

## P U R C H A S E   O R D E R

To: Kalen Jensen  
ATCO  
7210 42<sup>nd</sup> Street NW  
Edmonton  
Alberta  
CANADA  
T8N 0M8

PO NUMBER: UKOPA/PO/17/02  
Date: 7<sup>th</sup> April 2017

Item	Description	Estimated Cost (excl VAT)
	<b><u>UKOPA Weld Project</u></b>  Services as per email to Jane Haswell from Kalen Jensen (3 April 2017) – see pg 2	
1	Mechanical Testing, Radiogrpahy, Metallography	\$12-18k CDN
2	ATCO Internal	\$4 – 6k CDN
	<b>Total</b>	<b>\$16-24k CDN</b>

**From:** Jensen, Kalen [mailto:[Kalen.Jensen@atco.com](mailto:Kalen.Jensen@atco.com)]

**Sent:** Monday, April 3, 2017 7:48 PM

**To:** Jane Haswell <[jane.haswell@pieuk.co.uk](mailto:jane.haswell@pieuk.co.uk)>

**Subject:** RE: UKOPA Weld Quality Project

Hello Jane,

I have compared your list of requested pipe samples against our current 2017 plan. I have had to make some alterations/substitutions; however I believe that the proposed list meets the requirements of your original request. Please note that in order to complete this program in 2017, I have had to reduce the number of pipe samples from 8 to 7.

I am going to proceed assuming that the attached will be sufficient. If there are any issues with this assumption, please let me know.

The scope that ATCO will be completing is as per below (alteration to what was originally discussed in RED):

- i) Photographs and radiograph inspection of 1 - 3 girth welds (depending on availability and excavation conditions) from each pipe [(7 x( 1 - 3)) = 7 -21 welds, various diameters)]
- ii) Cross weld (axial) mechanical tests (one sample taken from one weld per pipeline, 7 x 1, various wall thicknesses)
- iii) Cross weld (axial) charpy impact tests (9 samples taken from one weld per pipeline (Root, HAZ, Weld Metal) at a design temperature of -10<sup>0</sup> C, 7 x 9 tests, various wall thicknesses)
- iv) Hardness testing (parent, HAZ, weld)
- v) Wet Chemical analysis of parent and weld material
- vi) Macros and metallographic examination (up to six per weld, selected at any defects identified in i)

I asked for pricing from two vendors (ACUREN and SGS Ludwigs) to complete the testing regime described above. Assuming that UKOPA is not interested in the vendor completing an engineering analysis, the estimated cost to complete the testing is as follows:

Mechanical Testing, Radiography, Metallography: \$12 – 18k	
ATCO Internal:	\$ 4 – 6 k
<b>Total:</b>	<b>\$ 16 – 24k CDN</b>

If the above is agreeable, please send a Purchase Order to my attention for the above noted amount. Project and invoicing information is below:

Project Number: P24977

Attn: Kalen Jensen

Invoicing Address: 7210 42<sup>nd</sup> Street NW, Edmonton Alberta, Canada, T8N 0M8

Regards,

**Kalen Jensen**

T. 780-468-8278