

Challenge 1: Solution

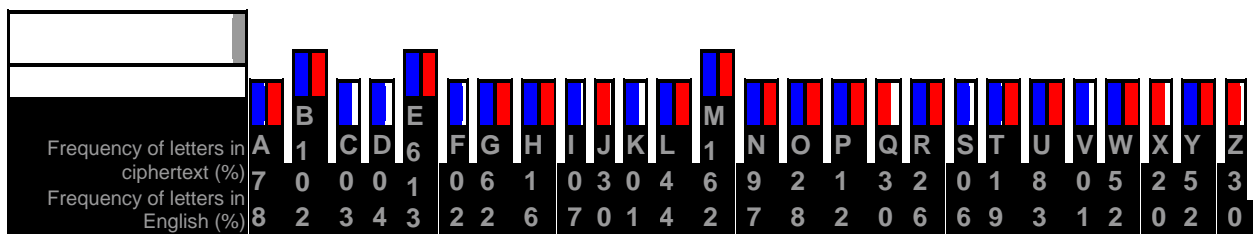
The telegram is signed El Capitan, which is a clue that the plaintext may be Spanish. The ship also sails among ports in which Spanish is the primary language. We will proceed assuming that the plaintext is in Spanish and has been encrypted with a monoalphabetic substitution cipher.

CT:

MUJBEMQNU MW MA ABZN PNEZWM, GMEGB LM UJ. QBAN, MA TYMEWMU B AB QMLYBWNGCM. JEBYZBW MA RBZN RNE AN UYZOYMWJM: LYMF GBXBU LM XYQ PMBQ, GYWGN GBXBU LM XBGK LBWYMAU, I VOYWGM GBXBU LM PMMHMBJMEU. RBZN UNABQMWMJ MW MHMGJYTN. UMBAMW GNW ABU AOGMU LMA GBEEN. JEMU ABEZNU UMZOYLNU RNE LNU GNEJNU. MA RESYQN MWTN AAMZB MA QYEGNAMU.

Start with a frequency analysis:

[http://www.simonsingh.net/The_Black_Chamber/letterfrequencies.html]



Most common CT letters: M,B,N, U

Most common letters in Spanish: e, a, o, s, n, r [according to <http://www.sttmedia.com/characterfrequency-spanish>]

Try: M→e and B→a:

Result:

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E**A**E*** E* E* *A** *****E *E**A *E ** *A** E* **E**E* A *A
*e**A*****E **A**A* E* *A** *** ** *****E**E **E* *A*A* *E *** *EA*
***** *A*A* *E *A** *A**E** * *****E *A*A* *E *EE*EA*E** *A**
***A**E**E E* E**E***** *E*A*E* *** *A* ***E* *E* *A*** **E* *A****
*e***** *** ** ***** E* ***** E***** **E*A E* **E*****E*
    
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There are seven two-letter words beginning with “E”. Two are “MW”, five are “MA”. Most likely: el, en, or es:

MUJBEMQNU MW MA ABZN PNEZWM, GMEGB LM UJ. QBAN, MA TYMEWMU B AB QMLYBWNGCM. JEBYZBW MA RBZN RNE AN UYZOYMWJM: LYMF GBXBU LM XYQ PMBQ, GYWGN GBXBU LM XBGK LBWYMAU, I VOYWGM GBXBU LM PMMHMBJMEU. RBZN

UNABQMWJM MW MHMGJYTN. UWBAMW GNW ABU AOGMU LMA GBEEN. JEMU ABEZNU
UMZOYLNUN RNE LNU GNEJNU . MA RENSQON MWTYN AAMZB MA QYMEGNAMU

[Some common Spanish words can be found at:

http://www.vistawide.com/spanish/top_100_spanish_words.htm]

The above website indicates that “el” is more common than “en” so maybe A→l and W→n. This yields:

E**A**E** EN EL LA** **NE *E**A *E ** *AL* EL **E*NE* A LA
*E**AN**E **A**AN EL *A** ** L* **EN*E **E* *A**A* *E *** *EA*
N *A**A* *E *A** *AN*EL* * **N*E *A**A* *E *EE*EA*E** *A**
LA*EN*E EN E*E*** *ENALEN **N LA* L**E* *EL *A*** *E* LA****
*E***** ** ** ** EL ***** EN** LLE*A EL **E***LE*

There is one one-letter word other than “a”. “y” is the most common one-letter word in Spanish, so
l→y

There is also a two-letter word starting with “l”, that can’t be “la” or “le”, so maybe “lo”. This means
N→o.

If this telegram is arranging a meeting, perhaps a day of the week is in here somewhere. Days of the
week in Spanish are:

lunes, martes, miercoles, jueves, viernes , sabado, domingo

E**A**E**O* EN EL LA*O *O**NE *E**A *E ** *ALO EL **E*NE* A LA
*E**ANO**E **A**AN EL *A*O *O* LO **EN*E **E* *A**A* *E *** *EA*
N*O *AA* *E *A** *AN*EL* Y **N*E *A**A* *E *EE*EA*E** *A*O
*OLA*EN*E EN E*E***** *ENALEN *ON LA* L**E* *EL *A**O *E* LA**O*
*E*****O* *O* *O* *O**O* EL **O***O EN**O LLE*A EL **E***OLE*

Viernes and Miercoles would fit. Assuming Viernes and Miercoles are correct we get:

ES*AREMOS EN EL LA*O *OR*NE CERCA *E S* MALO EL VIERNES A LA
ME*IANOC*E *RAI*AN EL *A*O *OR LO SI**IEN*E *IE* CA*AS *E *IM *EAM
CINCO CA*AS *E *AC* *ANIELS Y **INCE CA*AS *E *EE*EA*ERS *A*O
SOLAMEN*E EN E*EC*IVO SENALEN CON LAS L*CES *EL CARRO *RES LAR*OS
SE**I*OS *OR *OS COR*OS EL *RO*IMO ENVIO LLE*A EL MIERCOLES

The three two-letter phrases above seem to be of the form “[number] [noun. CA*AS]. The third number
is probably “quince” (15) and the first is probably “diez” (10). Yielding:

ES*AREMOS EN EL LA*O *OR*NE CERCA DE S* MALO EL VIERNES A LA
MEDIANOC*E *RAI*AN EL *A*O *OR LO SI*UIEN*E DIEZ CA*AS DE *IM *EAM
CINCO CA*AS DE *AC* DANIELS Y QUINCE CA*AS DE *EE*EA*ERS *A*O

SOLAMEN*E EN E*EC*IVO SENALEN CON LAS LUCES DEL CARRO *RES LAR*OS SE*UIDOS *OR DOS COR*OS EL *RO*IMO ENVIO LLE*A EL MIERCOLES

The subject is regarding illegal liquor, which makes one think that the above phrase may be “Jack Daniels”:

ES*AREMOS EN EL LA*O *OR*NE CERCA DE S* MALO EL VIERNES A LA MEDIANOC*E *RAI*AN EL *A*O *OR LO SI*UIEN*E DIEZ CAJAS DE JIM *EAM CINCO CAJAS DE JACK DANIELS Y QUINCE CAJAS DE *EE*EA*ERS *A*O SOLAMEN*E EN E*EC*IVO SENALEN CON LAS LUCES DEL CARRO *RES LAR*OS SE*UIDOS *OR DOS COR*OS EL *RO*IMO ENVIO LLE*A EL MIERCOLES

Looks like “Jim Beam”:

ES*AREMOS EN EL LA*O BOR*NE CERCA DE S* MALO EL VIERNES A LA MEDIANOC*E *RAI*AN EL *A*O *OR LO SI*UIEN*E DIEZ CAJAS DE JIM BEAM CINCO CAJAS DE JACK DANIELS Y QUINCE CAJAS DE BEE*EA*ERS *A*O SOLAMEN*E EN E*EC*IVO SENALEN CON LAS LUCES DEL CARRO *RES LAR*OS SE*UIDOS *OR DOS COR*OS EL *RO*IMO ENVIO LLE*A EL MIERCOLES

“Beefeaters”:

ESTAREMOS EN EL LA*O BOR*NE CERCA DE ST MALO EL VIERNES A LA MEDIANOC*E TRAI*AN EL *A*O *OR LO SI*UIENTE DIEZ CAJAS DE JIM BEAM CINCO CAJAS DE JACK DANIELS Y QUINCE CAJAS DE BEEFEATERS *A*O SOLAMENTE EN EFECTIVO SENALEN CON LAS LUCES DEL CARRO TRES LAR*OS SE*UIDOS *OR DOS CORTOS EL *RO*IMO ENVIO LLE*A EL MIERCOLES

Turning to Google Translate:

We will be in [LA*O BOR*NE] near St. Malo to Friday [MEDIANOC*E TRAI*AN] the [*A*O *OR] the [SI*UIENTE] ten cases Jim Beam, five cases of Jack Daniels, and fifteen cases of Beefeaters. [*A*O] cash only brought with three car lights [LAR*OS SE*UIDOS *OR] the two short films [*RO*IMO] shipping [LLE*A] on Wednesday.

Google maps indicates that there is a St. Malo outside of New Orleans on a body of water called Lake Borgne. “lago” is the Spanish word for “lake”. Making these substitutions:

We will be in Lake Borgne near St. Malo to Friday [MEDIANOC*E] bring the [*A*O *OR] the following ten cases Jim Beam, five cases of Jack Daniels, and fifteen cases of Beefeaters. [*A*O] cash only brought with three car lights long followed [*OR] the two short films [*RO*IMO] shipping reaches on Wednesday.

With only four letters left: h, p, w,x one can do some guessing and checking to end up with

PT [Spanish]:

ESTAREMOS EN EL LAGO BORGNE CERCA DE ST MALO EL VIERNES A LA MEDIANOCHE TRAIGAN EL PAGO POR LO SIGUIENTE DIEZ CAJAS DE JIM BEAM CINCO CAJAS DE JACK DANIELS Y QUINCE CAJAS DE

BEEFEATERS PAGO SOLAMENTE EN EFECTIVO SENALEN CON LAS LUCES DEL CARRO TRES LARGOS
SEGUIDOS POR DOS CORTOS EL PROXIMO ENVIO LLEGA EL MIERCOLES

Google translate yields:

PT [English]

We will be ON LAKE BORGNE NEAR ST MALO FRIDAY TO MIDNIGHT. BRING THE PAYMENT FOR THE
FOLLOWING: TEN CASES JIM BEAM, FIVE BOXES OF JACK DANIELS, AND FIFTEEN BOXES BEEFEATERS.
PAYMENT ONLY IN CASH. BROUGHT WITH LIGHT TRUCK THREE LONG FOLLOWED BY TWO SHORTS.
NEXT WEDNESDAY shipment arrives.

Conclusion: The meeting location is on lake Borgne near St Malo around midnight on Friday.

Note: Señalen means to "point out", or "signal", but senalen means "brought". The tilde over the "n"
was not communicated in the telegram (nor any other accents). It seems that there should be some sort
of light signal: three long signals followed by two short signals.