

# KPU



*Your Community, Your Utility*

**General Manager**  
334 Front Street  
Ketchikan, AK. 99901

(907) 228-5603 phone  
(907) 225-5075 fax

# 5b(1)

## TRANSMITTAL MEMORANDUM

**TO:** The Honorable Mayor and City Council

**FROM:** Karl R. Amylon, General Manager

**DATE:** March 19, 2021

**RE:** **Authorizing Budget Transfer – Bailey Generator #4 (BAG #4) Oil Change**

The motion detailed below was prepared at the request of Electric Division Manager Andrew Donato, who asked that it be placed before the City Council for consideration at its meeting of April 1, 2021. If adopted, the motion provides for transferring \$37,672 from the Electric Division's Additional Projects capital account to the Generation Oil Lubricants account (Account No. 525.02), in order to fund a BAG #4 oil change. The rationale for the oil change is detailed in Mr. Donato's transmittal memorandum and requires no elaboration on the part of my office. I concur with the Electric Division Manager's recommendation.

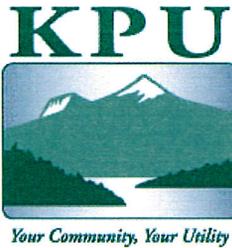
Mr. Donato will attend the City Council meeting of April 1, 2021, in order to address any questions and/or comments that Councilmembers may have.

A motion has been prepared for City Council consideration.

### **RECOMMENDATION**

It is recommended the City Council adopt the motion authorizing the General Manager to transfer \$37,672 from the Electric Division's Additional Projects capital account to the Generation Oil Lubricants account (Account No. 525.02), in order to fund a BAG #4 oil change.

**Recommended Motion:** I move the City Council authorize the General Manager to transfer \$37,672 from the Electric Division's Additional Projects capital account to the Generation Oil Lubricants account (Account No. 525.02), in order to fund a BAG #4 oil change.



Electric Division  
1065 Fair Street  
Ketchikan, AK 99901

Phone: (907) 225-5505  
Fax: (907) 247-0755

## TRANSMITTAL MEMORANDUM

**TO:** Karl Amylon, KPU General Manager  
Lacey Simpson, Assistant KPU General Manager

**FROM:** Andy Donato, KPU Electric Division Manager

**DATE:** March 15, 2021

**SUBJECT:** Bailey Generator #4 (BAG #4) Oil Change

### Background:

Among KPU's diesel fleet, BAG #4 has been the primary go-to unit due to its size of 10.5 MW and flexibility in automated ease to start and operate. As a result, this unit gets base loaded in nearly all diesel dispatch situations and hence accumulates the most hours annually. To date, the unit shows 16,351 hours of operation (about 2 years) which isn't much considering purpose and design criteria, however enough to familiarize us with some re-occurring failures. One of these being cylinder head coolant leaks.

Since last year was a relatively wet year, we took advantage of BAG #4 off-line time to resolve several cylinder head issues. We had a number of refurbished heads on the unit and at the time thought the price savings of refurbished heads outweighed any expected shorter than normal service life. In actuality, shorter than normal life became a major liability and we made a concerted effort to replace all refurbished heads with new factory OEM heads. The previous refurbished cylinder heads and respective coolant leaks took its toll on the engine oil. The leaks left small residues of contaminants, namely silicon, sodium, and potassium, in the oil which were near impossible to remove. One method to reduce these contaminants is called "sweetening". In this process, several drums of engine oil are removed and replaced with several drums of new oil. In this way, the number of particles of contaminants are diluted out. This was done twice since the last complete oil change and now that all the head work is complete, it is advisable to replace the engine oil in its entirety to reestablish all analysis base lines.

With an extended diesel campaign likely coming up soon with SEAPA's annual outage we're looking at an expedited schedule for BAG #4 PM's. SEAPA has announced their window for their annual line outage as June 10th to June 18th.

### Cost of New Oil:

Quotations were sought for 2,530 gallons of oil (46 drums), delivered in drums. The oil is a SAE 40 weight so, Chevron Delo 400, Taro 40DP30, or Mobilgard M430, are equivalent. Quotations were as follows:

Petro Marine (Taro 40DP30 )	\$37,671.70
Service Auto Parts (Chevron DELO 400)	\$47,470.00
Delta Western Petroleum (Mobilgard M430)	\$37,260.00

Since we already have a lube oil system established with Petro Marine, and whereas Petro Marine stores/stocks additional drums to have on hand for any short request of ours, this is considered a value added service that is currently provided. Additionally, it has been our experience that the Mobilgard M430 is more prone to sludging than the Taro 40DP30, making our choice the Taro 40DP30 product. The request for approval is for an expenditure of \$37,671.70 for 46 drums of Taro 40DP30 from Petro Marine.

As this was not budgeted in the Electric Division's 2021 budget, we are requesting approval to transfer funds from the approved 2021 CIP account "Additional Projects" in the amount of \$37,672 to account 525.02, Generation Oil Lubricants.





\* \* Q U O T E \* \*

Service Auto Parts  
4106 Tongass Avenue  
Ketchikan, AK 99901

ACCT #	SOLD TO	DATE	TIME
4905	City Of Ketchikan 334 Front Street Ketchikan, AK 99901-0000	03/09/2021	09:50
SR #		STORE #	KMP #
19		500005193	13 Ben

PART NUMBER	LN	DESCRIPTION	QUANTITY	LIST	PRICE	TOTAL
55-GAL 40W	CHV	DELO 400 40W 55 GAL	47.00	1,889.49	1010.0000	47,470.00

TOTAL -----> 47,470.00

\*\*\* Plus Applicable Taxes. \*\*\*  
\*\*\* Prices Subject to Change Without Notice. \*\*\*

\* \* THIS IS NOT AN INVOICE \* \*

## Scott May

---

**From:** Jim Fowler <Jim.Fowler@deltawestern.com>  
**Sent:** Friday, March 5, 2021 9:44 AM  
**To:** Scott May  
**Cc:** John Cannon; Ryan Macnamara; Nathan Teater  
**Subject:** Mobilgard M430 and 312 quote

### CAUTION: External Email

This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Scott,

Here are the quotes for Mobilgard M430 and Mobilgard 312 in full container loads to Ketchikan. I will make arrangements to store up to 8 drums of M430 and 12 to 16 drums of 312 in Ketchikan for Bailey Power Plant if you purchase from us.

Mobilgard M430 drum:  $\$810.00 \times 46 = \$37,260.00$  *FOR BAG #4*  
Mobilgard 312 drum:  $\$780.00 \times 30 = \$23,400.00$  *FOR BAG #3*  
Total: \$60,660.00

This includes freight to AML yard Ketchikan.

**Jim Fowler** | Ketchikan Site Manager | **Delta Western Petroleum**  
Jim.fowler@deltawestern.com  
Cell: (907) 821-3003



---

This email has been scanned for email related threats and delivered safely by Mimecast.  
For more information please visit <http://www.mimecast.com>

---

--  
This email has been processed with the City of Ketchikan SPAM filter. Please still be diligent with suspicious emails as no SPAM filter is 100% effective.

**Account Information**  
Lab Customer ID#: 70483  
Company Name: Ketchikan Public Utilities  
Company Worksite: Ketchikan, AK  
1065 FAIR ST.  
Company Address: KETCHIKAN, AK, 99901

**Unit Information**  
Unit ID: BA-4/311314  
Unit Mfg: -  
Unit Model: -  
Unit Serial #: -  
Unit Worksite: #2

**Sample Information**  
Lab No.: 202008060730  
Sample Tracking #:  
Sample Date Jul 15, 2020  
Received Date: Aug 06, 2020  
Completed Date: Aug 11, 2020  
**Component Information**  
Cpnt. Description: ENGINE  
Cpnt. Mfg: Wartsila  
Cpnt. Model: 12V46B  
Cpnt. Serial #: 9987  
Cpnt. Type: DIESEL ENGINE

**Other Sample Information**  
PO No.: EL-632  
Work Order No.:  
Reference No.: 3798094  
Filter Age: 0  
Make Up Oil Amount: 0  
**Fluid Information**  
Fluid Manufacturer: CHEVRON  
Fluid Brand/Product: UNKNOWN  
Fluid Grade: SAE 40

**Maintenance Recommendations for Lab No.: 202008060730**

Evaluated By: **John Zufelt - Data Analyst**

ANALYSIS INDICATES AN ABNORMAL LEVEL OF CONTAMINATION IS PRESENT! COOLANT additives are present. Glycol test negative. Test result(s) have been checked and verified. MONITOR the coolant system for loss and/or unusual required additions. NOTE: >999 or 9999 values represent maximum instrument output. Other test results are satisfactory. RESAMPLE at 1/2 normal interval.

**SPECTROCHEMICAL ANALYSIS PPM**

LAB NO.	SAMPLE DRAWN	Wear Metals										Contaminants			Additives								
		Iron	Chromium	Nickel	Aluminum	Lead	Copper	Tin	Silver	Titanium	Vanadium	Silicon	Sodium	Potassium	Boron	Molybdenum	Phosphorus	Zinc	Calcium	Barium	Magnesium	Antimony	
ADD 10 A-C 10 ADD 15 A-Y 1 AS 1	0730	07/15/20	6	<1	<1	2	1	<1	<1	0.2	<1	<1	10	134 *	52 *	6	3	634	714	N/R	<1	34	<1
	0465	11/15/19	5	<1	<1	1	<1	<1	<1	<0.1	<1	<1	13	81 *	37	4	1	570	644	>9999	<1	30	<1
	0628	10/05/19	8	<1	<1	1	<1	1	<1	<0.1	<1	<1	13	185 *	87 *	7	2	622	724	>9999	<1	32	<1
	0761	06/17/19	9	<1	<1	3	<1	1	<1	<0.1	<1	<1	13	254 *	119 *	10	4	695	731	>9999	<1	33	<1
	0467	03/18/19	8	<1	<1	4	<1	1	<1	<0.1	<1	<1	11	167 *	81 *	8	3	653	710	>9999	<1	31	<1
	1165	02/05/19	6	<1	<1	<1	1	1	<1	0.1	<1	<1	10	17	8	2	2	495	685	>9999	<1	25	<1

**SAMPLE INFORMATION**

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
0730	07/15/20	16134		HR	No	S
0465	11/15/19	16107		HR	-	
0628	10/05/19	16107		HR	Yes	S
0761	06/17/19	15990		HR	-	
0467	03/18/19	15500		HR	-	
1165	02/05/19	15000		HR	-	S

**FLUID PROPERTIES/CONTAMINANTS**

Water	D7279 Vis 100 °C	Visc Grade	Fuel #	GLY Test	D7686 Soot %	TBN
<0.1	14.3	40	<0.50	NEG	0.46	30.50
<0.1	14.0	40	<0.50	NEG	0.26	33.52
<0.1	14.4	40	<0.50	NEG	0.44	30.21
<0.1	15.1	40	<0.50	NEG	0.46	31.58
<0.1	14.4	40	<0.50	NEG	0.51	29.47
<0.1	13.9	40	<0.50	NEG	0.06	7.01

KEY: UoM - Unit of Measure Y - Yes N - No C - Changed S - Sampled > - Greater Than < - Less Than N/R - Not Reported (M) - Modified Method

Testing performed by Bureau Veritas®, an ISO/IEC 17025:2017 accredited laboratory by ANAB. Certificate and scope of accredited methods can be found at <https://oil-testing.com/iso-17025-quality-program/>. †: Not in scope of accreditation. For further details on outsourced testing, contact the laboratory directly. ‡: This test is run based on a trigger test, in this case "<" values indicate that the trigger test was either not positive or the result was below the reportable limit. For a list of trigger tests refer to <http://www.bureauveritas.com/oil-analysis>.  
Notice: This analysis is intended as an aid in predicting mechanical wear. Test results, maintenance recommendations and accuracy are affected by customer provided samples, equipment identification, maintenance history and apply only to this sample as provided. No guarantee, expressed or implied, is made against failure of this piece of equipment or a component thereof. The ultimate responsibility for the maintenance of this piece of equipment and all of its components is the responsibility of the equipment owner.