



LUBRIPORT LABORATORIES INC.

1650 AIRLINE DRIVE
KENNER, LA 70062

(504) 464-1734

NEW ORLEANS PUBLIC
BELT RAILROAD
JOSH/BANJO

LOCO 4004
ENGINE

CP #070

WATER CONTENT UN-
CHANGED WITH SLIGHT
DECREASE IN SODIUM.
NO EXCESSIVE WEAR
DETECTED.

THIS ENGINE USING
OIL CONTAINING
SODIUM ADDITIVE.
MINOR COOLANT EN-
TRY ALSO DETECTED.

DECREASE IN SODIUM,
BUT SLIGHT INCREASE
IN WATER CONTENT
FOUND. SEPTEMBER
RESAMPLE SUGGESTED.

FURTHER DECREASE IN
SODIUM AND WATER
CONTENT FOUND. MOST
WEAR METALS INCREAS-
ED. WINTER RESAMPLE
SUGGESTED.

CONTINUED DECREASE
IN SODIUM CONTENT
FOUND, BUT MOST
METALS INCREASED
SLIGHTLY. SPRING
RESAMPLE SUGGESTED.

INVOICE NO.	LL-64328	LL-64599	LL-65216	LL-65498	LL-65932
REPORT DATE:	MARCH 20, 2019	MAY 21, 2019	SEPTEMBER 18, 2019	NOVEMBER 14, 2019	FEBRUARY 24, 2020
DATE SAMPLE REC'D:	MARCH 11, 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	3-214	5-268	8-973	11-224	2-261
DATE SAMPLED	1/21/19	4/23/19	7/21/19	10/29/19	1/30/20
VISC. SUS @ 210 F	72.6 SECS.	69.0 SECS.	71.5 SECS.	73.5 SECS.	75.3 SECS.
VISC. KIN @ 210 F	13.64 CST.	12.68 CST.	13.35 CST.	13.87 CST.	14.34 CST.
TBN (D2896)	8.4	8.2	8.3	8.4	7.5
PENTANE INSOLUBLES	0.2%	0.2%	0.3%	0.25%	0.25%
WATER BY DIST.	0.15%	0.2%	0.25%	0.1%	0.15%
SAE WEIGHT	40 WT.	40 WT.	40 WT.	40 WT.	40 WT.
DILUTION	1%	2%	1%	1%	0.5%
METALS					
IRON	17.0	23	26	56	89
SILVER	0.1	0.1	0.0	0.0	0.0
ALUMINUM	2.1	2.4	3.2	3.9	3.0
CHROMIUM	1.0	1.4	1.6	2.0	1.1
COPPER	6.4	11.6	13.8	15.0	15.6
MAGNESIUM	11.5	15.9	57	34	32
SODIUM	146	1723	407	160	96
NICKEL	2.0	2.0	1.0	0.9	0.2
LEAD	1.4	1.8	2.0	2.8	1.7
SILICON	10.9	13.2	20	24	24
TIN	0.0	0.0	0.0	0.0	0.0
TITANIUM	0.2	12.7	0.0	0.1	0.0
BORON	19.7	39	30	20	14.9
BARIUM	1.4	1.4	1.0	0.8	0.2
MOLYBDENUM	11.9	5.5	4.3	4.3	2.2
VANADIUM	0.1	0.1	0.3	0.3	0.0
ZINC	8.6	8.9	9.9	9.3	9.1
MANGANESE	0.0	0.0	0.6	0.7	0.3
CALCIUM	2952	2699	2827	3006	2983
PHOSPHORUS	17.9	12.9	9.0	10.9	6.9

Handwritten signature: Josh Taylor