



**LUBRIPORT  
LABORATORIES  
INC.**

1650 AIRLINE DRIVE  
KENNER, LA 70062

(504) 464-1734

NEW ORLEANS PUBLIC  
BELT RAILROAD  
JOSH HARPER

LOCO 3001  
ENGINE

CP #053

FUEL DILUTION INCREASED SLIGHTLY. LITTLE CHANGE IN WEAR METALS FOUND. NO IMMEDIATE ACTION REQUIRED.

SAMPLE FROM UNIT NOT SUBMITTED IN SEVERAL MONTHS. COPPER SLIGHTLY ELEVATED. REMAINING METALS ARE RELATIVELY LOW. NO CORRECTIVE ACTION NECESSARY.

HIGHER WEAR METALS, BUT REDUCED FUEL DILUTION FOUND. FALL RESAMPLE SUGGESTED.

SLIGHT DECREASE IN FUEL DILUTION FOUND. MODERATE RISE IN COPPER CONTINUES. WINTER RESAMPLE SUGGESTED. CHECK FOR RECENT OIL COOLER REPAIR.

SLIGHT DECREASE IN WEAR METALS AND FUEL DILUTION CONTINUES. RESAMPLE AT NORMAL TIME.

INVOICE NO.	LL-64071	LL-64599	LL-65216	LL-65498	LL-65932
REPORT DATE:	FEBRUARY 5, 2019	MAY 21, 2019	SEPTEMBER 18, 2019	NOVEMBER 14, 2019	FEBRUARY 21, 2020
DATE SAMPLE REC'D:	JANUARY 18, 2019	MAY 7, 2019	AUGUST 29, 2019	NOVEMBER 8, 2019	FEBRUARY 10, 2020
PRODUCT	LUBE OIL	LUBE OIL	LUBE OIL	LUBE OIL	LUBE OIL
LAB NUMBER	1-623	5-262	8-961	11-222	2-254
DATE SAMPLED	1/7/19	4/9/19	7/15/19	10/7/19	1/9/20
VISC. SUS @ 210 F	70.3 SECS.	66.6 SECS.	67.6 SECS.	70.3 SECS.	73.0 SECS.
VISC. KIN @ 210 F	13.02 CST.	12.04 CST.	12.31 CST.	13.02 CST.	13.74 CST.
T.B.N. (D2896)	7.4	7.0	7.2	7.3	7.1
PENTANE INSOLUBLES	0.1%	0.1%	0.2%	0.3%	0.1%
WATER	0.05%	0.1%	0.1%	0.05%	0.05%
DILUTION	1.5%	3%	2%	1.5%	1%
METALS					
IRON	17.7	17.1	29	28	19.8
SILVER	0.1	0.0	0.0	0.0	0.0
ALUMINUM	1.8	2.0	3.1	3.5	2.5
CHROMIUM	2.0	3.3	4.2	4.2	3.2
COPPER	27	34	60	79	71
MAGNESIUM	11.2	13.3	16.4	20	19.1
SODIUM	14.4	16.9	12.3	9.6	7.8
NICKEL	0.5	2.8	1.2	1.0	0.6
LEAD	4.7	7.1	16.0	12.3	8.9
SILICON	2.8	4.4	14.7	15.0	13.2
TIN	0.0	0.0	0.0	0.0	0.0
TITANIUM	0.0	0.0	0.3	0.4	0.2
BORON	0.0	0.4	0.2	2.0	0.5
BARIUM	0.7	0.5	1.1	0.7	0.4
MOLYBDENUM	4.1	2.0	0.3	1.0	0.5
VANADIUM	0.0	0.1	0.1	0.1	0.1
ZINC	9.6	9.5	14.3	10.8	8.8
MANGANESE	0.0	0.0	0.0	0.3	0.3
CALCIUM	2924	2834	2810	2845	2559
PHOSPHORUS	12.7	6.9	13.6	12.7	9.5

*Josh Harper*