30-Aug-19	N030-49278-0740	8300	250	CHEVRON	DELO XLE SE	5W-40	Y	Y	10.1	63.7	145	11	13	18	8	N	N	4.39
08-Jan-19	N030-49028-1315	7935	245	CHEVRON	DELO XLE SE	10W-30	Y	Y	10.6	68.8	142	4	12	18	7	N	N	3.07
16-Nov-18	N030-49351-0428	7690	252	CHEVRON	DELO XLE SE	10W-30	Y	Y	10.2	66.4	139	4	13	18	7	N	N	

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
22-Oct-19	N030-49311-0468	U		N
30-Aug-19	N030-49278-0740	Y	Y	N
08-Jan-19	N030-49028-1315	Y	Y	N
16-Nov-18	N030-49351-0428	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Barium, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

Notes: 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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CAN T1P 1J6
PHONE: 403-333-6887
FAX:
Email: DARWIN.

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL# : 200263080
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 9
SAMPLE LOCATION :

Interp By: Greg Eyre

No Action
Required

COPPER MAY BE SOURCED TO OIL COOLER LEACHING. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-49353-0322

PROCESS 19-Dec-19

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
10-Dec-19	N030-49353-0322	8783	250	Y	Y	3	2	3	0	6	0	0	414	0	0	0	1	0	780	1240	601	0	71	1	741
22-Oct-19	N030-49311-0468	8446	177	U		3	4	4	0	8	0	0	397	0	0	0	1	0	797	1297	631	0	67	1	736
30-Aug-19	N030-49278-6740	8300	250	Y	Y	2	3	4	1	17	0	3	641	0	0	0	0	0	807	1209	778	0	74	5	719
08-Jan-19	N030-49028-1315	7935	245	Y	Y	2	2	2	1	7	0	1	1	0	0	0	0	0	782	1240	721	0	69	1	695

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F	PFC
10-Dec-19	N030-49353-0322	8783	250	CHEVRON	DELO XLE SE	5W-40	Y	Y	14.0	82.2	176	8	13	19	8	N	N	
22-Oct-19	N030-49311-0468	8446	177	CHEVRON	DELO XLE SE	5W-40	U		12.5	80.0	154	7	13	19	8	N	N	
30-Aug-19	N030-49278-6740	8300	250	CHEVRON	DELO XLE SE	5W-40	Y	Y	10.1	63.7	145	11	13	18	8	N	N	4.39
08-Jan-19	N030-49028-1315	7935	245	CHEVRON	DELO XLE SE	10W-30	Y	Y	10.6	68.8	142	4	12	18	7	N	N	3.07

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
10-Dec-19	N030-49353-0322	Y	Y	N
22-Oct-19	N030-49311-0468	U		N
30-Aug-19	N030-49278-6740	Y	Y	N
08-Jan-19	N030-49028-1315	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitrogen, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CA T1P 1J6
PHONE: 4033336870
FAX: 4039344889
Email: WAYNE.

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA :
REGION :

SAMPLE INFORMATION

COMPARTMENT NAME : RADIATOR
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 005078691
SHOP JOB NUM :
SAMPLE TYPE: COOLANT
SAMPLE SHIP TIME (days) : 11
SAMPLE LOCATION :

Interp By: Peter Leggo

Monitor

Compartment

NITRITE INHIBITOR LEVEL IS TOO LOW TO PROVIDE CORROSION PROTECTION. ADD COOLANT ADDITIVE TO BOOST NITRITE. UNLESS NITRITE FREE COOLANT. ALL OTHER READINGS ARE WITHIN THE ACCEPTABLE RANGE. CONTINUE TO USE THIS COOLANT. RESAMPLE TO MONITOR.

LAB #

N030-49053-9013

PROCESS 22-Feb-19

DATE

CORROSION ELEMENTS - COOLANT FORMULATION			
SAMPLE DATE	SAMPLE ID	FLUID BRAND	TYPE
11-Feb-19	N030-49053-9013	CATELC	5
26-Aug-15	N030-45251-9006	CATELC	302
27-Jan-15	N030-45033-9007	CATELC	518
02-Oct-14	N030-44282-9013	CATELC	707

FREEZE/BOIL PROTECTION - CONTAMINATION									
SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	TYPE	FLUID CHANGE	GL	FP	BP
11-Feb-19	N030-49053-9013	8045	8045	CATELC		U	57	-48	109
26-Aug-15	N030-45251-9006	1996	1996	CATELC		U	61	-55	110
27-Jan-15	N030-45033-9007	1003	1003	CATELC		U	61	-55	110
02-Oct-14	N030-44282-9013	553	553	CATELC		U	60	-53	109

COOLANT PHYSICALS									
SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	TYPE	Color	App	Odor	Oil
11-Feb-19	N030-49053-9013	8045	8045	CATELC		red	clear	norm	none
26-Aug-15	N030-45251-9006	1996	1996	CATELC		red	clear	norm	trace
27-Jan-15	N030-45033-9007	1003	1003	CATELC		red	clear	norm	none
02-Oct-14	N030-44282-9013	553	553	CATELC		red	clear	norm	none

App = Appearance, BP = Boil Point(°C), CON = Conductivity, FP = Freeze Point(°C), GL = Glycol, NO2 = Nitrite, Partic = Particulate Amount

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WHEATLAND COUNTY

PHONE:
FAX:
Email: DARWIN.

Interp By: Greg Eyre

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA :
REGION :

SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL# : 4886992
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 20
SAMPLE LOCATION :

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB

N030-49028-1315

PROCESS 28-Jan-19

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
08-Jan-19	N030-49028-1315	7935	245	Y	Y	2	2	2	1	7	0	1	1	0	0	0	0	0	782	1240	721	0	69	1	696
16-Nov-18	N029-48351-0428	7690	252	Y	Y	2	3	2	1	8	0	0	1	0	0	0	0	0	834	1390	768	0	68	10	722
27-Sep-18	N030-48276-0545	7485	297	N	N	3	2	3	1	3	0	0	0	0	0	0	0	0	947	1268	771	0	74	11	839
17-Sep-18	N030-48263-0786	7438	250	Y	Y	3	2	2	1	8	0	0	1	0	0	0	0	0	832	1271	744	0	77	4	785

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V/100	V40	VI	ST	OXI	SUL	NIT	A	F	Pfc
08-Jan-19	N030-49028-1315	7935	245	CHEVRON	DELO XLE SE	10W-30	Y	Y	10.6	68.8	142	4	12	18	7	N	N	3.07
16-Nov-18	N029-48351-0428	7690	252	CHEVRON	DELO XLE SE	10W-30	Y	Y	10.2	66.4	139	4	13	18	7	N	N	
27-Sep-18	N030-48276-0545	7485	297	PETRO-CAN	DELO XLE	10W-30	N	N	10.7	73.6	133	0	12	18	6	N	N	0.22
17-Sep-18	N030-48263-0786	7438	250	CHEVRON	DELO XLE	10W-30	Y	Y	10.2	67.5	137	4	12	18	7	N	N	3.83

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
08-Jan-19	N030-49028-1315	Y	Y	N
16-Nov-18	N029-48351-0428	Y	Y	N
27-Sep-18	N030-48276-0545	N	N	N
17-Sep-18	N030-48263-0786	Y	Y	N

A = Anticreosol, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, PFC = Percent Fuel Content, Pb = Lead, ST = Sulfon, Si = Silicon, Sn = Tin, Ti = Titanium, V = Viscosity, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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Email: WAYNE.

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 4886992
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 20
SAMPLE LOCATION :

Interp By: Greg Eyrle

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-49028-1315

PROCESS 28-Jan-19

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P	
08-Jan-19	N030-49028-1315	7935	245	Y	Y	2	2	2	1	7	0	1	1	0	0	0	0	0	0	782	1240	721	0	69	1	696
16-Nov-18	N030-49051-0428	7690	252	Y	Y	2	3	2	1	8	0	0	1	0	0	0	0	0	834	1390	768	0	68	10	722	
27-Sep-18	N030-49079-0545	7485	297	N	N	3	2	3	1	3	0	0	0	0	0	0	0	0	947	1288	771	0	74	11	839	
17-Sep-18	N030-49282-0766	7438	250	Y	Y	3	2	2	1	8	0	0	1	0	0	0	0	0	832	1271	744	0	77	4	785	

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F	Pfc
08-Jan-19	N030-49028-1315	7935	245	CHEVRON	DELO XLE SE	10W-30	Y	Y	10.6	68.8	142	4	12	18	7	N	N	3.07
16-Nov-18	N030-49051-0428	7690	252	CHEVRON	DELO XLE SE	10W-30	Y	Y	10.2	66.4	139	4	13	18	7	N	N	
27-Sep-18	N030-49079-0545	7485	297	PETRO-CAN	DELO XLE	10W-30	N	N	10.7	73.6	133	0	12	18	6	N	N	0.22
17-Sep-18	N030-49282-0766	7438	250	CHEVRON	DELO XLE	10W-30	Y	Y	10.2	67.5	137	4	12	18	7	N	N	3.83

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
08-Jan-19	N030-49028-1315	Y	Y	N
16-Nov-18	N030-49051-0428	Y	Y	N
27-Sep-18	N030-49079-0545	N	N	N
17-Sep-18	N030-49282-0766	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, PFC = Percent Fuel Content, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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FAX: 4039344889
Email: WAYNE.

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : TANDEM RIGHT
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 005016851
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 11
SAMPLE LOCATION :

Interp By: Peter Leggo

No Action
Required

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE
NEXT SERVICE INTERVAL.

LAB #

NO30-49053-0338

PROCESS 22-Feb-19
DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
11-Feb-19	NO30-49053-0338	8045	1000	Y		1	0	4	0	146	0	0	0	0	0	0	0	0	1042	2900	7	0	1	1	789
27-Sep-18	NO30-49276-0546	7485	7485	N	N	1	0	4	0	107	0	0	0	0	0	0	0	0	1078	3071	8	0	0	1	809
22-Jan-18	NO30-49025-0873	6331	6331	N	N	3	1	10	1	1369	1	0	1	0	0	0	0	0	1233	2996	10	0	0	1	1074
20-Jan-17	NO30-47023-0572	4450	4450	U	U	4	0	9	1	1045	1	0	1	<0	0	0	0	0	1217	2956	8	0	<0	0	1038

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT
11-Feb-19	NO30-49053-0338	8045	1000	PETRO-CAN	UNKNOWN	30	Y		13.4	112.0	116	0	5	12	3
27-Sep-18	NO30-49276-0546	7485	7485	CHEVRON	UNKNOWN	30	N	N	13.3	111.4	116	0	5	12	3
22-Jan-18	NO30-49025-0873	6331	6331	PETRO-CAN	UNKNOWN	30	N	N	11.4	101.3	99	5	8	21	4
20-Jan-17	NO30-47023-0572	4450	4450	PETRO-CAN	UNKNOWN	30	U	U	11.5	100.4			8	20	4

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4μ	6μ	10μ	14μ	18μ	21μ	38μ	50μ	W
11-Feb-19	NO30-49053-0338	Y		24/23/21	82469	67138	33614	10772	2320	771	11	3	N
27-Sep-18	NO30-49276-0546	N	N	BLH									N
22-Jan-18	NO30-49025-0873	N	N	Black									N
20-Jan-17	NO30-47023-0572	U	U	BLK	0	0	0	0	0	0	0	0	N

Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, Ni = Nickel, CXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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FAX: 4039344889
Email: WAYNE.

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : TANDEM LEFT
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 005016829
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 11
SAMPLE LOCATION :

Interp By: Peter Leggo

Monitor Compartment

EXCESS CONTACT OF CHAINS/TANDEM HOUSING AND BRAKE USAGE CAN SUBSTANTIALLY ELEVATE IRON READINGS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

NO30-49053-0337

PROCESS 22-Feb-19

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P	
11-Feb-19	NO30-49053-0337	8045	1000	Y		3	1	9	0	235	0	0	0	0	0	0	0	0	1311	3028	14	0	1	0	1021	
27-Sep-18	NO30-49276-0547	7485	7485	N	N	1	0	5	1	167	0	0	0	0	0	0	0	0	1083	3136	8	0	0	0	819	
22-Jan-18	NO30-48025-0872	6331	6331	N	N	4	1	16	2	2447	1	0	2	0	0	0	0	0	1223	2963	10	0	0	1	1053	
20-Jan-17	NO30-47023-0573	4450	4450	U	U	6	<0	13	2	1544	1	<0	1	<0	0	0	0	0	1248	3037	9	0	0	<0	1	1061

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT
11-Feb-19	NO30-49053-0337	8045	1000	PETRO-CAN	UNKNOWN	30	Y		11.3	102.0	96	0	6	18	4
27-Sep-18	NO30-49276-0547	7485	7485	CHEV/SON	UNKNOWN	30	N	N	15.2	116.5	136	0	6	13	3
22-Jan-18	NO30-49025-0872	6331	6331	PETRO-CAN	UNKNOWN	30	N	N	11.5	102.5	99	11	8	19	4
20-Jan-17	NO30-47023-0573	4450	4450	FACTORYFIL	UNKNOWN	30	U	U	11.6	102.2			8	20	4

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4µ	6µ	10µ	14µ	18µ	21µ	38µ	50µ	W
11-Feb-19	NO30-49053-0337	Y		24/23/21	80637	66815	36035	12965	3024	987	12	3	N
27-Sep-18	NO30-49276-0547	N	N	BLH									N
22-Jan-18	NO30-49025-0872	N	N	Black									N
20-Jan-17	NO30-47023-0573	U	U	BLK	0	0	0	0	0	0	0	0	N

Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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Email: WAYNE.

EQUIPMENT

CUSTOMER EQUIP NUM : 14671
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA :
REGION :

SAMPLE INFORMATION

COMPARTMENT NAME : WHEEL BEARINGS FRONT LEFT
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL #: 005016638
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 11
SAMPLE LOCATION :

Interp By: Peter Leggo

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

No Action
Required

LAB #

ND30-49053-0339

PROCESS DATE 22-Feb-19

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
11-Feb-19	ND30-49053-0339	8045	1000	Y		2	1	17	1	54	3	0	0	0	0	0	0	0	1061	3066	10	0	1	3	804
26-Aug-15	ND30-45251-0424	1996	1996	Y	U	5	0	6	3	55	4	<0	1	<0	0	<0	0	0	1207	2953	9	0	10	2	1002
27-Jan-15	ND30-45053-0117	1003	1003	N	U	5	1	6	3	51	4	0	1	<0	0	<0	0	0	1159	2732	9	0	9	3	954

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT
11-Feb-19	ND30-49053-0339	8045	1000	PETRO-CAN	UNKNOWN	30	Y		10.4	84.2	106	0	5	12	3
26-Aug-15	ND30-45251-0424	1996	1996	UNKNOWN	UNKNOWN		Y	U	10.9	92.9			3		
27-Jan-15	ND30-45053-0117	1003	1003	UNKNOWN	UNKNOWN		N	U	10.8	92.6			4		

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4µ	6µ	10µ	14µ	18µ	21µ	38µ	50µ	W
11-Feb-19	ND30-49053-0339	Y		23/23/16	79/95	47604	6713	474	65	26	2	0	N
26-Aug-15	ND30-45251-0424	Y	U	24/23/19	80954	57986	19092	3984	810	315	16	7	N
27-Jan-15	ND30-45053-0117	N	U	24/23/19	81361	55003	16017	2629	365	109	2	1	N

Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, SI = Silica, SUL = Sulfation, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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Email: WAYNE.

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : TRANSMISSION DIFF
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL# ENDS 398
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 11
SAMPLE LOCATION :

Interp By: Peter Leggo

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

ND30-49063-0342

PROCESS 22-Feb-19

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
11-Feb-19	ND30-49063-0342	8045	1000	Y	Y	2	0	3	0	26	0	0	43	0	0	0	0	0	1083	3131	8	0	1	0	819
27-Sep-18	ND30-49276-0548	7485	7485	N	N	2	1	3	1	19	0	0	39	0	0	0	0	0	1107	3316	7	0	0	0	851
22-Jan-18	ND30-49025-0510	6331	4335	N	N	3	2	4	1	80	0	1	194	0	0	0	0	0	1056	2655	9	0	0	0	1006
20-Jan-17	ND30-47023-0575	4450	2454	U	U	3	1	4	0	43	0	1	145	<0	0	0	0	<0	1082	2688	6	0	1	1	1003

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	VT00	V40	VI	ST	OXI	SUL	NIT	A
11-Feb-19	ND30-49063-0342	8045	1000	PETRO-CAN	UNKNOWN	30	Y	Y	10.9	86.5	112	0	6	13	4	N
27-Sep-18	ND30-49276-0548	7485	7485	PETRO-CAN	UNKNOWN		N	N	10.3	85.3	102	0	6	13	4	N
22-Jan-18	ND30-49025-0510	6331	4335	PETRO-CAN	UNKNOWN		N	N	8.9	60.0	125	0	13	25	4	N
20-Jan-17	ND30-47023-0575	4450	2454	PETRO-CAN	PRODURO	30	U	U	10.8	84.9			3	17	3	N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4µ	6µ	10µ	14µ	18µ	21µ	36µ	50µ	W
11-Feb-19	ND30-49063-0342	Y	Y	21/17/11	15671	818	55	15	7	4	1	1	N
27-Sep-18	ND30-49276-0548	N	N	21/18/14	16309	1692	317	150	98	72	10	2	N
22-Jan-18	ND30-49025-0510	N	N	22/18/14	24176	1836	306	120	62	30	5	4	N
20-Jan-17	ND30-47023-0575	U	U	22/18/14	27333	2081	335	126	58	28	1	0	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, VT00 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CA T1P 1J6
PHONE: 4033336870
FAX: 4039344889
Email: WAYNE.

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : WHEEL BEARINGS FRONT RIGHT
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 005016840
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 11
SAMPLE LOCATION :

Interp By: Peter Leggo

Monitor Compartment

ELEVATED CHROMIUM CAN BE SOURCED TO VARIOUS TYPES OF LOW FRICTION BEARINGS. INSPECT ANY MAGNETIC PLUG(S) FOR FERROUS METAL & CHECK OIL FOR OTHER VISIBLE MATERIAL/ METAL, ETC. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE TO MONITOR.

LAB #

NO30-49053-0340

PROCESS 22-Feb-19

DATE

WEAR/CONTAMINATION - ADDITIVE/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
11-Feb-19	NO30-49053-0340	8045	1000	Y		2	1	48	3	129	13	0	0	0	0	0	0	1	986	2870	10	0	2	11	743
26-Aug-15	NO30-45251-0425	1996	1996	Y	U	4	2	21	7	400	19	<0	1	<0	1	<0	1	1	1239	3051	10	4	11	14	1021
27-Jan-15	NO30-45033-0118	1003	1003	N	U	4	2	14	7	317	13	0	1	<0	0	<0	0	1	1155	2741	10	3	9	10	953

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT
11-Feb-19	NO30-49053-0340	8045	1000	PETRO-CAN	UNKNOWN	30	Y		10.3	85.0	102	0	5	12	3
26-Aug-15	NO30-45251-0425	1996	1996	CAT	UNKNOWN		Y	U	10.8	92.9			3		
27-Jan-15	NO30-45033-0118	1003	1003	UNKNOWN	UNKNOWN		N	U	10.9	93.4			4		

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4μ	6μ	10μ	14μ	18μ	21μ	38μ	50μ	W
11-Feb-19	NO30-49053-0340	Y		24/23/18	84050	61422	18203	2226	322	122	3	1	N
26-Aug-15	NO30-45251-0425	Y	U	BLH	0	0	0	0	0	0	0	0	N
27-Jan-15	NO30-45033-0118	N	U	BLH	0	0	0	0	0	0	0	0	N

Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soap, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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FAX: 4039344889
Email: WAYNE.

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : CIRCLE DRIVE BOX
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 005016642
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 11
SAMPLE LOCATION :

Interp By: Peter Leggo

No Action
Required

ELEVATED COPPER PRIMARILY SOURCED TO OXIDES (CUO) AND SOME SECONDARY BUSHING, THRUST WASHER WEAR. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

ND030-49053-0341

PROCESS 22-Feb-19

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
11-Feb-19	ND030-49053-0341	8045	1000	Y		0	0	5	19	9	0	8	72	3	0	0	0	0	8	7	1	0	248	0	868
26-Aug-15	ND030-45251-0423	1996	1996	Y	U	<0	4	1	26	7	0	23	133	5	1	0	0	0	9	2	0	0	148	<0	844

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT
11-Feb-19	ND030-49053-0341	8045	1000	PETRO-CAN	UNKNOWN	80W-90	Y		14.7	135.8	108	0	5	21	4
26-Aug-15	ND030-45251-0423	1996	1996	CAT	UNKNOWN		Y	U	15.3	148.9			6		

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4μ	6μ	10μ	14μ	18μ	21μ	38μ	50μ	W
11-Feb-19	ND030-49053-0341	Y		24/23/20	80567	61878	25286	6378	1358	476	11	2	N
26-Aug-15	ND030-45251-0423	Y	U	24/23/21	80497	68878	42152	18385	4560	1461	16	2	N

Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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PHONE: 4033336870
FAX: 4039344889
Email: WAYNE.

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY

SAMPLE INFORMATION

COMPARTMENT NAME : HYDRAULIC SYSTEM
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 005016821
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 11
SAMPLE LOCATION :
AREA:
JOB SITE :
REGION:

Interp By: Peter Leggo

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

No Action
Required

LAB #

N030-49053-0343

PROCESS 22-Feb-19
DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
11-Feb-19	N030-49053-0343	8045	2000	N	Y	5	2	5	0	5	0	0	3	0	0	0	0	0	1241	2789	9	0	1	0	969
27-Sep-18	N030-49276-0549	7485	7485	N	N	4	2	4	1	5	0	1	3	0	0	0	0	0	1266	3015	10	0	0	0	989
22-Jan-18	N030-49025-0509	6331	6331	N	N	4	2	5	2	6	0	1	3	0	0	0	0	0	1190	2862	10	0	0	0	998
20-Jan-17	N030-47023-0578	4450	4450	U	U	5	2	4	1	6	0	0	4	<0	0	0	0	0	1183	2853	10	0	0	0	1011

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	V1	ST	OXI	SUL	NIT	A
11-Feb-19	N030-49053-0343	8045	2000	PETRO-CAN		30	N	Y	8.8	43.7	186	0	34	44	4	N
27-Sep-18	N030-49276-0549	7485	7485	PETRO-CAN			N	N	8.8	42.8	191	0	34	45	4	N
22-Jan-18	N030-49025-0509	6331	6331	PETRO-CAN			N	N	8.3	38.0	203	0	33	44	4	N
20-Jan-17	N030-47023-0578	4450	4450	PETRO-CAN	UNKNOWN		U	U	7.3	33.5			36	45	4	N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4μ	6μ	10μ	14μ	18μ	21μ	38μ	50μ	W
11-Feb-19	N030-49053-0343	N	Y	19/16/11	4047	345	45	14	7	5	2	2	N
27-Sep-18	N030-49276-0549	N	N	18/15/12	1645	306	72	26	11	6	1	1	N
22-Jan-18	N030-49025-0509	N	N	21/17/14	12127	1130	314	119	47	24	3	1	N
20-Jan-17	N030-47023-0578	U	U	21/19/16	11814	3666	957	334	119	63	19	17	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Barium, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V100 = Viscosity@100C, V40 = Viscosity@40C, V1 = Viscosity Index, W = Water, Zn = Zinc

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Email: WAYNE.

EQUIPMENT

CUSTOMER EQUIP NUM: 14611
SERIAL NUMBER: R9J01266
MODEL: 14M
MANUFACTURER: CAT
COMPANY NAME: WHEATLAND COUNTY
JOB SITE:
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME: TANDEM LEFT
COMP SERIAL NUM:
COMPARTMENT MODEL:
LABEL#: 4977564
SHOP JOB NUM:
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days): 6
SAMPLE LOCATION:

Interp By: Peter Leggo

**No Action
Required**

UNABLE TO TEST FOR PARTICLE COUNT (ISO CODE) DUE TO EXCESS PARTICULATE. DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-48276-0547

PROCESS 03-Oct-18

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
27-Sep-18	N030-48276-0547	7485	7485	N	N	1	0	5	1	167	0	0	0	0	0	0	0	0	1083	3136	8	0	0	0	819
22-Jan-18	N030-48025-0872	6331	6331	N	N	4	1	16	2	2447	1	0	2	0	0	0	0	0	1223	2983	10	0	0	1	1053
20-Jan-17	N030-47023-0573	4450	4450	U	U	6	<0	13	2	1544	1	<0	1	<0	0	<0	0	0	1248	3037	9	0	<0	1	1061
21-Dec-15	N030-45383-0035	2476	476	U	U	5	<0	5	1	259	0	1	0	<0	0	<0	0	0	1187	2906	7	0	0	1	1045

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT
27-Sep-18	N030-48276-0547	7485	7485	CHEVRON	UNKNOWN	30	N	N	15.2	116.5	136	0	6	13	3
22-Jan-18	N030-48025-0872	6331	6331	PETRO-CAN	UNKNOWN	30	N	N	11.5	102.5	99	11	8	19	4
20-Jan-17	N030-47023-0573	4450	4450	FACTORYFIL	UNKNOWN	30	U	U	11.6	102.2			8	20	4
21-Dec-15	N030-45383-0035	2476	476	FACTORYFIL	UNKNOWN	30	U	U	11.4	102.6					

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4μ	6μ	10μ	14μ	18μ	21μ	38μ	50μ	W
27-Sep-18	N030-48276-0547	N	N	BLH									N
22-Jan-18	N030-48025-0872	N	N	Black									N
20-Jan-17	N030-47023-0573	U	U	BLK	0	0	0	0	0	0	0	0	N
21-Dec-15	N030-45383-0035	U	U	24/23/20	82579	67415	33590	9795	1517	414	1	1	N

Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CONTACT INFORMATION

EQUIPMENT

SAMPLE INFORMATION

WAYNE CLYNE
WHEATLAND COUNTY
RR1 HIGHWAY 1
STRATHMORE, AB
CA T1P 1J6
PHONE: 4033336870
FAX: 4039344889
Email: WAYNE.

CUSTOMER EQUIP NUM : 14611

SERIAL NUMBER : R9J01266

MODEL : 14M

MANUFACTURER : CAT

COMPANY NAME : WHEATLAND COUNTY

JOB SITE :

AREA :

REGION :

COMPARTMENT NAME : ENGINE

COMP SERIAL NUM :

COMPARTMENT MODEL :

LABEL# : 4908598

SHOP JOB NUM :

SAMPLE TYPE: OIL

SAMPLE SHIP TIME (days) : 23

SAMPLE LOCATION :

Interp By: Greg Eyre

No Action
Required

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

NO30-48283-0766

PROCESS 10-Oct-18

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
17-Sep-18	NO30-48283-0766	7438	250	Y	Y	3	2	2	1	8	0	0	1	0	0	0	0	0	832	1271	744	0	77	4	785
31-Jul-18	NO30-48283-0445	7188	246	Y	Y	2	2	2	0	9	0	0	2	0	0	0	0	0	803	1285	743	0	56	2	723
11-Jun-18	NO30-48198-1132	6942	247	Y	Y	2	2	2	1	9	0	1	2	0	0	0	0	0	849	1199	769	0	60	11	728
27-Apr-18	NO30-48188-1131	6695	248	Y	Y	1	0	1	0	11	0	1	3	0	0	0	0	0	1204	1008	997	0	3	59	1028

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F	PFC
17-Sep-18	NO30-48283-0766	7438	250	CHEVRON	DELO XLE	10W-30	Y	Y	10.2	67.5	137	4	12	18	7	N	N	3.83
31-Jul-18	NO30-48283-0445	7188	246	CHEVRON	DELO XLE	10W-30	Y	Y	10.4	68.5	139	6	13	18	8	N	N	
11-Jun-18	NO30-48198-1132	6942	247	CHEVRON	SEMI SYN	10W-30	Y	Y	10.5	66.2	147	6	12	18	7	N	N	
27-Apr-18	NO30-48188-1131	6695	248	PETRO-CAN	DURON	10W-30	Y	Y	10.9	68.1	151	7	14	18	6	N	N	

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
17-Sep-18	NO30-48283-0766	Y	Y	N
31-Jul-18	NO30-48283-0445	Y	Y	N
11-Jun-18	NO30-48198-1132	Y	Y	N
27-Apr-18	NO30-48188-1131	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, PFC = Percent Fuel Content, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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PHONE: 4033336870
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Email: WAYNE.

Interp By: Dallas Livingston

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY

JOB SITE :
AREA :
REGION :

SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 4886981
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 23
SAMPLE LOCATION :

WEAR METAL ANALYSIS INDICATES ACCEPTABLE WEAR RATE. OIL CONDITION ANALYSIS IS ACCEPTABLE. RESAMPLE AT THE NEXT SERVICE INTERVAL.

No Action
Required

LAB #

NO30-48235-0445

PROCESS 23-Aug-18

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P	
31-Jul-18	NO30-48235-0445	7188	246	Y	Y	2	2	2	0	9	0	0	2	0	0	0	0	0	0	803	1285	743	0	56	2	723
11-Jun-18	NO30-48186-1132	6942	247	Y	Y	2	2	2	1	9	0	1	2	0	0	0	0	0	0	849	1199	769	0	60	11	728
27-Apr-18	NO30-48186-1131	6695	248	Y	Y	1	0	1	0	11	0	1	3	0	0	0	0	0	0	1204	1008	997	0	3	59	1028
07-Mar-18	NO30-48065-0531	6447	261	Y	Y	2	1	1	0	12	1	2	3	0	0	0	0	0	0	1176	996	980	0	2	60	1022

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F
31-Jul-18	NO30-48235-0445	7188	246	CHEVRON	DELO XLE	10W-30	Y	Y	10.4	68.5	139	6	13	18	8	N	N
11-Jun-18	NO30-48186-1132	6942	247	CHEVRON	SEMI SYN	10W-30	Y	Y	10.5	66.2	147	6	12	18	7	N	N
27-Apr-18	NO30-48186-1131	6895	248	PETRO-CAN	DURON	10W-30	Y	Y	10.9	68.1	151	7	14	18	6	N	N
07-Mar-18	NO30-48065-0531	6447	261	PETRO-CAN	DURON	10W-30	Y	Y	10.4	66.0	145	6	14	18	6	N	N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
31-Jul-18	NO30-48235-0445	Y	Y	N
11-Jun-18	NO30-48186-1132	Y	Y	N
27-Apr-18	NO30-48186-1131	Y	Y	N
07-Mar-18	NO30-48065-0531	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, SI = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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SAMPLE INFORMATION

WAYNE CLYNE

WHEATLAND COUNTY

RR1 HIGHWAY 1

STRATHMORE, AB

CA T1P 1J6

PHONE: 4033336870

FAX: 4039344889

Email: WAYNE.

CUSTOMER EQUIP NUM : 14611

SERIAL NUMBER : R9J01266

MODEL : 14M

MANUFACTURER : CAT

COMPANY NAME : WHEATLAND COUNTY

JOB SITE :

AREA :

REGION :

COMPARTMENT NAME : ENGINE

COMP SERIAL NUM :

COMPARTMENT MODEL :

LABEL#: 3862085

SHOP JOB NUM :

SAMPLE TYPE: OIL

SAMPLE SHIP TIME (days) : 19

SAMPLE LOCATION :

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

No Action
Required

Interp By: Peter Leggo

LAB #

N030-48085-0531

PROCESS 26-Mar-18

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P	
07-Mar-18	N030-48085-0531	6447	261	Y	Y	2	1	1	0	12	1	2	3	0	0	0	0	0	0	1176	996	980	0	2	60	1022
22-Jan-18	N030-48025-0511	6331	145	N	N	1	0	1	0	4	0	1	2	0	0	0	0	0	1141	960	963	0	2	61	1039	
18-Dec-17	N030-48012-0549	6186	247	Y	Y	1	0	1	0	8	0	1	3	0	0	0	0	0	1164	988	988	0	2	54	1005	
01-Nov-17	N030-47331-0712	5939	227	Y	Y	1	0	1	0	7	0	0	3	0	0	0	0	0	1202	1033	1039	0	2	58	1009	

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F	PFC
07-Mar-18	N030-48085-0531	6447	261	PETRO-CAN	DURON	10W-30	Y	Y	10.4	66.0	145	6	14	18	6	N	N	
22-Jan-18	N030-48025-0511	6331	145	PETRO-CAN	DURON	10W-30	N	N	10.5	66.6	141	0	13	18	5	N	N	2.60
18-Dec-17	N030-48012-0549	6186	247	PETRO-CAN	DURON	10W-30	Y	Y	10.6	66.8	148	5	14	19	5	N	N	
01-Nov-17	N030-47331-0712	5939	227	PETRO-CAN	DURON	10W-30	Y	Y	10.7	68.7	145	3	14	18	5	N	N	2.71

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
07-Mar-18	N030-48085-0531	Y	Y	N
22-Jan-18	N030-48025-0511	N	N	N
18-Dec-17	N030-48012-0549	Y	Y	N
01-Nov-17	N030-47331-0712	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NiT = Nitrogen, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CONTACT INFORMATION

EQUIPMENT

SAMPLE INFORMATION

WAYNE CL YNE
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RR1 HIGHWAY 1
STRAITHMORE, AB
CA T1P 1J6
PHONE: 4033336870
FAX: 4039344889
Email: WAYNE.

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M

MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY

JOB SITE :
AREA :
REGION :

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :

COMPARTMENT MODEL :
LABEL# : 4891687

SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 3

SAMPLE LOCATION :

WEAR METAL ANALYSIS INDICATES ACCEPTABLE WEAR RATE. NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE.
CONTINUE SAMPLING AT THE NORMAL INTERVAL.

No Action
Required

LAB #

N030-48025-0511

PROCESS 25-Jan-18

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
22-Jan-18	N030-48025-0511	6331	145	N	N	1	0	1	0	4	0	1	2	0	0	0	0	0	1141	960	963	0	2	61	1039
18-Dec-17	N030-48012-0649	6186	247	Y	Y	1	0	1	0	8	0	1	3	0	0	0	0	0	1164	988	988	0	2	54	1005
01-Nov-17	N030-47331-0712	5939	227	Y	Y	1	0	1	0	7	0	0	3	0	0	0	0	0	1202	1033	1039	0	2	58	1009
21-Sep-17	N030-47285-0791	5712	249	Y	Y	1	0	1	0	8	0	0	4	0	0	0	0	0	1139	971	999	0	0	54	990

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F	PFC
22-Jan-18	N030-48025-0511	6331	145	PETRO-CAN	DURON	10W-30	N	N	10.5	66.6	141	0	13	18	5	N	N	2.60
18-Dec-17	N030-48012-0649	6186	247	PETRO-CAN	DURON	10W-30	Y	Y	10.6	66.8	148	5	14	19	5	N	N	
01-Nov-17	N030-47331-0712	5939	227	PETRO-CAN	DURON	10W-30	Y	Y	10.7	66.7	145	3	14	18	5	N	N	2.71
21-Sep-17	N030-47285-0791	5712	249	PETRO-CAN	DURON	10W-30	Y	Y	10.2	64.0	146	4	14	18	5	N	N	3.88

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
22-Jan-18	N030-48025-0511	N	N	N
18-Dec-17	N030-48012-0649	Y	Y	N
01-Nov-17	N030-47331-0712	Y	Y	N
21-Sep-17	N030-47285-0791	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, PFC = Percent Fuel Content, Pb = Lead, SI = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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PHONE: 4033336870
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EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY

SAMPLE INFORMATION

COMPARTMENT NAME : HYDRAULIC SYSTEM
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL# : 4691728
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 3
SAMPLE LOCATION :

Interp By: Greg Eyre

WEAR METAL ANALYSIS INDICATES ACCEPTABLE WEAR RATE. NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE.
CONTINUE SAMPLING AT THE NORMAL INTERVAL.

No Action
Required

LAB #

N030-48025-0509

PROCESS 25-Jan-18

DATE

WEAR/CONTAMINATION - ADDITIVES/FORULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
22-Jan-18	N030-48025-0508	6331	6331	N	N	4	2	5	2	6	0	1	3	0	0	0	0	0	1190	2862	10	0	0	0	998
20-Jan-17	N030-47023-0576	4450	4450	U	U	5	2	4	1	6	0	0	4	<0	0	0	0	0	1183	2853	10	0	0	0	1011
21-Dec-15	N030-45363-0037	2466	2466	U	U	5	1	4	1	4	0	0	3	<0	0	0	0	0	1143	2839	9	0	0	0	1005
26-Aug-15	N030-45251-0422	1996	1996	N	Y	3	2	3	1	3	0	1	2	<0	0	0	0	<0	1148	2813	8	0	1	<0	964

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A
22-Jan-18	N030-48025-0508	6331	6331	PETRO-CAN			N	N	8.3	38.0	203	0	33	44	4	N
20-Jan-17	N030-47023-0576	4450	4450	PETRO-CAN	UNKNOWN		U	U	7.3	33.5			36	45	4	N
21-Dec-15	N030-45363-0037	2466	2466	FACTORYFIL	UNKNOWN		U	U	7.4	34.2			36			N
26-Aug-15	N030-45251-0422	1996	1996	FACTORYFIL	UNKNOWN		N	Y	7.4	32.8			36			N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4μ	6μ	10μ	14μ	18μ	21μ	36μ	50μ	W
22-Jan-18	N030-48025-0508	N	N	21/17/14	12127	1130	314	119	47	24	3	1	N
20-Jan-17	N030-47023-0576	U	U	21/19/16	11814	3666	957	334	119	63	19	17	N
21-Dec-15	N030-45363-0037	U	U	18/16/13	1980	432	98	40	16	9	1	1	N
26-Aug-15	N030-45251-0422	N	Y	19/17/13	4019	999	225	75	24	12	1	1	N

A = Antifoam, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Seal, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CONTACT INFORMATION

WAYNE CLYNE
WHEATLAND COUNTY
RR1 HIGHWAY 1
STRATHMORE, AB
CA T1P 1J6
PHONE: 4033336870
FAX: 40339344889
Email: WAYNE.

Interp By: Greg Eyre

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY

AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : TANDEM RIGHT
COMP SERIAL NUM :
COMPARTMENT MODEL :

LABEL#: 4891487

SHOP JOB NUM :

SAMPLE TYPE: OIL

SAMPLE SHIP TIME (days) : 3

SAMPLE LOCATION :

Action
Required

UNABLE TO TEST FOR PARTICLE COUNT (ISO CODE) DUE TO EXCESS PARTICULATE/BLACK COLOUR OF OIL. ELEVATED IRON MAY BE ATTRIBUTED TO WEAR OF TANDEM CHAINS, HOUSING, BRAKES, GEARS, BEARINGS, ETC. OTHER READINGS APPEAR TO BE NORMAL. SUGGEST TO CHANGE OIL AND RESAMPLE AT THE NEXT SERVICE INTERVAL. CONFIRM SOURCE OF ELEVATED IRON CONTENT.

LAB #

LN030-48025-0873

PROCESS 25-Jan-18

DATE

WEAR/CONTAMINATION - ADDITIVES/FORULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
22-Jan-18	N030-48025-0873	6331	6331	N	N	3	1	10	1	1369	1	0	1	0	0	0	0	0	1233	2996	10	0	0	1	1074
20-Jan-17	N030-47023-0572	4450	4450	U	U	4	0	9	1	1045	1	0	1	<0	0	<0	0	0	1217	2956	8	0	<0	0	1038
21-Dec-15	N030-45363-0034	2476	476	U	U	5	<0	7	1	759	0	0	0	<0	0	<0	0	0	1154	2840	8	0	0	<0	1000
26-Aug-15	N030-45251-0426	1996	1996	N	U	3	<0	7	1	577	0	0	0	<0	0	<0	0	0	1222	2988	7	0	1	<0	1005

OIL FORULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FLITER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT
22-Jan-18	N030-48025-0873	6331	6331	PETRO-CAN	UNKNOWN	30	N	N	11.4	101.3	99	5	8	21	4
20-Jan-17	N030-47023-0572	4450	4450	PETRO-CAN	UNKNOWN	30	U	U	11.5	100.4			8	20	4
21-Dec-15	N030-45363-0034	2476	476	PETRO-CAN	UNKNOWN	30	U	U	11.4	101.3			8		
26-Aug-15	N030-45251-0426	1996	1996	PETRO-CAN	UNKNOWN	30	N	U	11.4	103.1			8		

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4µ	6µ	10µ	14µ	18µ	21µ	38µ	50µ	W
22-Jan-18	N030-48025-0873	N	N	Black									N
20-Jan-17	N030-47023-0572	U	U	BLK	0	0	0	0	0	0	0	0	N
21-Dec-15	N030-45363-0034	U	U	BLH	0	0	0	0	0	0	0	0	N
26-Aug-15	N030-45251-0426	N	U	BLH	0	0	0	0	0	0	0	0	N

Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CONTACT INFORMATION

EQUIPMENT

SAMPLE INFORMATION

WAYNE CLYNE
WHEATLAND COUNTY
RR1 HIGHWAY 1
STRATHMORE, AB
CA T1P 1J6
PHONE: 4033336870
FAX: 4039344889
Email: WAYNE.

Interp By: Peter Leggo

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

COMPARTMENT NAME : TANDEM LEFT
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 48917710
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 3
SAMPLE LOCATION :

Action Required

SOME FINE DEBRIS VISIBLE IN THE OIL, UNABLE TO RUN PARTICLE COUNT DUE TO VISIBLE DEBRIS, RE-SAMPLE TO VERIFY IF SAMPLE TAKEN PROPERLY. EXCESS CONTACT OF CHAIN/STANDEM HOUSING AND BRAKE USAGE CAN SUBSTANTIALLY ELEVATE IRON READINGS. CHANGE OIL, RESAMPLE TO MONITOR. INSPECT ANY MAGNETIC PLUG(S) FOR FERROUS METAL & CHECK OIL FOR OTHER VISIBLE MATERIAL/ METAL, ETC.

LAB #

N030-48025-0872

PROCESS 25-Jan-18

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
22-Jan-18	N030-48025-0872	6331	6331	N	N	4	1	16	2	2447	1	0	2	0	0	0	0	0	1223	2983	10	0	0	1	1053
20-Jan-17	N030-47023-0573	4450	4450	U	U	6	<0	13	2	1544	1	<0	1	<0	0	<0	0	0	1248	3037	9	0	<0	1	1061
21-Dec-15	N030-45363-0035	2476	476	U	U	5	<0	5	1	259	0	1	0	<0	0	<0	0	0	1187	2906	7	0	0	1	1045
26-Aug-15	N030-45251-0427	1996	1996	N	U	3	0	7	2	672	0	<0	0	<0	0	<0	0	0	1241	3039	8	0	1	<0	1020

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT
22-Jan-18	N030-48025-0872	6331	6331	PETRO-CAN	UNKNOWN	30	N	N	11.5	102.5	99	11	8	19	4
20-Jan-17	N030-47023-0573	4450	4450	FACTORYFIL	UNKNOWN	30	U	U	11.6	102.2			8	20	4
21-Dec-15	N030-45363-0035	2476	476	FACTORYFIL	UNKNOWN	30	U	U	11.4	102.6			8		
26-Aug-15	N030-45251-0427	1996	1996	FACTORYFIL	UNKNOWN	30	N	U	11.6	101.8			8		

OIL CLEANINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4μ	6μ	10μ	14μ	18μ	21μ	36μ	50μ	W
22-Jan-18	N030-48025-0872	N	N	Black									N
20-Jan-17	N030-47023-0573	U	U	BLK	0	0	0	0	0	0	0	0	N
21-Dec-15	N030-45363-0035	U	U	24/23/20	82579	67415	33590	9795	1517	414	1	1	N
26-Aug-15	N030-45251-0427	N	U	dark	0	0	0	0	0	0	0	0	N

Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CONTACT INFORMATION

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RR1 HIGHWAY 1
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CA T1P 1J6
PHONE: 4033336870
FAX: 4039344889
Email: WAYNE.

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : TRANSMISSION DIFF
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 4891493
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 3
SAMPLE LOCATION :

Interp By: Dallas Livingston

Monitor
Compartment

SIGNIFICANT COPPER PRIMARILY ASSOCIATED WITH OXIDES (CUO). SOME SECONDARY BUSHING/BEARING WEAR. ELEVATED IRON MAY BE SOURCED TO GEAR, BEARING, SPLINE, SHAFT, PLATE, HOUSING, PUMP WEAR. ALL OTHER WEAR METAL ANALYSIS INDICATES ACCEPTABLE WEAR RATE. OIL CONDITION ANALYSIS IS ACCEPTABLE. PARTICLE COUNT (ISO CODE) FLUID CLEANLINESS LEVEL IS ACCEPTABLE. CONDUCT VISUAL EXAMINATION OF THE OIL & INSPECT OIL FILTER(S) FOR ANY TRAPPED METAL, OTHER DEBRIS.
RESAMPLE IN 500 HOURS TO MONITOR. INITIALLY ELEVATED "BREAK-IN" READINGS WILL USUALLY IMPROVE AFTER THE 2ND, 3RD OIL DRAIN INTERVALS.

LAB #

ND30-48025-0510

PROCESS 25-Jan-18

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
22-Jan-18	NO30-48025-0510	6331	4335	N	N	3	2	4	1	80	0	1	194	0	0	0	0	0	1056	2555	9	0	0	0	1006
20-Jan-17	NO30-47023-0575	4450	2454	U	U	3	1	4	0	43	0	1	145	<0	0	0	0	<0	1082	2668	6	0	1	1	1003
21-Dec-15	NO30-45363-0036	2476	1476	U	U	3	0	3	1	18	<0	13	<0	0	<0	0	0	0	1082	2713	6	0	2	0	973
26-Aug-15	NO30-45251-0421	1996	1996	Y	Y	7	7	12	1	79	0	<0	46	<0	0	0	0	0	1121	2673	7	1	2	<0	965

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A
22-Jan-18	NO30-48025-0510	6331	4335	PETRO-CAN	UNKNOWN		N	N	8.9	60.0	125	0	13	25	4	N
20-Jan-17	NO30-47023-0575	4450	2454	PETRO-CAN	PROUDURO	30	U	U	10.8	84.9		0	3	17	3	N
21-Dec-15	NO30-45363-0036	2476	1476	PETRO-CAN	PROUDURO	30	U	U	10.7	86.2		0	3			N
26-Aug-15	NO30-45251-0421	1996	1996	PETRO-CAN	PROUDURO	30	Y	Y	10.4	85.8		0	5			N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4µ	6µ	10µ	14µ	18µ	21µ	38µ	50µ	W
22-Jan-18	NO30-48025-0510	N	N	22/18/14	24176	1836	306	120	52	30	5	4	N
20-Jan-17	NO30-47023-0575	U	U	22/18/14	27333	2081	335	126	58	28	1	0	N
21-Dec-15	NO30-45363-0036	U	U	23/20/13	45773	5433	220	43	12	7	1	1	N
26-Aug-15	NO30-45251-0421	Y	Y	22/19/15	29149	4837	810	265	101	54	5	3	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, Ni = Nitrogen, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CONTACT INFORMATION

EQUIPMENT

SAMPLE INFORMATION

WAYNE CLYNE

WHEATLAND COUNTY

RR1 HIGHWAY 1

STRATHMORE, AB

CA T1P 1J6

PHONE: 4033336870

FAX: 4039344889

Email: WAYNE.

CUSTOMER EQUIP NUM : 14612

SERIAL NUMBER : R9J01264

MODEL : 14M

MANUFACTURER : CAT

COMPANY NAME : WHEATLAND COUNTY

JOB SITE :

AREA:

REGION:

COMPARTMENT NAME : TRANSMISSION DIFF

COMP SERIAL NUM : SLZ00813

COMPARTMENT MODEL :

LABEL#: 4751484

SHOP JOB NUM :

SAMPLE TYPE: OIL

SAMPLE SHIP TIME (days) : 1

SAMPLE LOCATION :

Inter By: Peter Leggo

No Action
Required

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE
NEXT SERVICE INTERVAL.

LAB #

ND030-48025-0874

PROCESS 25-Jan-18

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P	
24-Jan-18	ND030-49025-0874	5097	223	N	N	1	1	2	0	12	0	0	34	0	0	0	0	0	0	1164	2821	8	0	1	1	990
30-Nov-17	ND030-47342-0449	4874	1849	Y	Y	2	1	3	0	40	0	1	140	0	0	0	0	0	0	1109	2771	7	1	1	1	965
09-Jan-17	ND030-47011-0327	3361	336	U	U	2	<0	2	0	12	<0	1	27	<0	<0	0	0	0	0	1176	2861	6	0	1	0	983
16-Oct-16	ND030-46302-0361	3025	941	Y	Y	3	2	4	1	41	0	1	88	<0	<0	0	0	0	0	1176	2842	8	0	1	0	1003

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	V1	ST	OXI	SUL	NIT	A
24-Jan-18	ND030-48025-0874	5097	223	PETRO-CAN	PRODDURO	30	N	N	11.0	89.2	109	0	3	16	2	N
30-Nov-17	ND030-47342-0449	4874	1849	PETRO-CAN	PRODDURO	30	Y	Y	10.9	86.6	111	0	5	18	3	N
09-Jan-17	ND030-47011-0327	3361	336	PETRO-CAN	UNKNOWN		U	U	10.4	82.2			5	18	2	N
16-Oct-16	ND030-46302-0361	3025	941	PETRO-CAN	UNKNOWN		Y	Y	8.2	47.5			24	36	4	N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4µ	6µ	10µ	14µ	18µ	21µ	38µ	50µ	W
24-Jan-18	ND030-48025-0874	N	N	22/17/13	20964	973	130	44	20	13	2	1	N
30-Nov-17	ND030-47342-0449	Y	Y	23/20/14	57193	5288	305	102	51	37	13	8	N
09-Jan-17	ND030-47011-0327	U	U	22/18/13	28735	2367	245	80	34	19	4	2	N
16-Oct-16	ND030-46302-0361	Y	Y	21/16/12	11305	485	58	21	10	6	1	0	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NiT = Nitration, Mo = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Seal, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, V1 = Viscosity Index, W = Water, Zn = Zinc

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CONTACT INFORMATION

EQUIPMENT

SAMPLE INFORMATION

WAYNE CL YNE
WHEATLAND COUNTY
RR1 HIGHWAY 1
STRATHMORE, AB
CA T1P 1J6
PHONE: 4033336870
FAX: 4033344889
Email: WAYNE.

CUSTOMER EQUIP NUM : 14612
SERIAL NUMBER : R9J01264
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY

COMPARTMENT NAME : HYDRAULIC SYSTEM
COMP SERIAL NUM : TXE09918
COMPARTMENT MODEL :

JOB SITE :

SHOP JOB NUM :

SAMPLE TYPE: OIL

SAMPLE SHIP TIME (days) : 1

SAMPLE LOCATION :

Interp By: Peter Leggo

No Action
Required

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE
NEXT SERVICE INTERVAL.

LAB #

N030-48025-0875

PROCESS DATE 25-Jan-18

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
24-Jan-18	N030-48025-0875	5097	5097	N	N	3	2	4	1	5	0	0	3	0	0	0	0	0	1211	2918	9	0	0	0	1045
09-Jan-17	N030-47011-0328	3361	3361	U	U	3	1	4	1	3	0	<0	3	<0	<0	0	0	<0	1192	2893	9	0	0	<0	1005
16-Oct-16	N030-46302-0348	3025	941	N	Y	3	2	3	1	3	0	1	2	<0	<0	0	0	0	1286	3109	10	0	0	0	1069
01-Apr-16	N030-46095-0225	2180	2180	N	N	4	3	4	2	3	0	1	3	<0	0	0	0	0	1245	3079	9	0	0	<0	1015

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A
24-Jan-18	N030-48025-0875	5097	5097	PETRO-CAN	UNKNOWN		N	N	8.3	38.8	197	0	35	46	4	N
09-Jan-17	N030-47011-0328	3361	3361	PETRO-CAN	UNKNOWN		U	U	7.8	35.5			34	45	3	N
16-Oct-16	N030-46302-0348	3025	941	PETRO-CAN	UNKNOWN		N	Y	7.5	34.4			34	44	4	N
01-Apr-16	N030-46095-0225	2180	2180	PETRO-CAN	UNKNOWN		N	N	7.7	36.5			36			N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4μ	6μ	10μ	14μ	18μ	21μ	38μ	50μ	W
24-Jan-18	N030-48025-0875	N	N	18/16/11	1855	172	34	12	7	5	2	1	N
09-Jan-17	N030-47011-0328	U	U	18/15/12	2377	264	57	27	15	11	3	1	N
16-Oct-16	N030-46302-0348	N	Y	18/15/11	1785	286	60	18	6	4	1	0	N
01-Apr-16	N030-46095-0225	N	N	22/19/14	29739	3477	334	95	38	23	5	4	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CONTACT INFORMATION

EQUIPMENT

SAMPLE INFORMATION

WAYNE CLYNE
WHEATLAND COUNTY
RR1 HIGHWAY 1
STRATHMORE, AB
CA T1P 1J6
PHONE: 4033336870
FAX: 4039344889
Email: WAYNE.

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 764406
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 25
SAMPLE LOCATION :

**No Action
Required**

WEAR METAL ANALYSIS INDICATES ACCEPTABLE WEAR RATE. NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE.
CONTINUE SAMPLING AT THE NORMAL INTERVAL.

LAB #
N030-48012-0649
PROCESS
DATE 12-Jan-18

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P	
18-Dec-17	N030-46012-0649	6186	247	Y	Y	1	0	1	0	8	0	1	3	0	0	0	0	0	0	1164	988	988	0	2	54	1005
01-Nov-17	N030-47381-0712	5939	227	Y	Y	1	0	1	0	7	0	0	3	0	0	0	0	0	0	1202	1033	1039	0	2	58	1009
21-Sep-17	N030-47285-0791	5712	249	Y	Y	1	0	1	0	8	0	0	4	0	0	0	0	0	0	1139	971	999	0	0	54	990
02-Aug-17	N030-47223-0102	5463	256	Y	Y	1	0	1	0	8	0	1	5	0	0	0	0	0	0	1155	998	984	0	4	56	985

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F	PFC
18-Dec-17	N030-48012-0649	6186	247	PETRO-CAN	DURON	10W-30	Y	Y	10.6	66.8	148	5	14	19	5	N	N	
01-Nov-17	N030-47381-0712	5939	227	PETRO-CAN	DURON	10W-30	Y	Y	10.7	68.7	145	3	14	18	5	N	N	2.71
21-Sep-17	N030-47285-0791	5712	249	PETRO-CAN	DURON	10W-30	Y	Y	10.2	64.0	146	4	14	18	5	N	N	3.88
02-Aug-17	N030-47223-0102	5463	256	PETRO-CAN	DURON	10W-30	Y	Y	10.6	62.8	159	5	13	18	5	N	N	

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
18-Dec-17	N030-48012-0649	Y	Y	N
01-Nov-17	N030-47381-0712	Y	Y	N
21-Sep-17	N030-47285-0791	Y	Y	N
02-Aug-17	N030-47223-0102	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CONTACT INFORMATION

EQUIPMENT

SAMPLE INFORMATION

CUSTOMER EQUIP NUM : 14611

SERIAL NUMBER : R9J01266

MODEL : 14M

MANUFACTURER : CAT

COMPANY NAME : WHEATLAND COUNTY

JOB SITE :

AREA :

REGION :

COMPARTMENT NAME : ENGINE

COMP SERIAL NUM :

COMPARTMENT MODEL :

LABEL #: 1416369

SHOP JOB NUM :

SAMPLE TYPE: OIL

SAMPLE SHIP TIME (days) : 26

SAMPLE LOCATION :

No Action Required
DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

AB #

0030-47331-0712

PROCESS 27-Nov-17

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
01-Nov-17	M030-47331-0712	5939	227	Y	Y	1	0	1	0	7	0	0	3	0	0	0	0	0	1202	1033	1039	0	2	58	1009
21-Sep-17	M030-47285-0701	5712	249	Y	Y	1	0	1	0	8	0	0	4	0	0	0	0	0	1139	971	999	0	0	54	990
02-Aug-17	M030-47223-0102	5463	256	Y	Y	1	0	1	0	8	0	1	5	0	0	0	0	0	1155	998	984	0	4	56	985
21-Jun-17	M030-47161-0575	5207	249	Y	Y	2	0	1	0	9	0	0	5	0	0	0	0	0	1161	1093	935	0	0	51	1004

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F	PFC
01-Nov-17	M030-47331-0712	5939	227	PETRO-CAN	DURON	10W-30	Y	Y	10.7	68.7	145	3	14	18	5	N	N	2.71
21-Sep-17	M030-47285-0701	5712	249	PETRO-CAN	DURON	10W-30	Y	Y	10.2	64.0	146	4	14	18	5	N	N	3.88
02-Aug-17	M030-47223-0102	5463	256	PETRO-CAN	DURON	10W-30	Y	Y	10.6	62.8	159	5	13	18	5	N	N	
21-Jun-17	M030-47161-0575	5207	249	PETRO-CAN	DURON	10W-30	Y	Y	10.4	63.1	154	4	13	17	5	N	N	4.71

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
01-Nov-17	M030-47331-0712	Y	Y	N
21-Sep-17	M030-47285-0701	Y	Y	N
02-Aug-17	M030-47223-0102	Y	Y	N
21-Jun-17	M030-47161-0575	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, PFC = Percent Fuel Content, Pb = Lead, SI = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CONTACT INFORMATION

EQUIPMENT

SAMPLE INFORMATION

WAYNE CLYNE
WHEATLAND COUNTY
RR1 HIGHWAY 1
STRATHMORE, AB
CA T1P 1J6
PHONE: 4033336870
FAX: 40339344889
Email: WAYNE.

CUSTOMER EQUIP NUM: 14611

SERIAL NUMBER : R9J01266

MODEL : 14M

MANUFACTURER : CAT

COMPANY NAME : WHEATLAND COUNTY

JOB SITE :

AREA:

REGION:

COMPARTMENT NAME : ENGINE

COMP SERIAL NUM :

COMPARTMENT MODEL :

LABEL#: 3860061

SHOP JOB NUM :

SAMPLE TYPE: OIL

SAMPLE SHIP TIME (days) : 21

SAMPLE LOCATION :

Prep By: Dallas Livingston

WEAR METAL ANALYSIS INDICATES ACCEPTABLE WEAR RATE. OIL CONDITION ANALYSIS IS ACCEPTABLE. RESAMPLE AT THE NEXT SERVICE INTERVAL.

No Action
Required

AB #

1030-47285-0791

PROCESS 12-Oct-17

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
21-Sep-17	N030-47285-0791	5712	249	Y	Y	1	0	1	0	8	0	0	4	0	0	0	0	0	1139	971	999	0	0	54	990
02-Aug-17	N030-47223-0102	5463	256	Y	Y	1	0	1	0	8	0	1	5	0	0	0	0	0	1155	998	984	0	4	56	985
21-Jun-17	N030-47181-0575	5207	249	Y	Y	2	0	1	0	9	0	0	5	0	0	0	0	0	1161	1093	935	0	0	51	1004
09-May-17	N030-47153-0188	4958	254	Y	Y	2	1	2	1	8	0	0	5	0	0	0	0	0	1080	1069	818	0	2	47	923

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F	Pfc
21-Sep-17	N030-47285-0791	5712	249	PETRO-CAN	DURON	10W-30	Y	Y	10.2	64.0	146	4	14	18	5	N	N	3.88
02-Aug-17	N030-47223-0102	5463	256	PETRO-CAN	DURON	10W-30	Y	Y	10.6	62.8	159	5	13	18	5	N	N	
21-Jun-17	N030-47181-0575	5207	249	PETRO-CAN	DURON	10W-30	Y	Y	10.4	63.1	154	4	13	17	5	N	N	4.71
09-May-17	N030-47153-0188	4958	254	PETRO-CAN	DURON	10W-30	Y	Y	10.5	64.9	151	5	13	18	5	N	N	4.21

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
21-Sep-17	N030-47285-0791	Y	Y	N
02-Aug-17	N030-47223-0102	Y	Y	N
21-Jun-17	N030-47181-0575	Y	Y	N
09-May-17	N030-47153-0188	Y	Y	N

A = Anticrease, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, PFC = Percent Fuel Content, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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FAX: 4039344889
Email: WAYNE.

EQUIPMENT

CUSTOMER EQUIP NUM : 14609
SERIAL NUMBER : R9J81185
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL# : 4051808
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 10
SAMPLE LOCATION :

Interp By: Dallas Livingston

**No Action
Required**

ELEVATED COPPER LEVEL MAY BE DUE TO INCREASED OIL COOLER CORE LEACHING. NOT WEAR. OIL CHANGE OR NEW FORMULATION CAN RESTART COOLER CORE LEACHING. WEAR METAL ANALYSIS INDICATES ACCEPTABLE WEAR RATE. OIL CONDITION ANALYSIS IS ACCEPTABLE. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-47223-0100

PROCESS 11-Aug-17

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
01-Aug-17	N030-47223-0100	6500	250	Y	Y	3	1	2	2	13	0	1	139	0	0	0	0	0	1157	2325	9	0	2	1	967

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F
01-Aug-17	N030-47223-0100	6500	250	PETRO-CAN	DUPRONE	10W-30	Y	Y	11.1	70.9	148	7	15	19	6	N	N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
01-Aug-17	N030-47223-0100	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, SI = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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PHONE: 4033336870
FAX: 4039344889
Email: WAYNE.

Interp By: Dallas Livingston

EQUIPMENT

CUSTOMER EQUIP NUM : 14610
SERIAL NUMBER : R9J0187
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA :
REGION :

SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 4444711
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 14
SAMPLE LOCATION :

**No Action
Required**

ELEVATED COPPER LEVEL MAY BE DUE TO INCREASED OIL COOLER CORE LEACHING; NOT WEAR. OIL CHANGE OR NEW FORMULATION CAN RESTART COOLER CORE LEACHING. WEAR METAL ANALYSIS INDICATES ACCEPTABLE WEAR RATE. OIL CONDITION ANALYSIS IS ACCEPTABLE. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-47223-0103

PROCESS 11-Aug-17

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
28-Jul-17	N030-47223-0103	5500	250	Y	Y	1	0	2	1	20	0	1	78	0	0	0	0	0	1211	1214	919	0	2	52	999
18-Jun-17	N030-47181-0676	5250	250	Y	Y	3	0	2	1	12	0	1	51	0	0	0	0	0	1185	2023	309	0	0	16	984
18-Apr-17	N030-47128-0308	5000	250	Y	Y	3	1	2	2	16	0	1	200	0	0	0	0	0	1212	2445	9	0	4	0	1018
22-Feb-17	N030-47085-0314	4750	250	Y	Y	3	0	2	1	19	0	2	483	<0	<0	0	0	<0	1143	2329	8	0	1	0	913

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F
28-Jul-17	N030-47223-0103	5500	250	PETRO-CAN	DURON-E	10W-30	Y	Y	10.6	67.4	146	10	16	20	7	N	N
18-Jun-17	N030-47181-0676	5250	250	PETRO-CAN	DURON-E	10W-30	Y	Y	11.0	70.8	146	5	15	19	6	N	N
18-Apr-17	N030-47128-0308	5000	250	PETRO-CAN	DURON-E	10W-30	Y	Y	11.1	72.5	144	7	17	20	7	N	N
22-Feb-17	N030-47085-0314	4750	250	PETRO-CAN	DURON-E	10W-30	Y	Y	11.3	74.6		8	19	21	8	N	NT

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
28-Jul-17	N030-47223-0103	Y	Y	N
18-Jun-17	N030-47181-0676	Y	Y	N
18-Apr-17	N030-47128-0308	Y	Y	N
22-Feb-17	N030-47085-0314	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Seal, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CONTACT INFORMATION

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PHONE: 4033336870
FAX: 4039344889
Email: WAYNE.

Interp By: Dallas Livingston

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL# : 3867827
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 9
SAMPLE LOCATION :

WEAR METAL ANALYSIS INDICATES ACCEPTABLE WEAR RATE. OIL CONDITION ANALYSIS IS ACCEPTABLE. RESAMPLE AT THE NEXT SERVICE INTERVAL.

No Action
Required

LAB #

N030-47223-0102

PROCESS 11-Aug-17

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	N	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
02-Aug-17	N030-47223-0102	5463	256	Y	Y	1	0	1	0	8	0	1	5	0	0	0	0	0	1155	998	984	0	4	56	985
21-Jun-17	N030-47181-0575	5207	249	Y	Y	2	0	1	0	9	0	0	5	0	0	0	0	0	1161	1093	935	0	0	51	1004
09-May-17	N030-47153-0168	4988	254	Y	Y	2	1	2	1	8	0	0	5	0	0	0	0	0	1080	1069	818	0	2	47	923
21-Mar-17	N030-47128-0304	4704	239	Y	Y	9	0	1	1	7	0	1	5	0	0	0	0	0	1199	2377	8	0	4	0	1052

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F	Pfc
02-Aug-17	N030-47223-0102	5463	256	PETRO-CAN	DURON	10W-30	Y	Y	10.6	62.8	159	5	13	18	5	N	N	
21-Jun-17	N030-47181-0575	5207	249	PETRO-CAN	DURON	10W-30	Y	Y	10.4	63.1	154	4	13	17	5	N	N	4.71
09-May-17	N030-47153-0168	4988	254	PETRO-CAN	DURON	10W-30	Y	Y	10.5	64.9	151	5	13	18	5	N	N	4.21
21-Mar-17	N030-47128-0304	4704	239	PETRO-CAN	DURON	10W-30	Y	Y	10.8	68.8	147	4	13	17	5	N	N	

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
02-Aug-17	N030-47223-0102	Y	Y	N
21-Jun-17	N030-47181-0575	Y	Y	N
09-May-17	N030-47153-0168	Y	Y	N
21-Mar-17	N030-47128-0304	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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PHONE: 4033336870
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EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01286
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA:
REGION:

SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 3867960
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 9
SAMPLE LOCATION :

Interp By: Peter Lewandowski

TRACES OF FUEL MAY BE DUE TO PROLONGED IDLEING TIME; IS WITHIN ACCEPTABLE LIMITS; LOWERED VISCOSITY STILL WITHIN ACCEPTABLE LIMITS; VERIFY ORIGINAL OIL VISCOSITY.

No Action
Required

LAB #

N030-47181-0575

PROCESS 30-Jun-17

DATE

WEARCONTAMINATION - ADDITIVESFORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	OVERALL EVAL	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
21-Jun-17	N030-47181-0575	5207	249	Y	Y		2	0	1	0	9	0	0	5	0	0	0	0	0	1161	1083	935	0	0	51	1004
09-May-17	N030-47153-0168	4958	254	Y	Y		2	1	2	1	8	0	0	5	0	0	0	0	0	1080	1069	818	0	2	47	923
21-Mar-17	N030-47128-0304	4704	239	Y	Y		9	0	1	1	7	0	1	5	0	0	0	0	0	1199	2377	8	0	4	0	1052
27-Jan-17	N030-47055-0313	4465	240	Y	Y		8	0	2	1	7	0	1	5	<0	<0	0	0	<0	1071	2147	7	0	2	<0	883

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	OVERALL EVAL	V100	V40	VI	ST	OXI	SUL	NIT	A	F	PFC
21-Jun-17	N030-47181-0575	5207	249	PETRO-CAN	DURON	10W-30	Y	Y		10.4	63.1	154	4	13	17	5	N	N	4.71
09-May-17	N030-47153-0168	4958	254	PETRO-CAN	DURON	10W-30	Y	Y		10.5	64.9	151	5	13	18	5	N	N	4.21
21-Mar-17	N030-47128-0304	4704	239	PETRO-CAN	DURON	10W-30	Y	Y		10.8	68.8	147	4	13	17	5	N	N	
27-Jan-17	N030-47055-0313	4465	240	PETRO-CAN	UNKNOWN	10W-30	Y	Y		10.9	70.5		5	13	17	5	N	N	

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	OVERALL EVAL	W
21-Jun-17	N030-47181-0575	Y	Y		N
09-May-17	N030-47153-0168	Y	Y		N
21-Mar-17	N030-47128-0304	Y	Y		N
27-Jan-17	N030-47055-0313	Y	Y		N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, Ni = Nickel, OXI = Oxidation, P = Phosphorus, PFC = Percent Fuel Content, Pb = Lead, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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.



FINNING CANADA LTD. - Fluid Analysis Laboratory, 10910-170th Street, Edmonton, AB, T5S 1H6, CANADA

PHONE: 1-888 FINNING (346-6464)

Email: oilsupport@finning.com Web: www.finning.com

CONTACT INFORMATION

WAYNE CLYNE
WHEATLAND COUNTY
RR1 HIGHWAY 1
STRATHMORE, AB
CA T1P 1J6
PHONE: 4033336870
FAX: 4039344889

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA :
REGION :

SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL# : 3867520
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 24
SAMPLE LOCATION :

Interp By: Dallas Livingston

No Action Required
WEAR METAL ANALYSIS INDICATES ACCEPTABLE WEAR RATE. OIL CONDITION ANALYSIS IS ACCEPTABLE. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-47153-0168

PROCESS 02-Jun-17

DATE

WEAR/CONTAMINATION - ADDITIVES/CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	OVERALL EVAL	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
09-May-17	N030-47153-0168	4958	254	Y	Y	Green	2	1	2	1	8	0	0	5	0	0	0	0	0	1080	1069	818	0	2	47	923
21-Mar-17	N030-47128-0304	4704	239	Y	Y	Green	9	0	1	1	7	0	1	5	0	0	0	0	0	1199	2377	8	0	4	0	1052
27-Jan-17	N030-47055-0313	4485	240	Y	Y	Yellow	8	0	2	1	7	0	1	5	<0	<0	0	0	<0	1071	2147	7	0	2	<0	883
20-Jan-17	N030-47023-0574	4450	475	U	U	Green	9	0	2	1	8	0	<0	5	<0	0	0	0	<0	1116	2247	7	<0	1	0	969

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	OVERALL EVAL	V100	V40	VI	ST	OXI	SUL	NIT	A	F	PFe
09-May-17	N030-47153-0168	4958	254	PETRO-CAN	DURON	10W-30	Y	Y	Green	10.5	64.9	151	5	13	18	5	N	N	4.21
21-Mar-17	N030-47128-0304	4704	239	PETRO-CAN	DURON	10W-30	Y	Y	Green	10.8	68.8	147	4	13	17	5	N	N	
27-Jan-17	N030-47055-0313	4465	240	PETRO-CAN	UNKNOWN	10W-30	Y	Y	Yellow	10.9	70.5		5	13	17	5	N	T	
20-Jan-17	N030-47023-0574	4450	475	PETRO-CAN	UNKNOWN	10W-30	U	U	Green	11.0	70.8		5	13	17	5	N	T	

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	OVERALL EVAL	W
09-May-17	N030-47153-0168	Y	Y	Green	N
21-Mar-17	N030-47128-0304	Y	Y	Green	N
27-Jan-17	N030-47055-0313	Y	Y	Yellow	N
20-Jan-17	N030-47023-0574	U	U	Green	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, PFC = Percent Fuel Content, Pb = Lead, SI = Sulfate, SI = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CONTACT INFORMATION

WAYNE CLYNE
WHEATLAND COUNTY
RR1 HIGHWAY 1
STRATHMORE, AB
CA T1P 1J6
PHONE: 4033336870
FAX: 4039344889

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R8J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY

SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 3867524
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 48
SAMPLE LOCATION :

Interp By: Dallas Livingston

REGION:

WEAR METAL ANALYSIS INDICATES ACCEPTABLE WEAR RATE. OIL CONDITION ANALYSIS IS ACCEPTABLE. RE SAMPLE AT THE NEXT SERVICE INTERVAL.

No Action
Required

LAB #

ND30-47128-0304

PROCESS 08-May-17
DATE

WEAR/CONTAMINATION - ADDITIVE/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	OVERALL EVAL	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Cs	Mg	Ba	B	Mn	P
21-Mar-17	ND30-47128-0304	4704	239	Y	Y		9	0	1	1	7	0	1	5	0	0	0	0	0	1199	2377	8	0	4	0	1052
27-Jan-17	ND30-47055-0313	4465	240	Y	Y		8	0	2	1	7	0	1	5	<0	<0	0	0	<0	1071	2147	7	0	2	<0	883
20-Jan-17	ND30-47023-0574	4450	475	U	U		9	0	2	1	8	0	<0	5	<0	0	0	0	<0	1116	2247	7	<0	1	0	969
01-Dec-16	ND30-46357-0201	3975	250	Y	Y		8	0	2	1	8	0	1	8	<0	<0	0	0	0	1149	2304	7	0	2	0	971

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	OVERALL EVAL	V100	V40	VI	ST	OXI	SUL	NIT	A	F
21-Mar-17	ND30-47128-0304	4704	239	PETRO-CAN	DURON	10W-30	Y	Y		10.8	68.8	147	4	13	17	5	N	N
27-Jan-17	ND30-47055-0313	4465	240	PETRO-CAN	UNKNOWN	10W-30	Y	Y		10.9	70.5		5	13	17	5	N	T
20-Jan-17	ND30-47023-0574	4450	475	PETRO-CAN	UNKNOWN	10W-30	U	U		11.0	70.8		5	13	17	5	N	T
01-Dec-16	ND30-46357-0201	3975	250	PETRO-CAN	UNKNOWN	10W-30	Y	Y		10.8	69.3		4	13	18	4	N	T

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	OVERALL EVAL	W
21-Mar-17	ND30-47128-0304	Y	Y		N
27-Jan-17	ND30-47055-0313	Y	Y		N
20-Jan-17	ND30-47023-0574	U	U		N
01-Dec-16	ND30-46357-0201	Y	Y		N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

Notes: 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.



Equipment Work Order

4:03 PM

Equipment: 14611

2014 CAT 14M Grader

Serial:

Details: 2014 FINNING,

roads graders/PW roads gra Location:

INSTRUCTIONS

Date: 4/21/2017 1:29 PM Due: Sched.: Taken By: wt_RLanthier ☒ Done ☐ Urgent
Request By: Rachelle Lanthier Assign To: Ben Damen
Request: REMOVE WING - 4877HRS PM Task:
Details:

Vendor Name:

Vendor Info:

2014 CAT 14M Grader,

14611

Activity	Description	Comments
----------	-------------	----------

☐	FLEETREP	Fleet Repairs
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COMPLETION

Date Done:	5/02/2017	In:	Activity: FLEETREP	☒ Done	Current On Record	When WO Done
Done By:	Ben Damen			Hourmeter:	4,877.0	4,877
Action Taken:				Odometer:	0.0	

USED PICKER TRUCK TO REMOVE SNOW WING



Equipment Work Order

12:53 PM

Equipment: 14611

2014 CAT 14M Grader

Serial:

Details: 2014 FINNING,

oads graders/PW roads gra Location:

INSTRUCTIONS

Date: 2/09/2017 2:31 PM Due: Sched.: Taken By: wt_TSmith ☒ Done ☐ Urgent
Request By: Terry Smith Assign To: Ben Damen
Request: REPLACE RIGHT REAR TIRE 4526 HRS PM Task:
Details: REPLACE RIGHT REAR TIRE 4526 HRS

Vendor Name:

Vendor Info:

2014 CAT 14M Grader,

14611

Activity	Description	Comments
----------	-------------	----------

☐ FLEETREP Fleet Repairs

COMPLETION

Date Done:	2/22/2017	In:	Activity: FLEETREP	☒ Done	Current On Record	When WO Done
Done By:	Ben Damen			Hourmeter:	4,526.0	4,526
Action Taken:				Odometer:	0.0	

CHANGED REAR RIGHT SIDE TIRE

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CAT

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PROACTIVE FLUID ANALYSIS Lubricant & Component • Predictive Results



Unit Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: ENGINE

Service Information

Warranty Expiry Date:
 Comp Make: CAT
 Comp Model: C11_CAT
 Comp Serial:
 Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:
 Default Site

Customer Comments:

Evaluation Code **B** **Recommendation** **Monitor Required** **27/01/17** **Lab Number** **NO30-47055-0313**

Traces of fuel may be due to prolonged idling time, is within acceptable limits, lowered viscosity still within acceptable limits, verify original oil viscosity. Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab **31** **Interpreted By** **Peter Lewandowski** **Analyzed By** **CKochan** **Label Number** **3867484**

Evaluation Code **A** **Recommendation** **Normal** **Date** **20/01/17** **Lab Number** **NO30-47023-0574**

Traces of fuel may be due to prolonged idling time, is within acceptable limits, lowered viscosity still within acceptable limits, verify original oil viscosity. Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab **3** **Interpreted By** **Peter Lewandowski** **Analyzed By** **jnewman** **Label Number** **4675810**

Sample Information										Sample Reading									
Evaluation	SMU	CMU	Oil	Oil Filter	Sample Date	Received Date	Oil Brand	Oil Grade	Oil	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni
Baseline			Hours	Chg	Chg					Sodium	Potassium	Silicon	Aluminum	Iron	Chromium	Lead	Copper	Tin	Nickel
B	4465	4,465	240	Y	Y	27/01/17	27/02/17	PETROCAN	10W-30	8	0	2	1	7	0	1	5	<0	<0
A	4450	4,450	475	Y	Y	20/01/17	23/01/17	PETROCAN	10W-30	9	0	2	1	8	0	<0	5	<0	0
A	3975	3,975	250	Y	Y	01/12/16	22/12/16	PETROCAN	10W-30	8	0	2	1	8	0	1	8	<0	<0
A	3975	3,975	248	Y	Y	14/10/16	20/10/16	PETROCAN		3	1	2	2	10	0	1	14	<0	<0
B	3727	3,727	249	Y	Y	31/08/16	06/09/16			3	1	2	1	11	0	1	14	<0	0

Sample Reading										Sample Reading									
NT	Zn	Ca	Mg	Ba	B	Mo	P	VT00	V40	F	W	% Water	% Fuel	GLY					
Interpret	Zinc	Calcium	Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Fuel	Water	Percent W	Percent F	GLY					
5	1071	2147	7	0	2	<0	883	10.9	70.5	T	N	0.00	3.2	NT					
5	1116	2247	7	<0	1	0	969	11.0	70.8	T	N	0.00	3.0	NT					
4	1149	2304	7	0	2	0	971	10.8	69.3	T	N	0.00	3.1	NT					
5	1242	2541	8	0	1	0	1085	10.8	65.2	T	N	0.00	3.7	NT					
1066	2195	7	0	1	0	0	949	10.4	63.8	T	N	0.00	4.3	NT					

P - Positive **T - Trace** **N - Negative** **NR - Not Required** **NT - Not Tested**

WHEATLAND COUNTY
 Attn: WAYNE CLYNE
 RR1 HIGHWAY 1
 STRATHMORE, AB T1P 1J6

A **No Action Required** **B** **Monitor** **C** **Action Required** **X** **Urgent Action Required**

FINNING

CAT

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PROACTIVE FLUID ANALYSIS Lubricant & Component • Predictive Results



Unit Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: ENGINE

Service Information

Warranty Expiry Date:
 Comp Make: CAT
 Comp Model: C11_CAT
 Comp Serial:
 Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:
 Default Site

Customer Comments:

Evaluation Code

Recommendation

Normal

01/12/16

Lab Number

N030-46357-0201

Trace of fuel (6% or less) can be related to prolonged idling time and is within acceptable limits. Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Re sample at the next service interval.

Days to reach Lab

21 Interpreted By

Dallas Livingston

Analyzed By

jnewman

Label Number

4148095

Evaluation Code

Recommendation

Normal

Date

14/10/16

Lab Number

N030-46294-0438

Traces of fuel may be due to prolonged idling time, is within acceptable limits. lowered viscosity still within acceptable limits. verify original oil viscosity. Dirt and wear metals appear to be at acceptable levels. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab

6 Interpreted By

Peter Leggo

Analyzed By

jnewman

Label Number

4146544

Sample Information

Evaluation	SMU	CMU	Oil	Filter	Sample	Received	Oil	Oil	Oil	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	ST	OXI	SUL
Baseline			Hours	Chg	Chg	Date	Brand	Grade		Sodium	Potassium	Silicon	Aluminum	Iron	Chromium	Lead	Copper	Tin	Nickel	Silver	Titanium	Vanadium	Soot	Oxidation	Sulfation
A	3875	3.975	250	Y	Y	01/12/16	PETROCAN	10W-30		8	0	2	1	8	0	1	8	<0	<0	0	0	0	4	13	18
A	3875	3.975	248	Y	Y	14/10/16				3	1	2	2	10	0	1	14	<0	<0	0	0	0	4	13	17
B	3727	3.727	249	Y	Y	31/08/16	06/09/16			3	1	2	1	11	0	1	14	<0	0	0	0	<0	6	12	17
B	3478	3.478	251	Y	Y	08/07/16	15/07/16			2	0	2	0	10	0	<0	10	<0	0	0	0	0	6	12	17
B	3227	3.227	245	Y	Y	25/05/16	30/05/16			4	1	1	2	10	0	1	9	0	<0	0	0	0	5	12	17

Sample Reading

NT	Zn	Ca	Mg	Ba	B	Mo	P	V100	V40	F	W	% Water	% Fuel	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
NT	Zinc	Calcium	Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Fuel	Water	Percent W	Percent F	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
4	1149	2304	7	0	2	0	971	10.8	69.3	T	N	0.00	3.1	NT												
5	1242	2541	8	0	1	0	1085	10.8	65.2	T	N	0.00	3.7	NT												
	1066	2195	7	0	1	0	949	10.4	63.8	T	N	0.00	4.3	NT												
	1101	2273	7	0	0	<0	988	10.3	64.7	T	N	0.00	3.8	NT												
	1097	2205	7	0	1	0	965	10.1	64.2	T	N	0.00	3.6	NT												

WHEATLAND COUNTY
 Attn: WAYNE CLYNE
 RR1 HIGHWAY 1
 STRATHMORE, AB T1P 1J6

P - Positive

T - Trace

N - Negative

NR - Not Required

NT - Not Tested

A No Action Required

B

Monitor

C

Action Required

X

Urgent Action Required

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PROACTIVE FLUID ANALYSIS Lubricant & Component • Predictive Results



Unit Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: ENGINE

Service Information

Warranty Expiry Date:
 Comp Make: CAT
 Comp Model: C11_CAT
 Comp Serial:
 Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:
 Default Site

Customer Comments:

Evaluation Code

Recommendation

Normal

14/10/16

Lab Number

N030-46294-0438

Traces of fuel may be due to prolonged idling time, is within acceptable limits, lowered viscosity still within acceptable limits, verify original oil viscosity. Dirt and wear metals appear to be at acceptable levels. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab

6 Interpreted By

Peter Leggo

Analyzed By

jnewman

Label Number

4146544

Evaluation Code

B Recommendation

Monitor Required

Date

31/08/16

Lab Number

N030-46250-0270

Traces of fuel may be due to prolonged idling time, is within acceptable limits, lowered viscosity still within acceptable limits, verify original oil viscosity. Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab

6 Interpreted By

Peter Lewandowski

Analyzed By

ccstjean

Label Number

3858377

Sample Information

Sample Reading																									
Evaluation	SMU	CMU	Oil	Oil	Filter	Sample Date	Received Date	Oil Brand	Oil Grade	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	ST	OXI	SUL
Baseline			Hours	Chg	Chg					Sodium	Potassium	Silicon	Aluminum	Iron	Chromium	Lead	Copper			Silver	Titanium	Vanadium	Soot	Oxidation	Sulfation
A	3975	3.975	248	Y	Y	14/10/16	20/10/16			3	1	2	2	10	0	1	14	<0	<0	0	0	0	4	13	17
B	3727	3.727	249	Y	Y	31/08/16	06/09/16			3	1	2	1	11	0	1	14	<0	0	0	0	<0	6	12	17
B	3478	3.478	251	Y	Y	08/07/16	15/07/16			2	0	2	0	10	0	<0	10	<0	0	0	0	0	6	12	17
B	3227	3.227	245	Y	Y	25/05/16	30/05/16			4	1	1	2	10	0	1	9	0	<0	0	0	0	5	12	17
A	2982	2.982	254	Y	Y	08/04/16	13/04/16			4	<0	2	1	11	0	0	10	<0	0	0	0	0	5	13	17

Sample Reading

NT	Zn	Ca	Mg	Ba	B	Mo	P	V100	V40	F	W	% Water	% Fuel	GLY
Nitration	Zinc	Calcium	Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Fuel	Water	Percent Water	Percent Fuel	GLY
5	1242	2541	8	0	1	0	1085	10.8	65.2	T	N	0.00	3.7	NT
	1086	2195	7	0	1	0	949	10.4	63.8	T	N	0.00	4.3	NT
	1101	2273	7	0	0	<0	988	10.3	64.7	T	N	0.00	3.8	NT
	1097	2203	7	0	1	0	965	10.1	64.2	T	N	0.00	3.6	nt
	1117	2343	8	0	1	<0	1009	10.6	65.6	T	N	0.00	3.8	NT

P - Positive

T - Trace

N - Negative

NR - Not Required

NT - Not Tested

WHEATLAND COUNTY
 Attn: WAYNE CLYNE
 RR1 HIGHWAY 1
 STRATHMORE, AB T1P 1J6

A No Action Required

B

Monitor

C

Action Required

X

Urgent Action Required

FINNING



PROACTIVE FLUID ANALYSIS Lubricant & Component • Predictive Results

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Unit Information

Service Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: ENGINE

Warranty Expiry Date:
 Comp Make: CAT
 Comp Model: C11_CAT
 Comp Serial:

Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:

Customer Comments:

Evaluation Code **B** Recommendation Monitor Required Analyzed By 31/08/16 Lab Number N030-46250-0270

Traces of fuel may be due to prolonged idling time, is within acceptable limits, lowered viscosity still within acceptable limits, verify original oil viscosity. Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable.

Days to reach Lab 6 Interpreted By Peter Lewandowski Analyzed By ccsjean Label Number 3868377

Evaluation Code **B** Recommendation Monitor Required Date 08/07/16 Lab Number N030-46200-0168

Traces of fuel may be due to prolonged idling time, is within acceptable limits, lowered viscosity still within acceptable limits, verify original oil viscosity. Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab 7 Interpreted By Peter Lewandowski Analyzed By CKochan Label Number 3867932

Sample Information													Sample Reading														
Evaluation	SMU	CMU	Oil	Oil	Filter	Sample	Received	Oil	Oil	Oil	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	ST	OXI	SUL	
			Hours	Cmp	Cmp	Date	Date	Brand	Grade		Sodium	Potassium	Silicon	Aluminum	Iron	Chromium	Lead	Copper		Nickel	Silver	Titanium	Vanadium	Soot	Oxidation	Sulfation	
Baseline																											
B	3727	3.727	249	Y	Y	31/08/16	06/09/16				3	1	2	1	11	0	1	14	<0	0	0	0	<0		6	12	17
B	3478	3.478	251	Y	Y	08/07/16	15/07/16				2	0	2	0	10	0	<0	10	<0	0	0	0	0	6	12	17	
B	3227	3.227	245	Y	Y	25/05/16	30/05/16				4	1	1	2	10	0	1	9	0	<0	0	0	0	5	12	17	
A	2982	2.982	254	Y	Y	08/04/16	13/04/16				4	<0	2	1	11	0	0	10	<0	0	0	0	0	5	13	17	
A	2728	2.728	253	Y	Y	18/02/16	29/02/16	PETROCAN DL	10W-30		3	<0	2	1	13	0	1	14	<0	0	0	0	0	7	12	17	

Sample Reading												
Zn	Ca	Mg	Ba	B	Mo	P	V100	V40	F	W	% Water	% Fuel
Cadmium	Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Fuel	Water	% Water	% Fuel	GLY
1066	2195	7	0	1	0	949	10.4	63.8	T	N	0.00	4.3
	1101	2273	7	0	<0	988	10.3	64.7	T	N	0.00	3.8
1097	2205	7	0	1	0	965	10.1	64.2	T	N	0.00	3.6
	1117	2343	8	0	<0	1009	10.6	65.6	T	N	0.00	3.8
1042	2135	6	0	1	<0	925	10.6	67.1	T	N	0.00	4.6

P - Positive T - Trace N - Negative NR - Not Required NT - Not Tested

WHEATLAND COUNTY
 Attn: WAYNE CLYNE
 RR1 HIGHWAY 1
 STRATHMORE, AB T1P 1J6

A No Action Required B Monitor C Action Required X Urgent Action Required

FINNING



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PROACTIVE FLUID ANALYSIS Lubricant & Component • Predictive Results

Unit Information

UNIT: 14611
Equip Make: CAT
Equip Model: 14M
Equip Serial: R9J01266
Component: ENGINE

Warranty Expiry Date:

Comp Make: CAT
Comp Model: C11_CAT
Comp Serial:

Service Information

Service Interval:
Work Order No:
Job Site:
Branch:
Sampled Site:

Customer Comments:

Monitor Required

08/07/16

Lab Number

N030-46200-0168

Traces of fuel may be due to prolonged idling time, is within acceptable limits. Lowered viscosity still within acceptable limits, verify original oil viscosity. Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab

7 Interpreted By

Peter Lewandowski

Analyzed By

CKochan

Label Number

3867932

Evaluation Code

B Recommendation

Monitor Required

Date

25/05/16

Lab Number

N030-46151-0283

Days to reach Lab

5 Interpreted By

Peter Lewandowski

Analyzed By

gscrbrner

Label Number

4146255

Sample Information

Sample Readings																								
Evaluation	SMU	CMU	Oil	Oil Filter	Sample Date	Received Date	Oil Brand	Oil Grade	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	ST	OXI	SUL
Baseline			Hours	Chg	Chg				Sodium	Potassium	Silicon	Aluminum	Iron	Chromium	Lead	Copper	Tin	Nickel	Silver	Titanium	Vanadium	Soot	Oxidation	Sulfation
B	3478	3478	251	Y	Y	08/07/16	15/07/16		2	0	2	0	10	0	<0	10	<0	0	0	0	0	6	12	17
B	3227	3227	245	Y	Y	25/05/16	30/05/16		4	1	1	2	10	0	1	9	0	<0	0	0	0	5	12	17
A	2982	2982	254	Y	Y	08/04/16	13/04/16		4	<0	2	1	11	0	0	<0	0	0	0	0	0	5	13	17
A	2728	2728	253	Y	Y	18/02/16	29/02/16	PETROCAN DL	10W-30	3	<0	2	1	13	0	1	<0	0	0	0	0	7	12	17
A	2476	2476	1			21/12/15	29/12/15	PETROCAN DL	10W-30	3	<0	2	1	2	<0	0	<0	<0	0	0	0	0	12	17

Sample Reading

Zn	Ca	Mg	Ba	B	Mo	P	V100	V40	F	W	% Water	% Fuel	GLY
Zinc	Calcium	Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Fuel	Water	Percent W	Percent F	GLY
1101	2273	7	0	0	<0	988	10.3	64.7	T	N	0.00	3.8	NT
1097	2206	7	0	1	0	965	10.1	64.2	T	N	0.00	3.6	NT
1117	2343	8	0	1	<0	1009	10.6	65.6	T	N	0.00	3.8	NT
1042	2135	6	0	1	<0	925	10.6	67.1	T	N	0.00	4.6	NT
1109	2316	7	0	1	0	1046	11.3	73.6	T	N	0.00	1.5	NT

P - Positive

T - Trace

N - Negative

NR - Not Required

NT - Not Tested

WHEATLAND COUNTY
Attn: WAYNE CLYNE
RR1 HIGHWAY 1
STRATHMORE, AB T1P 1J6

A No Action Required

B

Monitor

C

Action Required

X

Urgent Action Required





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PROACTIVE FLUID ANALYSIS Lubricant & Component • Predictive Results



Unit Information

UNIT: 14611
Equip Make: CAT
Equip Model: 14M
Equip Serial: R9J01266
Component: ENGINE

Warranty Expiry Date:
Comp Make: CAT
Comp Model: C11_CAT
Comp Serial:

Service Information

Service Interval:
Work Order No:
Job Site: Default Site
Branch:
Sampled Site: Default Site

Customer Comments:

Evaluation Code **B** Recommendation Monitor Required 25/05/16 Lab Number N030-46151-0283

Traces of fuel may be due to prolonged idling time, is within acceptable limits, lowered viscosity still within acceptable limits. Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab 5 Interpreted By Peter Lewandowski Analyzed By gscribner Label Number 4146255

Evaluation Code **A** Recommendation Normal Date 08/04/16 Lab Number N030-46104-0119

Trace of fuel (6% or less) can be related to prolonged idling time and is within acceptable limits. Wear metal analysis indicates acceptable wear rate. Resample at the next service interval.

Days to reach Lab 5 Interpreted By Dallas Livingston Analyzed By gscribner Label Number 4146417

Sample Information										Sample Reading															
Evaluation	SMU	CMU	Oil Hours	Oil Chg	Filter Chg	Sample Date	Received Date	Oil Brand	Oil Grade	Na Sodium	K Potassium	Si Silicon	Al Aluminum	Fe Iron	Cr Chromium	Pb Lead	Cu Copper	Sn Tin	Ni Nickel	Ag Silver	Ti Titanium	V Vanadium	ST Sulfur	OXI Oxidation	SUL Sulfur
Baseline																									
B	3227	3,227	245	Y	Y	25/05/16	30/05/16			4	1	1	2	10	0	1	0	0	<0	0	0	0	5	12	17
A	2982	2,982	254	Y	Y	08/04/16	13/04/16			4	<0	2	1	11	0	0	10	<0	0	0	0	5	13	17	
A	2728	2,728	253	Y	Y	18/02/16	29/02/16	PETROCAN DL	10W-30	3	<0	2	1	13	0	1	14	<0	0	0	0	6	7	12	17
A	2476	2,476	1			21/12/15	29/12/15	PETROCAN DL	10W-30	3	<0	2	1	2	<0	0	3	<0	<0	0	0	0	0	12	17
B	2475	2,475	251	Y	Y	10/12/15	21/12/15	PETROCAN DL	10W-30	3	<0	2	1	9	0	1	20	<0	0	0	0	0	3	13	17

Sample Reading																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			</
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WHEATLAND COUNTY
Attn: WAYNE CLYNE
RR1 HIGHWAY 1
STRATHMORE, AB T1P 1J8

P - Positive T - Trace N - Negative NR - Not Required NT - Not Tested

A No Action Required **B** Monitor **C** Action Required **X** Urgent Action Required

FINNING

CAT

PROACTIVE FLUID ANALYSIS Lubricant & Component • Predictive Results

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Unit Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: ENGINE

Service Information

Warranty Expiry Date:
 Comp Make: CAT
 Comp Model: C11_CAT
 Comp Serial:
 Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:
 Default Site

Customer Comments:

Evaluation Code **2** Recommendation

Normal

08/04/16

Lab Number

N030-46104-0119

Trace of fuel (6% or less) can be related to prolonged idling time and is within acceptable limits. Wear metal analysis indicates acceptable wear rate. Resample at the next service interval.

Days to reach Lab

5

Interpreted By

Dallas Livingston

Analyzed By

gkscribner

Label Number

4146417

Evaluation Code

2

Recommendation

Normal

Date

18/02/16

Lab Number

N030-46060-0074

Trace of fuel (6% or less) can be related to prolonged idling time and is within acceptable limits. Wear metal analysis indicates acceptable wear rate. Resample at the next service interval.

Days to reach Lab

11

Interpreted By

Dallas Livingston

Analyzed By

jnewman

Label Number

4441860

Sample Information

Evaluation	SMU	CMU	Oil	Oil	Filter	Sample	Received	Oil	Oil	Oil	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	ST	OXI	SUL
			Hours	Chg	Chg	Date	Date	Brand	Grade	Sodium	Potassium	Silicon	Aluminum	Iron	Chromium	Lead	Copper	Tin	Nickel	Silver	Titanium	Vanadium	Scot	Oxidation	Sulfation	
Baseline																										
A	2982	2.982	254	Y	Y	08/04/16	13/04/16			4	<0	2	1	11	0	0	10	<0	0	0	0	0	0	5	13	17
A	2728	2.728	253	Y	Y	18/02/16	29/02/16	PETROCAN DL	10W-30	3	<0	2	1	13	0	1	14	<0	0	0	0	0	0	7	12	17
A	2476	2.476	1			21/12/15	29/12/15	PETROCAN DL	10W-30	3	<0	2	1	2	<0	0	3	<0	<0	0	0	0	0	0	12	17
B	2475	2.475	251	Y	Y	10/12/15	21/12/15	PETROCAN DL	10W-30	3	<0	2	1	9	0	1	20	<0	0	0	0	0	0	3	13	17
A	2224	2.224	249	Y	Y	15/10/15	03/11/15	PETROCAN DL	10W-30	3	<0	3	1	15	0	4	60	<0	<0	0	0	0	<0	5	13	17

Sample Reading

Zn	Ca	Mg	Ba	B	Mo	P	V100	V40	F	W	% Water	% Fuel	GLY	GLY												
Zinc	Calcium	Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Fuel	Water	Percent Wt	Percent F	GLY	GLY												
1117	2343	8	0	1	<0	1009	10.6	65.6	T	N	0.00	3.8	NT													
1042	2135	6	0	1	<0	925	10.6	67.1	T	N	0.00	4.6	NT													
1109	2316	7	0	1	0	1046	11.3	73.6	T	N	0.00	1.5	NT													
1029	2047	7	0	1	<0	950	10.6	66.8	T	N	0.00	5.4	NT													
1100	2223	7	0	1	0	968	10.6	64.2	NT	N	0.00	0.0	NT													

P - Positive

T - Trace

N - Negative

NR - Not Required

NT - Not Tested

WHEATLAND COUNTY
 Attn: WAYNE CLYNE
 RR1 HIGHWAY 1
 STRATHMORE, AB T1P 1J6

A No Action Required

B

Monitor

C

Action Required

X

Urgent Action Required

FINNING.



PROACTIVE FLUID ANALYSIS Lubricant & Component • Predictive Results



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Unit Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: ENGINE

Service Information

Warranty Expiry Date:
 Comp Make: CAT
 Comp Model: C11_CAT
 Comp Serial:
 Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:

Customer Comments:

Evaluation Code

A

Recommendation

Normal

18/02/16

Lab Number

N030-46060-0074

Trace of fuel (6% or less) can be related to prolonged idling time and is within acceptable limits. Wear metal analysis indicates acceptable wear rate. Resample at the next service interval.

Days to reach Lab

11

Interpreted By

Dallas Livingston

Analyzed By

Jewman

Label Number

4441860

Evaluation Code

A

Recommendation

Normal

Date

21/12/15

Lab Number

N030-45363-0033

Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab

8

Interpreted By

Peter Lewandowski

Analyzed By

amarona

Label Number

4492386

Sample Information

Evaluation	SMU	CMU	Oil	Oil Filter	Sample Date	Received Date	Oil Brand	Oil Grade	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	ST	OXI	SUL
			Hours	Chg	Chg				Sodium	Phosphorus	Silicon	Aluminium	Iron	Chromium	Lead	Copper	Tin	Nickel	Silver	Titanium	Vanadium	Steel	Oxidation	Sulfation
Baseline																								
A	2728	2,728	253	Y	Y	18/02/16	29/02/16	PETROCAN DU	10W-30	3	<0	2	1	13	0	1	14	<0	0	0	0	7	12	17
A	2476	2,476	1	Y	Y	21/12/15	29/12/15	PETROCAN DU	10W-30	3	<0	2	1	2	<0	0	3	<0	0	0	0	0	12	17
B	2475	2,475	251	Y	Y	10/12/15	21/12/15	PETROCAN DU	10W-30	3	<0	2	1	9	0	1	20	<0	0	0	0	3	13	17
A	2224	2,224	249	Y	Y	15/10/15	03/11/15	PETROCAN DU	10W-30	3	<0	3	1	15	0	4	60	<0	<0	0	0	<0	5	13
A	1975	1,975	249	Y	Y	18/08/15	26/08/15	PETROCAN DU	10W-30	2	<0	3	1	11	0	4	84	<0	0	0	0	5	12	17

Sample Reading

Zn	Ca	Mg	Ba	B	Mo	P	V100	V40	F	W	% Water	% Fuel	GLY											
Zinc	Calcium	Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Fuel	Water	Percent W	Percent F	GLY											
1042	2135	6	0	1	<0	925	10.6	67.1	T	N	0.00	4.6	NT											
1109	2316	7	0	1	0	1046	11.3	73.6	T	N	0.00	1.5	NT											
1029	2047	7	0	1	<0	950	10.6	68.8	T	N	0.00	5.4	NT											
1100	2223	7	0	1	0	968	10.6	64.2	NT	N	0.00	0.0	NT											
1128	2239	7	0	1	<0	938	10.7	63.2	NT	N	0.00	0.0	NT											

P - Positive

T - Trace

N - Negative

NR - Not Required

NT - Not Tested

WHEATLAND COUNTY
 Attn: WAYNE CLYNE
 RR1 HIGHWAY 1
 STRATHMORE, AB T1P 1J6

No Action Required

B

Monitor

C

Action Required

X

Urgent Action Required

FINNING



FAX : 4039344889

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PROACTIVE FLUID ANALYSIS Lubricant & Component • Predictive Results



Unit Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: ENGINE

Warranty Expiry Date:
 Comp Make: CAT
 Comp Model: C11 CAT
 Comp Serial:

Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:

Service Information

Default Site
 Default Site

Evaluation Code **A** **Recommendation** **Normal** **Lab Number** N030-45307-0109

Elevated copper level may be due to increased oil cooler core leaching, not wear. Oil change or new formulation can restart cooler core leaching. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab **19** **Interpreted By** Peter Leggo **Analyzed By** pleggo **Label Number** 3862146

Evaluation Code **A** **Recommendation** **Normal** **Date** 18/08/15 **Lab Number** N030-45239-0134

Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab **8** **Interpreted By** Peter Lewandowski **Analyzed By** gkscribner **Label Number** 3867914

Sample Information														
Evaluation	SMU	CMU	Oil	Oil Filter	Sample Date	Received Date	Oil Brand	Oil Grade	Na	K	SI	Al	Fe	Cr
Baseline			Hours	Chg	Chg				Sodium	Potassium	Silicon	Aluminum	Iron	Chromium
A	2224	2,224	249	Y	Y	15/10/15	03/11/15	PETROCAN D	10W-30	3	<0	3	1	15
A	1975	1,975	249	Y	Y	18/08/15	26/08/15	PETROCAN D	10W-30	2	<0	3	1	11
A	1726	1,726	248	Y	Y	29/06/15	27/07/15	PETROCAN D	10W-30	2	1	4	2	11
B	1478	1,478	245	Y	Y	14/05/15	25/05/15	PETROCAN D	10W-30	2	<0	4	1	13
A	1233	1,233	253	Y	Y	02/04/15	19/05/15	PETROCAN D	10W-30	2	0	6	2	15

Sample Reading														
Zn	Ca	Mg	Ba	B	Mo	P	V100	V40	F	W	% Water	% Fuel	GLY	
Zinc	Calcium	Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Fuel	Water	Percent	Percent	GLY	
1100	2223	7	0	1	0	968	10.6	64.2	NT	N	0.00	0.0	NT	
1128	2239	7	0	1	<0	938	10.7	63.2	NT	N	0.00	0.0	NT	
1180	2300	6	0	<0	<0	958	10.5	64.2	NT	N	0.00	0.0	NT	
1177	2286	8	0	0	<0	1019	10.6	65.5	T	N	0.00	4.5	NT	
1118	2176	7	0	0	<0	960	10.4	63.5	T	N	0.00	3.2	NT	

P - Positive **T - Trace** **N - Negative** **NR - Not Required** **NT - Not Tested**

WHEATLAND COUNTY
 Attn: ED SMITH
 RR1 HIGHWAY 1
 STRATHMORE, AB T1P 1J6

A No Action Required **B** Monitor **C** Action Required **X** Urgent Action Required



Coolant Analysis - Level 1

WHEATLAND COUNTY
ED SMITH
RR1 HIGHWAY 1
STRATHMORE AB T1P 1J6

SEP 14 2015

FAX : 4039344889

FINNING. CAT**PROACTIVE FLUID ANALYSIS**
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Unit Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: TRANSMISSION

Warranty Expiry Date:
 Comp Make:
 Comp Model:
 Comp Serial:

Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:

Customer Comments:

Service Information**Evaluation Code****A Recommendation****Normal**

26/08/15

Lab Number

N030-452510421

Wear metal analysis indicates acceptable wear rate. Particle count indicates acceptable fluid cleanliness level. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab**13 Interpreted By**

Peter Lewandowski

Analyzed By

gkscribner

Label Number

4243071

Evaluation Code**A Recommendation****Normal****Date**

27/01/15

Lab Number

N030-45033-0114

Wear metal analysis indicates acceptable wear rate. Particle count indicates acceptable fluid cleanliness level. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab**6 Interpreted By**

Peter Lewandowski

Analyzed By

plewandowski

Label Number

4258643

Sample Information

Evaluation	SMU	CMU	Oil	Oil Filter	Sample Date	Received Date	Oil Brand	Oil Grade	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	OXI	Zn	Ca
Baseline			Hours	Chg	Chg																			
A	1996	1.996	Y	Y	26/08/15	08/09/15	PETROCAN P	30	7	7	12	1	79	0	<0	46	<0	0	0	0	0	5	1121	2673
A	1003	1.003	N	Y	27/01/15	02/02/15	FACTORY		7	7	12	2	39	0	0	25	<0	0	0	0	<0	5	1109	2587
A	553	553	N	Y	02/10/14	09/10/14	FACTORY		6	7	10	1	29	0	1	18	<0	<0	<0	0.08	<0	5	1027	2501

Sample Reading

Mg	Ba	B	Mo	P	V100	V40	W	% Wat	GLY	ISO	4u	6u	10u	14u	21u	38u	50u							
Magnesi	Barium	Boron	Molybde	Phospho	Viscosity	Viscosity	Water	Percent	GLY	ISO Code F	4u	6u	10u	14u	21u	38u	50u							
9	0	0	0	1051	11	87																		
7	1	2	<0	965	10.4	85.8	N	0.00	NT	22/19/15	29149	4837	810	265	54	5	3							
7	1	2	0	940	10.2	84.4	N	0.00	NT	21/18/14	13533	1474	320	120	29	3	2							
7	1	2	<0	868.6	9.5	84.6	N	0.00	NT	20/18/15	9032	1450	420	174	30	1	1							

Sample Reading**P - Positive****T - Trace****N - Negative****NR - Not Required****NT - Not Tested**

WHEATLAND COUNTY
 Attn: ED SMITH
 RR1 HIGHWAY 1
 STRATHMORE, AB T1P 1J6

A No Action Required**B**

Monitor

C

Action Required

X

Urgent Action Required



FAX : 4039344889

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Unit Information

UNIT: 14611
Equip Make: CAT
Equip Model: 14M
Equip Serial: R9J01266
Component: HYDRAULIC SYSTEM

Warranty Expiry Date:
Comp Make:
Comp Model:
Comp Serial:

Service Interval:
Work Order No:
Job Site:
Branch:
Sampled Site:

Customer Comments:

Service Information

Evaluation Code **A** Recommendation **Normal** Lab Number **N030-4525-10422**

Wear metal analysis indicates acceptable wear rate. Particle count indicates acceptable fluid cleanliness level. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab **13** Interpreted By **Peter Lewandowski** Analyzed By **gkscribner** Label Number **4242925**

Evaluation Code **A** Recommendation **Normal** Date **27/01/15** Lab Number **N030-45033-0113**

Wear metal analysis indicates acceptable wear rate. Particle count indicates acceptable fluid cleanliness level. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab **6** Interpreted By **Peter Lewandowski** Analyzed By **plewandowski** Label Number **4258049**

Sample Information												Sample Reading												
Evaluation	SMU	CMU	Oil	Oil Filter	Sample Date	Received Date	Oil Brand	Oil Grade	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	OXI	Zn	Ca
Baseline			Hours	Chg	Chg				Sodium	Potassium	Silicon	Aluminum	Iron	Chromium	Lead	Copper	Tin	Nickel	Silver	Titanium	Vanadium	Oxidation	Zinc	Calcium
A	1996	1,996	N	Y	26/08/15	08/09/15	FACTORY		3	2	3	1	3	0	1	2	<0	0	0	0	<0	36	1148	2813
A	1003	1,003	N	Y	27/01/15	02/02/15	FACTORY		3	3	4	2	3	0	1	2	0	0	0	0	0	35	1205	2836
A	553	553	N	Y	02/10/14	09/10/14	FACTORY		3	2	3	1	2	<0	1	2	<0	<0	<0	<0	<0	37	1148	2785

Sample Reading																	
Mg	Ba	B	Mo	P	V100	V40	W	% Watd	GLY	ISO	4u	6u	10u	14u	21u	38u	50u
Magnesi	Barium	Boron	Molybden	Phospho	Viscosity	Viscosity	Water	Percent	GLY	ISO Code F	4u	6u	10u	14u	21u	38u	50u
8	0	1	<0	964	7.4	32.8	N	0.00	NT	19/17/13	4019	999	225	75	12	1	1
9	1	3	0	1017	7.6	32.6	N	0.00	NT	19/16/13	2837	442	89	54	39	19	11
9	0	0	<0	972.0	7.3	32.7	N	0.00	NT	20/17/14	6361	1069	276	103	17	1	1

P - Positive T - Trace N - Negative NR - Not Required NT - Not Tested

WHEATLAND COUNTY
Attn: ED SMITH
RR1 HIGHWAY 1
STRATHMORE, AB T1P 1J6

A No Action Required B Monitor C Action Required X Urgent Action Required



Service Information

Default Site

N030-45251-0423

4242976

Lab Number

Label Number

NT - Not Tested

Urgent Action Required

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Unit Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: WHEEL HUB FRONT RIGHT

Warranty Expiry Date:
 Comp Make:
 Comp Model:
 Comp Serial:

Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:

Customer Comments:

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Service Information

Evaluation Code **B** **Recommendation** **Monitor Required** **26/08/15** **Lab Number** **N030-45251-0425**

Elevated iron may be sourced to bearings, gears, splines, shafts, housing, non-mechanical origin. Elevated chromium can be sourced to various types of low friction bearings. Unable to test for particle count (ISO code) due to excess particulate. Other readings appear to be normal. Initially elevated "break-in" readings will usually improve after the 2nd, 3rd oil drain intervals. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab **13** **Interpreted By** **Peter Lewandowski** **Analyzed By** **gkscribner** **Label Number** **4243079**

Evaluation Code **B** **Recommendation** **Monitor Required** **Date** **27/01/15** **Lab Number** **N030-45033-0118**

Elevated iron readings are commonly associated with wear of wheel hub bearings and housing. Elevated chromium can be sourced to various types of low friction bearings. Unable to test for particle count (ISO code) due to excess particulate. Other readings appear to be normal. Initially elevated "break-in" readings will usually improve after the 2nd, 3rd oil drain intervals. Resample at the next service interval.

Days to reach Lab **6** **Interpreted By** **Peter Lewandowski** **Analyzed By** **plewandowski** **Label Number** **3933558**

Sample Information

Evaluation	SMU	CMU	Oil	Oil Filter	Sample Date	Received Date	Oil Brand	Oil Grade	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	OXI	Zn	Ca
Baseline			Hours	Chg	Chg																			
B	1996	1,996	Y			26/08/15	08/09/15	CAT																
B	1003	1,003	N			27/01/15	02/02/15		4	2	21	7	400	19	<0	1	<0	1	<0	1	1	3	1239	3051
									4	2	14	7	317	13	0	1	<0	0	<0	0	1	4	1155	2741

Sample Reading

Mg	Ba	B	Mo	P	V100	V40	W	% Watr	ISO	4u	6u	10u	14u	21u	38u	50u								
Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Water	Percent	ISO Cod	4u	6u	10u	14u	21u	38u	50u								
10	4	11	14	1021	10.8	92.9	N	0.00	BLH	0	0	0	0	0	0	0								
10	3	9	10	953	10.9	93.4	N	0.00	BLH	0	0	0	0	0	0	0								

Sample Reading

P	Positive	T	Trace	N	Negative	NR	Not Required	NT	Not Tested

WHEATLAND COUNTY
 Attn: ED SMITH
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 STRATHMORE, AB T1P 1J6

A **No Action Required** **B** **Monitor** **C** **Action Required** **X** **Urgent Action Required**



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Unit Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: TANDEM DRIVE RIGHT

Warranty Expiry Date:
 Comp Make:
 Comp Model:
 Comp Serial:

Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:

Customer Comments:

Service Information

Evaluation Code **B** **Recommendation** **Monitor Required** **26/08/15** **Lab Number** **N030-45251-0426**

Elevated iron may be sourced to bearings, gears, splines, shafts, housings, non-mechanical origin. Elevated chromium can be sourced to various types of low friction bearings. Unable to test for particle count (ISO code) due to excess particulate. Other readings appear to be normal. Initially elevated "break-in" readings will usually improve after the 2nd, 3rd oil drain intervals. Resample at the next service interval.

Days to reach Lab **13** **Interpreted By** **Peter Lewandowski** **Analyzed By** **gkscribner** **Label Number** **4243075**

Evaluation Code **B** **Recommendation** **Monitor Required** **Date** **27/01/15** **Lab Number** **N030-45033-0116**

Elevated iron may be sourced to bearings, gears, splines, shafts, housings, non-mechanical origin. Unable to test for particle count (ISO code) due to excess particulate. Other readings appear to be normal. Initially elevated "break-in" readings will usually improve after the 2nd, 3rd oil drain intervals. Resample at the next service interval.

Days to reach Lab **6** **Interpreted By** **Peter Lewandowski** **Analyzed By** **plewandowski** **Label Number** **4258039**

Sample Information												Sample Reading														
Evaluation	SMU	CMU	Oil Hours	Oil Chg	Filter Chg	Sample Date	Received Date	Oil Brand	Oil Grade	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	OxI	Zn	Ca	
Baseline										5	2	3	0	1	0	2	0	0	0	0	0	0	0	0	1215	2777
B	1996	1,996	N			26/08/15	08/09/15	PETROCAN	30	3	<0	7	1	577	0	0	0	<0	0	<0	0	0	0	8	1222	2988
B	1003	1,003	N			27/01/15	02/02/15	PETROCAN	30	2	1	6	2	180	0	<0	<0	<0	0	<0	0	0	<0	10	1176	2764
B	553	553	N			02/10/14	09/10/14	FACTORRY	30	4	2	7	1	67	0	1	1	<0	0	<0	0.36	<0	8	1032	2526	

Sample Reading																
Mg	Ba	B	Mo	P	V100	V40	W	% Watd	ISO	4u	6u	10u	14u	21u	38u	50u
Magnesi	Barium	Boron	Molybde	Phospho	Viscosity	Viscosity	Water	Percent	ISO Cod	4u	6u	10u	14u	21u	38u	50u
8	0	0	0	991	11	87										
7	0	1	<0	1005	11.4	103.1	N	0.00	BLH	0	0	0	0	0	0	
9	0	1	0	962	11.6	103.4	N	0.00	BLH	0	0	0	0	0	0	
8	0	1	0	869.3	10.5	88.8	N	0.00	BLH	0	0	0	0	0	0	

P - Positive **T - Trace** **N - Negative** **NR - Not Required** **NT - Not Tested**

WHEATLAND COUNTY
 Attn: ED SMITH
 RR1 HIGHWAY 1
 STRATHMORE, AB T1P 1J6

A **No Action Required** **B** **Monitor** **C** **Action Required** **X** **Urgent Action Required**



FAX : 4039344889

PROACTIVE FLUID ANALYSIS

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Unit Information

Service Information

UNIT: 14611

Warranty Expiry Date:

Service Interval:

Equip Make: CAT

Comp Make:

Work Order No:

Equip Model: 14M

Comp Model:

Job Site:

Equip Serial: R9J01266

Comp Serial:

Branch:

Component: TANDEM DRIVE LEFT

Sampled Site:

Default Site

Customer Comments:

Evaluation Code

B

Recommendation

Monitor Required

26/08/15

Lab Number

N030-452510427

Elevated Iron may be sourced to bearings, gears, splines, shafts, housing, non-mechanical origin. Elevated chromium can be sourced to various types of low friction bearings. Unable to test for particle count (ISO code) due to excess particulate. Other readings appear to be normal. Initially elevated "break-in" readings will usually improve after the 2nd, 3rd oil drain intervals. Resample at the next service interval.

Days to reach Lab

13

Interpreted By

Peter Lewandowski

Analyzed By

gkscribner

Label Number

4243565

Evaluation Code

B

Recommendation

Monitor Required

Date

27/01/15

Lab Number

N030-45033-0115

Elevated Iron may be sourced to bearings, gears, splines, shafts, housing, non-mechanical origin. Unable to test for particle count (ISO code) due to excess particulate. Other readings appear to be normal. Initially elevated "break-in" readings will usually improve after the 2nd, 3rd oil drain intervals. Resample at the next service interval.

Days to reach Lab

6

Interpreted By

Peter Lewandowski

Analyzed By

plewandowski

Label Number

3933633

Sample Information

Sample Reading

Evaluation	SMU	CMU	Oil	Oil Filter	Sample Date	Received Date	Oil Brand	Oil Grade	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	OXI	Zn	Ca
Baseine			Hours	Chg	Chg																			
B	1996	1,996	N			26/08/15	08/09/15	FACTORY	30	3	0	7	2	672	0	<0	0	<0	0	0	0	8	1241	3039
B	1003	1,003	N			27/01/15	02/02/15	FACTORY	30	2	1	5	2	155	0	0	0	<0	0	0	0	10	1192	2803
A	553	553	N			02/10/14	09/10/14	FACTORY	30	4	1	7	1	94	0	0	1	<0	0	0.35	<0	8	1023	2523

Sample Reading

Mg	Ba	B	Mo	P	V100	V40	W	% Water	ISO	4u	6u	10u	14u	21u	38u	50u								
Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Water	Percent	ISO Code	4u	6u	10u	14u	21u	38u	50u								
8	0	1	<0	1020	11.6	101.8	N	0.00	DARK	0	0	0	0	0	0	0								
9	0	1	0	972	11.5	101.1	N	0.00	BLH	0	0	0	0	0	0	0								
8	0	1	1	857.6	10.3	90.0	N	0.00	23/23/2	79305	66748	40645	18056	1298	12	2								

P - Positive

T - Trace

N - Negative

NR - Not Required

NT - Not Tested

WHEATLAND COUNTY
Attr ED SMITH
RR1 HIGHWAY 1
STRATHMORE, AB T1P 1J6

A No Action Required**B**

Monitor

C

Action Required

X

Urgent Action Required

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PROACTIVE FLUID ANALYSIS Lubricant & Component • Predictive Results

FAX : 4039344889



Unit Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: ENGINE

Warranty Expiry Date:

Comp Make: CAT
 Comp Model: C11_CAT
 Comp Serial:

Service Interval:

Work Order No:

Job Site:

Branch:

Sampled Site:

Customer Comments:

Default Site

Service Information

Evaluation Code

A Recommendation

Normal

18/08/15

Lab Number

N030-45239-0134

Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab

8 Interpreted By

Peter Lewandowski

Analyzed By

gkscriber

Label Number

3867914

Evaluation Code

A Recommendation

Normal

Date

29/06/15

Lab Number

N030-45208-0324

Elevated copper level may be due to increased oil cooler core leaching, not wear. Oil change or new formulation can restart cooler core leaching. Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab

28 Interpreted By

Peter Lewandowski

Analyzed By

jnewman

Label Number

3867492

Sample Information

Evaluation	SMU	CMU	Oil	Oil	Filter	Sample	Received	Oil	Oil	Na	K	SI	AI	Fe	Cr	Pb	Cu	Sn	Ni	Ag	TI	V	ST	OXI	SUL
Baseline			Hours	Chg	Chg	Date	Date	Brand	Grade	Sodium	Potassium	Silicon	Aluminum	Iron	Chromium	Lead	Copper	Tin	Nickel	Silver	Titanium	Vanadium	Soot	Oxidation	Sulfation
A	1975	1.975	249	Y	Y	18/08/15	26/08/15	PETROCAN D	10W-30	2	<0	3	1	11	0	4	84	3	<0	0	0	0	5	12	17
A	1726	1.726	248	Y	Y	29/06/15	27/07/15	PETROCAN D	10W-30	2	1	4	2	11	0	5	72	5	<0	0	0	<0	14	13	19
B	1478	1.478	245	Y	Y	14/05/15	25/05/15	PETROCAN D	10W-30	2	<0	4	1	13	0	5	67	2	<0	0	0	<0	11	13	18
A	1233	1.233	253	Y	Y	02/04/15	19/05/15	PETROCAN D	10W-30	2	0	6	2	15	0	6	59	6	<0	0	0	<0	7	13	18
A	980	980	253	Y	Y	21/01/15	28/01/15	PETROCAN D	10W-30	2	1	9	2	17	0	6	58	6	0	0	0	0	7	14	20

Sample Reading

Zn	Ca	Mg	Ba	B	Mo	P	V100	V40	F	W	% Water	% Fuel	GLY	GLY
Zinc	Calcium	Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Fuel	Water	Percent	Percent	GLY	GLY
1128	2239	7	0	1	<0	938	10.7	63.2	NT	N	0.00	0.0	NT	
1180	2300	6	0	<0	<0	958	10.5	64.2	NT	N	0.00	0.0	NT	
1177	2286	8	0	0	<0	1019	10.6	65.5	T	N	0.00	4.5	NT	
1118	2176	7	0	0	<0	960	10.4	63.6	T	N	0.00	3.2	NT	
1095	2097	8	0	2	0	928	10.8	68.1	NT	N	0.00	0.0	NT	

Sample Reading

P - Positive

T - Trace

N - Negative

NR - Not Required

NT - Not Tested

WHEATLAND COUNTY
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A No Action Required

B

Monitor

C

Action Required

X

Urgent Action Required

FINNING.



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Unit Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: ENGINE

Warranty Expiry Date:
 Comp Make: CAT
 Comp Model: C11 CAT
 Comp Serial:

Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:

Default Site
 Default Site

Customer Comments:

RECEIVED PROACTIVE FLUID ANALYSIS

FAX : 4039344889

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Service Information

Evaluation Code

A

Recommendation

Normal

29/06/15

Lab Number

N030-45208-0324

Elevated copper level may be due to increased oil cooler core leaching, not wear. Oil change or new formulation can restart cooler core leaching. Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab

28

Interpreted By

Peter Lewandowski

Analyzed By

Jnewman

Label Number

3867492

Evaluation Code

B

Recommendation

Monitor Required

Date

14/05/15

Lab Number

N030-45145-0139

4.5% fuel dilution may be loose lines, bad nozzles, pump seals, etc. Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab

11

Interpreted By

Peter Lewandowski

Analyzed By

amarona

Label Number

4146373

Sample Information

Evaluation	SMU	CMU	Oil	Oil	Filter	Sample	Received	Oil	Oil	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	ST	OXI	SUL
			Hours	Chg	Chg	Date	Date	Brand	Grade	Sodium	Potassium	Silicon	Aluminum	Iron	Chromium	Lead	Copper	Tin	Nickel	Silver	Titanium	Vanadium	Soot	Oxidation	Sulfation
Baseline																									
A	1726	1,726	248	Y	Y	29/06/15	27/07/15	PETROCCAN D	10W-30	2	1	4	2	11	0	5	72	5	<0	0	0	<0	14	13	19
B	1478	1,478	245	Y	Y	14/05/15	25/05/15	PETROCCAN D	10W-30	2	<0	4	1	13	0	5	67	2	<0	0	0	<0	11	13	18
A	1233	1,233	253	Y	Y	02/04/15	19/05/15	PETROCCAN D	10W-30	2	0	6	2	15	0	6	59	6	<0	0	0	<0	7	13	18
A	980	980	253	Y	Y	21/01/15	28/01/15	PETROCCAN D	10W-30	2	1	9	2	17	0	6	58	6	0	0	0	0	7	14	20
A	727	727	243	Y	Y	10/11/14	18/12/14	PETROCCAN D	10W-30	2	0	12	2	14	0	5	51	5	<0	0	0	<0	5	14	21

Sample Reading

Zn	Ca	Mg	Ba	B	Mo	P	V100	V40	F	W	% Water	% Fuel	GLY
Zinc	Calcium	Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Fuel	Water	Percent	Percent	GLY
1180	2300	6	0	<0	958	10.5	64.2	NT	NT	N	0.00	0.0	NT
1177	2286	8	0	<0	1019	10.6	65.5	T	NT	N	0.00	4.5	NT
1118	2176	7	0	<0	960	10.4	63.6	T	NT	N	0.00	3.2	NT
1095	2097	8	0	2	928	10.8	68.1	NT	NT	N	0.00	0.0	NT
1067	2095	15	0	2	919	10.6	68.4	NT	NT	N	0.00	0.0	NT

Sample Reading

P - Positive

T - Trace

N - Negative

NR - Not Required

NT - Not Tested

WHEATLAND COUNTY
 Attn: ED SMITH
 RR1 HIGHWAY 1
 STRATHMORE, AB T1P 1J6

A No Action Required

B

Monitor

C

Action Required

X

Urgent Action Required

FINNING



FAX : 4039344889

PROACTIVE FLUID ANALYSIS Lubricant & Component • Predictive Results

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Unit Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: ENGINE

Warranty Expiry Date:
 Comp Make: CAT
 Comp Model: C11_CAT
 Comp Serial:

Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:

Service Information

Evaluation Code **B** **Recommendation** **Monitor Required** **14/05/15** **Lab Number** **N030-45145-0139**
 4.5% fuel dilution may be loose lines, bad nozzles, pump seals, etc. Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab **11** **Interpreted By** **Peter Lewandowski** **Analyzed By** **amarona** **Label Number** **4146373**

Evaluation Code **A** **Recommendation** **Normal** **Date** **02/04/15** **Lab Number** **N030-45139-0208**
 Traces of fuel (6% or less) may be caused by prolonged idling time and is within acceptable range. Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Resample at the next service interval.

Days to reach Lab **47** **Interpreted By** **Dallas Livingston** **Analyzed By** **CKochan** **Label Number** **4146208**

Sample Information														
Evaluation	SMU	CMU	Oil	Filter	Sample Date	Received Date	Oil Brand	Oil Grade	Na	K	Si	Al	Fe	Cr
Baseline			Hours	Chg	Chg				Sodium	Potassium	Silicon	Aluminum	Iron	Chromium
B	1478	245	Y	Y	14/05/15	25/05/15	PETROCAN D	10W-30	2	<0	4	1	13	0
A	1233	253	Y	Y	02/04/15	19/05/15	PETROCAN D	10W-30	2	0	6	2	15	0
A	980	253	Y	Y	21/01/15	28/01/15	PETROCAN D	10W-30	2	1	9	2	17	0
A	727	243	Y	Y	10/11/14	18/12/14	PETROCAN D	10W-30	2	0	12	2	14	0
A	484	248	Y	Y	19/09/14	06/10/14	PETROCAN D	10W-30	3	1	23	1	18	0
Sample Reading														
									Pb	Cu	Sn	Ni	Ag	Ti
									Lead	Copper	Tin	Nickel	Silver	Titanium
									5	67	2	<0	0	0
									59	6	<0	0	0	<0
									58	6	0	0	0	0
									51	5	<0	0	<0	5
									51	<0	<0	0	0.02	<0
														6
														14
														23
														18
														13
														20
														14
														21
														6

P - Positive **T - Trace** **N - Negative** **NR - Not Required** **NT - Not Tested**

WHEATLAND COUNTY
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A **No Action Required** **B** **Monitor** **C** **Action Required** **X** **Urgent Action Required**





FAX : 4039344889

PROACTIVE FLUID ANALYSIS

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Unit Information

Service Information

UNIT: 14611	Warranty Expiry Date:	Service Interval:	Customer Comments:
Equip Make: CAT	Comp Make: CAT	Work Order No:	
Equip Model: 14M	Comp Model: C11_CAT	Job Site:	Default Site
Equip Serial: R9J01266	Comp Serial:	Branch:	Default Site
Component: ENGINE		Sampled Site:	Default Site

Evaluation Code **A** **Recommendation** **Normal** **02/04/15** **Lab Number** **N030-45139-0208**

Traces of fuel (6% or less) may be caused by prolonged idling time and is within acceptable range. Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Resample at the next service interval.

Days to reach Lab **47** **Interpreted By** **Dallas Livingston** **Analyzed By** **CKochan** **Label Number** **4146208**

Evaluation Code **A** **Recommendation** **Normal** **Date** **2/10/15** **Lab Number** **N030-45028-0221**

Elevated copper level may be due to increased oil cooler core leaching, not wear. Oil change or new formulation can resist cooler core leaching. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab **7** **Interpreted By** **Peter Leggo** **Analyzed By** **pieggo** **Label Number** **3867504**

Sample Information												Sample Reading												
Evaluation	SMU	CMU	Oil	Oil Filter	Sample Date	Received Date	Oil Brand	Oil Grade	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	ST	OXI	SUL
Baseline			Hours	Chg	Chg	Date			Sodium	Potassium	Silicon	Aluminum	Iron	Chromium	Lead	Copper	Tin	Nickel	Silver	Titanium	Vanadium	Soot	Oxidation	Sulfation
A	1233	1,233	253	Y	Y	02/04/15	19/05/15	PETROCAN D	10W-30	2	0	6	2	15	0	59	6	<0	0	0	<0	7	13	18
A	980	980	253	Y	Y	21/01/15	28/01/15	PETROCAN D	10W-30	2	1	9	2	17	0	58	6	0	0	0	0	7	14	20
A	727	727	243	Y	Y	10/11/14	18/12/14	PETROCAN D	10W-30	2	0	12	2	14	0	51	5	<0	0	<0	<0	5	14	21
A	484	484	248	Y	Y	19/09/14	06/10/14	PETROCAN D	10W-30	3	1	23	1	18	0	51	<0	<0	0	0.02	<0	6	14	23
A	236	236	236	Y	Y	29/07/14	21/08/14	PETROCAN D	10W-30	7	1	96	1	26	1	60	6	<0	1	0.07	<0	6	16	22

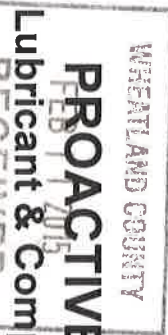
Sample Reading													
Zn	Ca	Mg	Ba	B	Mo	P	V100	V40	F	W	% Water	% Fuel	GLY
Zinc	Calcium	Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Fuel	Water	Percent	Percent	GLY
1118	2176	7	0	0	<0	960	10.4	63.6	T	N	0.00	3.2	NT
1095	2097	8	0	2	0	928	10.8	68.1	NT	N	0.00	0.0	NT
1067	2095	15	0	2	0	919	10.6	68.4	NT	N	0.00	0.0	NT
926	1800	70	0	7	4	779.6	10.4	66.8	NT	N	0.00	0.0	NT
955	1196	749	0	36	40	810.9	10.4	63.8	NT	N	0.00	0.0	NT

P - Positive **T - Trace** **N - Negative** **NR - Not Required** **NT - Not Tested**

WHEATLAND COUNTY
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A **No Action Required** **B** **Monitor** **C** **Action Required** **X** **Urgent Action Required**

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Unit Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: HYDRAULIC SYSTEM

Warranty/ Expiry Date:
 Comp Make:
 Comp Model:
 Comp Serial:

Service Information

Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:

Customer Comments:

Evaluation Code **A** Recommendation **Normal** 27/01/15 Lab Number NO30-45033-0113

Wear metal analysis indicates acceptable wear rate. Particle count indicates acceptable fluid cleanliness level. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab 6 Interpreted By Peter Lewandowski Analyzed By plewandowski Label Number 4258049

Evaluation Code **A** Recommendation **Normal** Date 02/10/14 Lab Number NO30-44282-0077

Dirt and wear metals appear to be at acceptable levels. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab 7 Interpreted By Peter Leggo Analyzed By gkscribner Label Number 4145478

Sample Information

Evaluation	SMU	CMU	Oil	Oil	Sample	Received	Oil	Oil	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	OxI	Zn	Ca
Baseline			Hours	Cng	Date	Date	Brand	Grade	Sodium	Potassaur	Silicon	Aluminium	Iron	Chromium	Lead	Copper	Tin	Nickel	Silver	Titanium	Vanadium	Oxidation	Zinc	Calcium
A	1003	1.003	N		27/01/15	02/02/15	FACTORY		3	3	4	2	3	0	1	2	0	0	0	0	0	35	1205	2836
A	553	553	N		02/10/14	09/10/14	FACTORY		3	2	3	1	2	<0	1	2	<0	<0	<0	<0	<0	37	1148	2785

Sample Reading

Ma	Ba	B	Mo	P	V100	V40	W	% Wa	GLY	ISO	4u	6u	10u	14u	21u	38u	50u
Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Water	Percent	GLY	ISO Code	4u	6u	10u	14u	21u	38u	50u
9	1	3	0	1017	7.6	32.6	N	0.00	NT	19/16/1	2837	442	89	54	39	19	11
9	0	0	<0	972.0	7.3	32.7	N	0.00	NT	20/17/1	6361	1069	276	103	17	1	1

Sample Reading

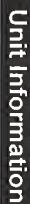
P - Positive T - Trace N - Negative NR - Not Required NT - Not Tested

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A No Action Required B Monitor C Action Required X Urgent Action Required



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Service Information

Service Interval:

Work Order No:

Default Site

Default Site

2 REQUEST FORMS MARKED LEFT
TANDEM

N030-45033-0116

Days to reach Lab	6	Interpreted By	Peter Lewandowski	Analyzed By	plewandowski	Label Number	4258039
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N030-44282-0080

Days to reach Lab	7	Interpreted By	Peter Leggo	Analyzed By	gkscribner	Label Number	4145494
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Sample Reading

WHEATLAND COUNTY
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NT - Not Tested

Urgent Action Required

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PROACTIVE FLUID ANALYSIS Lubricant & Component • Predictive Results



Unit Information

Service Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: WHEEL HUB FRONT RIGHT

Warranty Expiry Date:
 Comp Make:
 Comp Model:
 Comp Serial:

Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:

Customer Comments:
 Default Site
 Default Site

Evaluation Code **B** Recommendation **B** Monitor Required **27/07/15** Lab Number **N030-45033-0118**

Elevated iron readings are commonly associated with wear of wheel hub bearings and housing. Elevated chromium can be sourced to various types of low friction bearings. Unable to test for particle count (ISO code) due to excess particulate. Other readings appear to be normal. Initially elevated "break-ir" readings will usually improve after the 2nd, 3rd oil drain intervals. Resample at the next service interval.

Days to reach Lab **6** Interpreted By **Peter Lewandowski** Analyzed By **plewandowski** Label Number **3933558**

Evaluation Code **B** Recommendation **B** Monitor Required **27/07/15** Lab Number **N030-45033-0118**

Days to reach Lab **6** Interpreted By **Peter Lewandowski** Analyzed By **plewandowski** Label Number **3933558**

Sample Information														Sample Reading										
Evaluation	SMU	CMU	Oil	Oil	Sample	Received	Oil	Oil	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	OxI	Zn	Ca
Baseline			Hours	Chg	Date	Date	Brand	Grade	Sodium	Potassium	Silicon	Aluminum	Iron	Chromium	Lead	Copper	Tin	Nickel	Silver	Titanium	Vanadium	Oxidation	Zinc	Calcium
B	1003	1.003	1.003	N	27/01/15	02/02/15			4	2	14	7	317	13	0	1	<0	0	<0	0	1	4	1155	2741

Sample Reading																			
Ma	Ba	B	Mo	P	V100	V40	W	% Wat	ISO	4u	6u	10u	14u	21u	38u	50u			
Magresit	Barium	Boron	Molybde	Phosphor	Viscosity	Viscosity	Water	Percent	ISO Cod	4u	6u	10u	14u	21u	38u	50u			
10	3	9	10	953	10.9	93.4	N	0.00	BLH	0	0	0	0	0	0	0			

P - Positive T - Trace N - Negative NR - Not Required NT - Not Tested

WHEATLAND COUNTY
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A No Action Required B Monitor C Action Required X Urgent Action Required

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CAT

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FAX : 4039344889

PROACTIVE FLUID ANALYSIS Lubricant & Component • Predictive Results



Unit Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: ENGINE

Warranty Expiry Date:
 Comp Make: CAT
 Comp Model: C11_CAT
 Comp Serial:

Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:

Service Information

Recommendation **A** Normal 21/01/15 Lab Number N030-45028-0221

Elevated copper level may be due to increased oil cooler core leaching, not wear. Oil change or new formulation can restart cooler core leaching. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab 7 Interpreted By Peter Leggo Analyzed By pleggo Label Number 3867504

Evaluation Code **A** Recommendation Normal Date 10/11/14 Lab Number N030-44352-0407

Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab 38 Interpreted By Peter Lewandowski Analyzed By pleggo Label Number 3862299

Sample Information

Evaluation	SMU	CMU	Oil	Oil	Sample	Received	Oil	Oil	Na	K	SI	AI	Fe	Cr	Pb	Cu	Sn	Ni	Ag	TI	V	ST	OXI	SUL
Baseline			Hours	Chg	Date	Date	Brand	Grade	Sodium	Potassium	Silicon	Aluminum	Iron	Chromium	Lead	Copper	Tin	Nickel	Silver	Titanium	Vanadium	Soot	Oxidation	Sulfation
A	980	980	253	Y	21/01/15	28/01/15	PETROCAN	10W-30	2	1	9	2	17	0	6	58	6	0	0	0	0	7	14	20
A	727	727	243	Y	10/11/14	18/12/14	PETROCAN	10W-30	2	0	12	2	14	0	5	51	5	<0	0	<0	<0	5	14	21
A	484	484	248	Y	19/09/14	06/10/14	PETROCAN	10W-30	3	1	23	1	18	0	6	51	<0	<0	0	0.02	<0	6	14	23
A	236	236	236	Y	29/07/14	21/08/14	PETROCAN	10W-30	7	1	96	1	26	1	8	60	6	<0	1	0.07	<0	6	16	22

Sample Reading

Zn	Ca	Mn	Ba	B	Mo	P	V100	V40	F	W	% Wat	% Fuel	GLY											
Zinc	Calcium	Magnesi	Barium	Boron	Molybde	Phosphor	Viscosity	Viscosity	Fuel	Water	Percent	Percent	GLY											
1095	2097	8	0	2	0	928	10.8	68.1	NT	N	0.00	0.0	NT											
1067	2095	15	0	2	0	919	10.6	68.4	NT	N	0.00	0.0	NT											
926	1800	70	0	7	4	779.6	10.4	66.8	NT	N	0.00	0.0	NT											
955	1196	749	0	36	40	810.9	10.4	63.8	NT	N	0.00	0.0	NT											

Sample Reading

P - Positive										T - Trace				N - Negative				NR - Not Required				NT - Not Tested			
Zn	Ca	Mn	Ba	B	Mo	P	V100	V40	F	W	% Wat	% Fuel	GLY												
Zinc	Calcium	Manganese	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Fuel	Water	Percent V	Percent F	GLY												
1095	2097	8	0	2	0	928	10.8	68.1	NT	N	0.00	0.0	NT												
1067	2035	15	0	2	0	919	10.6	68.4	NT	N	0.00	0.0	NT												
926	1800	70	0	7	4	779.6	10.4	66.8	NT	N	0.00	0.0	NT												
955	1196	749	0	36	40	810.9	10.4	63.8	NT	N	0.00	0.0	NT												

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FAX : 4039344889

PROACTIVE FLUID ANALYSIS Lubricant & Component • Predictive Results

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Unit Information

Service Information

UNIT: 14611
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: ENGINE

Warranty Expiry Date:
 Comp Make: CAT
 Comp Model: C11_CAT
 Comp Serial:

Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:

Customer Comments:

Evaluation Code **A** **Recommendation** **Normal** **Lab Number** **N030-44352-0407**

Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab **38** **Interpreted By** **Peter Lewandowski** **Analyzed By** **pleggo** **Label Number** **3862299**

Evaluation Code **A** **Recommendation** **Normal** **Date** **19/09/14** **Lab Number** **N030-44279-0767**

Elevated silicon and copper appear to be residuals from a compound used in assembly or repair. Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Initially elevated "break-in" readings will usually improve after the 2nd, 3rd oil drain intervals. Resample at the next service interval.

Days to reach Lab **17** **Interpreted By** **Dallas Livingston** **Analyzed By** **d Livingston** **Label Number** **3862274**

Sample Information

Sample Reading

Evaluation	SMU	CMU	Oil	Oil	Sample	Received	Oil	Oil	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	ST	OXI	SUL
Baseline			Hours	Chg	Date	Date	Brand	Grade	Sodium	Potassium	Silicon	Aluminum	Iron	Chromium	Lead	Copper	Tin	Nickel	Silver	Titanium	Vanadium	Soot	Oxidation	Sulfation
A	727	727	243	Y	10/11/14	18/12/14	PETROCAN	10W-30	2	0	12	2	14	0	5	51	5	<0	0	<0	<0	5	14	21
A	484	484	248	Y	19/09/14	06/10/14	PETROCAN	10W-30	3	1	23	1	18	0	6	51	<0	<0	0	0.02	<0	6	14	23
A	236	236	236	Y	29/07/14	21/08/14	PETROCAN	10W-30	7	1	96	1	26	1	8	60	6	<0	1	0.07	<0	6	16	22

Sample Reading

Zn	Ca	Mg	Ba	B	Mo	P	V100	V40	F	W	% Wat	% Fuel	GLY
Zinc	Calcium	Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Fuel	Water	Percent	Percent	GLY
1067	2095	15	0	2	0	919	10.6	68.4	NT	N	0.00	0.0	NT
926	1800	70	0	7	4	779.6	10.4	66.8	NT	N	0.00	0.0	NT
955	1196	749	0	36	40	810.9	10.4	63.8	NT	N	0.00	0.0	NT

WHEATLAND COUNTY
 Attn: ED SMITH
 RR1 HIGHWAY 1
 STRATHMORE, AB T1P 1J6

P - Positive **T - Trace** **N - Negative** **NR - Not Required** **NT - Not Tested**

A **No Action Required** **B** **Monitor** **C** **Action Required** **X** **Urgent Action Required**

FINNING.



FAX : 4039344889

PROACTIVE FLUID ANALYSIS Lubricant & Component • Predictive Results



1 - 888 FINNING (346 - 6464) www.finning.ca

Unit Information

UNIT: R9J01266
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: ENGINE

Warranty Expiry Date:

Comp Make: CAT
 Comp Model: C11_CAT
 Comp Serial:

Service Interval:

Work Order No:
 Job Site:
 Branch:
 Sampled Site:

Customer Comments:

Service Information

Evaluation Code **A** **Recommendation** **Normal** **Lab Number** **N030-44279-0767**

Elevated silicon and copper appear to be residuals from a compound used in assembly or repair. Wear metal analysis indicates acceptable wear rate. Oil condition analysis is acceptable. Initially elevated "break-in" readings will usually improve after the 2nd, 3rd oil drain intervals. Resample at the next service interval.

Days to reach Lab **17** **Interpreted By** **Dallas Livingston** **Analyzed By** **dllivingston** **Label Number** **3862274**

Evaluation Code **A** **Recommendation** **Normal** **Date** **29/07/14** **Lab Number** **N030-44233-0520**

Elevated silicon appears to be residual from a compound used in assembly or repairs. Elevated copper level may be due to increased oil cooler core leaching, not wear. Oil change or new formulation can resist oil cooler core leaching. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab **23** **Interpreted By** **Peter Lewandowski** **Analyzed By** **amarona** **Label Number** **4148059**

Sample Information

Evaluation	SMU	CMU	Oil	Oil	Sample	Received	Oil	Oil	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	ST	OXI	SUL
Baseline			Hours	Chg	Date	Date	Brand	Grade	Sodium	Potassium	Silicon	Aluminum	Iron	Chromium	Lead	Copper	Tin	Nickel	Silver	Titanium	Vanadium	Soot	Oxidation	Sulfation
A	484	484	248	Y	19/09/14	06/10/14	PETROCAN	10W-30	3	1	23	1	18	0	6	51	<0	<0	0	0.02	<0	6	14	23
A	236	236	236	Y	29/07/14	21/08/14	PETROCAN	10W-30	7	1	96	1	26	1	8	60	6	<0	1	0.07	<0	6	16	22

Sample Reading

Zn	Ca	Mg	Ba	B	Mo	P	V100	V40	F	W	% Wat	% Fuel	GLY
Zinc	Calcium	Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Fuel	Water	Percent	Percent	GLY
926	1800	70	0	7	4	779.6	10.4	66.8	NT	N	0.00	0.0	NT
955	1196	749	0	36	40	810.9	10.4	63.8	NT	N	0.00	0.0	NT

P - Positive **T - Trace** **N - Negative** **NR - Not Required** **NT - Not Tested**

WHEATLAND COUNTY
 Attn: ED SMITH
 RR1 HIGHWAY 1
 STRATHMORE, AB T1P 1J6

A **No Action Required** **B** **Monitor** **C** **Action Required** **X** **Urgent Action Required**



Coolant Analysis - Level 1

FAX : 4039344889

FAX : 4039344889

Coolant Analysis - Level 1

P.M. SERVICE INFORMATION

Engine Make

Engine Model

Engine Serial

WO Number

Target Nitrite	707	Current Glycol	60	%
Current Nitrite	707	Current Glycol	60	%

Coolant Type:

Gallon Quart Liter

Glycol to Add

Caterpillar Coolant SCA Needed:

Part No. to Order: 1195152

Part No. to Order: 1195152

Warning! these calculations are based on a system capacity of **1.0** gallons or **3.79** liters, if your system capacity is different these values will need to be adjusted. Be sure to test this coolant after making adjustments.

PHYSICAL PROPERTIES

hear	None
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[illegible][illegible]

RECOMMENDATIONS

EVALUATION/RECOMMENDATION

All level 1 readings are within the acceptable range. Continue to use this coolant. Sample again at the regular interval to monitor the cooling system.

WHEELING COUNTY

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WHEATLAND COUNTY
ED SMITH
RR1 HIGHWAY 1
STRATHMORE AB T1P 1J6

Urgent Action Required

FINNING



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FAX : 4039344889

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Unit Information

UNIT: R9J01266
 Equip Make: CAT
 Equip Model: 14M
 Equip Serial: R9J01266
 Component: ENGINE

Warranty Expiry Date:
 Comp Make: CAT
 Comp Model: C11_CAT
 Comp Serial:

Service Information

Service Interval:
 Work Order No:
 Job Site:
 Branch:
 Sampled Site:



Evaluation Code

A Recommendation

Normal

29/07/14

Lab Number

N030-44233-0520

Elevated silicon appears to be residual from a compound used in assembly or repairs. Elevated copper level may be due to increased oil cooler core leaching, not wear. Oil change or new formulation can restart cooler core leaching. Other readings appear to be normal. Resample at the next service interval.

Days to reach Lab

23 Interpreted By

Peter Lewandowski

Analyzed By

amarona

Label Number

4148059

Evaluation Code

Recommendation

Date

Lab Number

Days to reach Lab

Interpreted By

Analyzed By

Label Number

Sample Information

Evaluation	SMU	CMU	Oil	Oil	Sample	Received	Oil	Oil	Na	K	SI	AI	Fe	Cr	Pb	Cu	Sn	Ni	Ag	TI	V	ST	OXI	SUL
Baseline			Hours	Chg	Date	Date	Brand	Grade	Sodium	Potassium	Silicon	Aluminum	Iron	Chromium	Lead	Copper	Tin	Nickel	Silver	Titanium	Vanadium	Soot	Oxidation	Sulfation
A	236	236	236	Y	29/07/14	21/08/14	PETROCAN	10W-30	7	1	96	1	26	1	8	60	6	<0	1	0.07	<0	6	16	22

Sample Reading

Zn	Ca	Mg	Ba	B	Mo	P	V100	V40	F	W	% Wat	% Fuel	GLY
Zinc	Calcium	Magnesium	Barium	Boron	Molybdenum	Phosphorus	Viscosity	Viscosity	Fuel	Water	Percent V	Percent F	GLY
955	1196	749	0	36	40	810.9	10.4	63.8	NT	N	0.00	0.0	NT

P - Positive

T - Trace

N - Negative

NR - Not Required

NT - Not Tested

WHEATLAND COUNTY
 Attn: ED SMITH
 RR1 HIGHWAY 1
 STRATHMORE, AB T1P 1J6

A No Action Required

B

Monitor

C

Action Required

X

Urgent Action Required



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Email: oilsupport@finning.com Web: www.finning.com

CONTACT INFORMATION

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STRATHMORE, AB
CA T1P 1J6
PHONE: 4033336870
FAX: 4033344889
Email: WAYNE.

Interp By: Gregory Scribner

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY

SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 4886917
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 69
SAMPLE LOCATION :

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

No Action
Required

LAB #

NO30-48186-1131

PROCESS 05-Jul-18

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
27-Apr-18	NR30-48186-1131	6695	248	Y	Y	1	0	1	0	11	0	1	3	0	0	0	0	0	1204	1008	997	0	3	59	1028
07-Mar-18	NR30-48085-0531	6447	261	Y	Y	2	1	1	0	12	1	2	3	0	0	0	0	0	1176	996	980	0	2	60	1022
22-Jan-18	NR30-48025-0511	6331	145	N	N	1	0	1	0	4	0	1	2	0	0	0	0	0	1141	960	963	0	2	61	1039
18-Dec-17	NR30-48012-0549	6186	247	Y	Y	1	0	1	0	8	0	1	3	0	0	0	0	0	1164	988	988	0	2	54	1005

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F	PFC
27-Apr-18	NO30-48186-1131	6695	248	PETRO-CAN	DURON	10W-30	Y	Y	10.9	68.1	151	7	14	18	6	N	N	
07-Mar-18	NO30-48085-0531	6447	261	PETRO-CAN	DURON	10W-30	Y	Y	10.4	66.0	145	6	14	18	6	N	N	
22-Jan-18	NO30-48025-0511	6331	145	PETRO-CAN	DURON	10W-30	N	N	10.5	68.6	141	0	13	18	5	N	N	2.60
18-Dec-17	NO30-48012-0549	6186	247	PETRO-CAN	DURON	10W-30	Y	Y	10.6	66.8	148	5	14	19	5	N	N	

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
27-Apr-18	NO30-48186-1131	Y	Y	N
07-Mar-18	NO30-48085-0531	Y	Y	N
22-Jan-18	NO30-48025-0511	N	N	N
18-Dec-17	NO30-48012-0549	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, SI = Silicon, Sn = Tin, Ti = Titanium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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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CONTACT INFORMATION

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CA T1P 1J6
PHONE: 4033336870
FAX: 4039344889
Email: WAYNE.

Interp By: Peter Leggo

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY

JOB SITE :
AREA :
REGION :

SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL #: 4977556
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 6
SAMPLE LOCATION :

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

No Action
Required

LAB #

ND30-48276-0545

PROCESS 03-Oct-18

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
27-Sep-18	ND30-48276-0545	7485	297	N	N	3	2	3	1	3	0	0	0	0	0	0	0	0	947	1288	771	0	74	11	839
31-Jul-18	ND30-48235-0445	7188	246	Y	Y	2	2	2	0	9	0	0	2	0	0	0	0	0	803	1285	743	0	56	2	723
11-Jun-18	ND30-48188-1132	6942	247	Y	Y	2	2	2	1	9	0	1	2	0	0	0	0	0	849	1199	769	0	60	11	728
27-Apr-18	ND30-48188-1131	6695	248	Y	Y	1	0	1	0	11	0	1	3	0	0	0	0	0	1204	1008	997	0	3	59	1028

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F	PFC
27-Sep-18	ND30-48276-0545	7485	297	PETRO-CAN	DELO XLE	10W-30	N	N	10.7	73.6	133	0	12	18	6	N	N	0.22
31-Jul-18	ND30-48235-0445	7188	246	CHEVRON	DELO XLE	10W-30	Y	Y	10.4	68.5	139	6	13	18	8	N	N	
11-Jun-18	ND30-48188-1132	6942	247	CHEVRON	SEMI SYN	10W-30	Y	Y	10.5	66.2	147	6	12	18	7	N	N	
27-Apr-18	ND30-48188-1131	6695	248	PETRO-CAN	DURON	10W-30	Y	Y	10.9	68.1	151	7	14	18	6	N	N	

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
27-Sep-18	ND30-48276-0545	N	N	N
31-Jul-18	ND30-48235-0445	Y	Y	N
11-Jun-18	ND30-48188-1132	Y	Y	N
27-Apr-18	ND30-48188-1131	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitrogen, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, PFC = Percent Fuel Content, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, VI = Viscosity Index, W = Water, Zn = Zinc

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CONTACT INFORMATION

WAYNE CLYNE
WHEATLAND COUNTY
RR1 HIGHWAY 1
STRATHMORE, AB
CA T1P 1J6
PHONE: 4033336870
FAX: 4039344889
Email: WAYNE.

EQUIPMENT

CUSTOMER EQUIP NUM : 146T1
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY

SAMPLE INFORMATION

COMPARTMENT NAME : TRANSMISSION DIFF
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL#: 4977577
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 6
REGION:
AREA:
JOB SITE :
DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

Inter By: Peter Leggo

No Action
Required

LAB #

N030-48276-0548

PROCESS 03-Oct-18

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	Si	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
27-Sep-18	N030-48276-0548	7485	7485	N	N	2	1	3	1	19	0	0	39	0	0	0	0	0	1107	3316	7	0	0	0	851
22-Jan-18	N030-48025-0510	6331	4335	N	N	3	2	4	1	80	0	1	194	0	0	0	0	0	1056	2555	9	0	0	0	1006
20-Jan-17	N030-47023-0575	4450	2454	U	U	3	1	4	0	43	0	1	145	<0	0	0	0	<0	1062	2668	6	0	1	1	1003
21-Dec-15	N030-45383-0038	2476	1476	U	U	3	0	3	1	18	<0	<0	13	<0	0	<0	0	0	1082	2713	6	0	2	0	973

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	V1	ST	OXI	SUL	NIT	A
27-Sep-18	N030-48276-0548	7485	7485	PETRO-CAN	UNKNOWN		N	N	10.3	85.3	102	0	6	13	4	N
22-Jan-18	N030-48025-0510	6331	4335	PETRO-CAN	UNKNOWN		N	N	8.9	60.0	125	0	13	25	4	N
20-Jan-17	N030-47023-0575	4450	2454	PETRO-CAN	PROUDURO	30	U	U	10.8	84.9			3	17	3	N
21-Dec-15	N030-45383-0038	2476	1476	PETRO-CAN	PROUDURO	30	U	U	10.7	86.2			3			N

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	ISO	4μ	6μ	10μ	14μ	18μ	21μ	38μ	50μ	W
27-Sep-18	N030-48276-0548	N	N	21/18/14	16309	1692	317	150	98	72	10	2	N
22-Jan-18	N030-48025-0510	N	N	22/18/14	24176	1836	306	120	52	30	5	4	N
20-Jan-17	N030-47023-0575	U	U	22/18/14	27333	2081	335	126	58	28	1	0	N
21-Dec-15	N030-45383-0038	U	U	23/20/13	45773	5433	220	43	12	7	1	1	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Bronz, Ba = Barium, Ca = Calcium, Cu = Chromium, Cr = Copper, Fe = Iron, ISO = ISO Rating, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, V1 = Viscosity Index, W = Water, Zn = Zinc

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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CONTACT INFORMATION

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WHEATLAND COUNTY
RR1 HIGHWAY 1
STRATHMORE, AB
CA T1P 1J6
PHONE: 4033336870
FAX: 4039344889
Email: WAYNE.

EQUIPMENT

CUSTOMER EQUIP NUM : 14611
SERIAL NUMBER : R9J01266
MODEL : 14M
MANUFACTURER : CAT
COMPANY NAME : WHEATLAND COUNTY
JOB SITE :
AREA :
REGION :

SAMPLE INFORMATION

COMPARTMENT NAME : ENGINE
COMP SERIAL NUM :
COMPARTMENT MODEL :
LABEL# : 4886917
SHOP JOB NUM :
SAMPLE TYPE: OIL
SAMPLE SHIP TIME (days) : 69
SAMPLE LOCATION :

Interp By: Gregory Scribner

No Action Required
DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE NEXT SERVICE INTERVAL.

LAB #

N030-48186-1131

PROCESS 05-Jul-18

DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P
27-Apr-18	N030-48186-1131	6695	248	Y	Y	1	0	1	0	11	0	1	3	0	0	0	0	0	1204	1008	997	0	3	59	1028
07-Mar-18	N030-48085-0531	6447	261	Y	Y	2	1	1	0	12	1	2	3	0	0	0	0	0	1176	996	980	0	2	60	1022
22-Jan-18	N030-48025-0511	6331	145	N	N	1	0	1	0	4	0	1	2	0	0	0	0	0	1141	960	963	0	2	61	1039
18-Dec-17	N030-48012-0549	6186	247	Y	Y	1	0	1	0	8	0	1	3	0	0	0	0	0	1164	988	988	0	2	54	1005

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	V1	ST	OXI	SUL	NIT	A	F	PFC
27-Apr-18	N030-48186-1131	6695	248	PETRO-CAN	DURON	10W-30	Y	Y	10.9	68.1	151	7	14	18	6	N	N	
07-Mar-18	N030-48085-0531	6447	261	PETRO-CAN	DURON	10W-30	Y	Y	10.4	66.0	145	6	14	18	6	N	N	
22-Jan-18	N030-48025-0511	6331	145	PETRO-CAN	DURON	10W-30	N	N	10.5	68.6	141	0	13	18	5	N	N	2.60
18-Dec-17	N030-48012-0549	6186	247	PETRO-CAN	DURON	10W-30	Y	Y	10.6	66.8	148	5	14	19	5	N	N	

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
27-Apr-18	N030-48186-1131	Y	Y	N
07-Mar-18	N030-48085-0531	Y	Y	N
22-Jan-18	N030-48025-0511	N	N	N
18-Dec-17	N030-48012-0549	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Boron, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus, Pb = Lead, ST = Sulfur, SUL = Sulfur, Si = Silicon, Sn = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity@100C, V40 = Viscosity@40C, V1 = Viscosity Index, W = Water, Zn = Zinc

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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EQUIPMENT

CUSTOMER EQUIP NUM.: 14611
SERIAL NUMBER: R9J01266
MODEL: 14M
MANUFACTURER: CAT
COMPANY NAME: WHEATLAND COUNTY

SAMPLE INFORMATION

COMPARTMENT NAME: ENGINE
COMP SERIAL NUM.:
COMPARTMENT MODEL:

LABEL#: 4977556

SHOP JOB NUM.:

SAMPLE TYPE: OIL

SAMPLE SHIP TIME (days): 6

SAMPLE LOCATION:

Interp By: Peter Leggo

No Action
Required

DIRT AND WEAR METALS APPEAR TO BE AT ACCEPTABLE LEVELS. OTHER READINGS APPEAR TO BE NORMAL. RESAMPLE AT THE
NEXT SERVICE INTERVAL.

LAB #

NO30-48276-0545

PROCESS 03-Oct-18
DATE

WEAR/CONTAMINATION - ADDITIVES/FORMULATION

SAMPLE DATE	SAMPLE ID	METER (HR.)	METER ON FLUID	FLUID CHANGE	FILTER CHANGE	Na	K	SI	Al	Fe	Cr	Pb	Cu	Sn	Ni	Ag	Ti	V	Zn	Ca	Mg	Ba	B	Mo	P	
27-Sep-18	NO30-48276-0545	7485	297	N	N	3	2	3	1	3	0	0	0	0	0	0	0	0	0	947	1288	771	0	74	11	839
31-Jul-18	NO30-48235-0445	7188	246	Y	Y	2	2	2	0	9	0	0	2	0	0	0	0	0	803	1285	743	0	56	2	723	
11-Jun-18	NO30-48186-1132	6942	247	Y	Y	2	2	2	1	9	0	1	2	0	0	0	0	0	849	1199	769	0	60	11	728	
27-Apr-18	NO30-48186-1131	6695	248	Y	Y	1	0	1	0	11	0	1	3	0	0	0	0	0	1204	1008	997	0	3	59	1028	

OIL FORMULATION - OIL CONDITION - OIL CONTAMINATION

SAMPLE DATE	SAMPLE ID	METER (HR.)	METER ON FLUID	FLUID BRAND	FLUID TYPE	FLUID WEIGHT	FLUID CHANGE	FILTER CHANGE	V100	V40	VI	ST	OXI	SUL	NIT	A	F	PC
27-Sep-18	NO30-48276-0545	7485	297	PETRO-CAN	DELO XLE	10W-30	N	N	10.7	73.6	133	0	12	18	6	N	N	0.22
31-Jul-18	NO30-48235-0445	7188	246	CHEVRON	DELO XLE	10W-30	Y	Y	10.4	68.5	139	6	13	18	8	N	N	
11-Jun-18	NO30-48186-1132	6942	247	CHEVRON	SEMI SYN	10W-30	Y	Y	10.5	66.2	147	6	12	18	7	N	N	
27-Apr-18	NO30-48186-1131	6695	248	PETRO-CAN	DURON	10W-30	Y	Y	10.9	68.1	151	7	14	18	6	N	N	

OIL CLEANLINESS

SAMPLE DATE	SAMPLE ID	FLUID CHANGE	FILTER CHANGE	W
27-Sep-18	NO30-48276-0545	N	N	N
31-Jul-18	NO30-48235-0445	Y	Y	N
11-Jun-18	NO30-48186-1132	Y	Y	N
27-Apr-18	NO30-48186-1131	Y	Y	N

A = Antifreeze, Ag = Silver, Al = Aluminum, B = Barium, Ba = Barium, Ca = Calcium, Cr = Chromium, Cu = Copper, F = Fuel, Fe = Iron, K = Potassium, Mg = Magnesium, Mo = Molybdenum, NIT = Nitration, Na = Sodium, Ni = Nickel, OXI = Oxidation, P = Phosphorus,
PC = Percent Fuel Content, Pb = Lead, ST = Soot, SUL = Sulfation, Si = Tin, Ti = Titanium, V = Vanadium, V100 = Viscosity @ 100°C, V40 = Viscosity @ 40°C, VI = Viscosity Index, W = Water, Zn = Zinc

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