

GEORGIA INSTITUTE OF TECHNOLOGY

ENGINEERING EXPERIMENT STATION

ATLANTA, GEORGIA 30332

January 27, 1967

central files

Mr. Don Nail
Metallographic Department
Cameron Iron Works, Inc.
P. O. Box 1212
Houston, Texas 77001

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17A
402-255-A*



Re: Project A 232-344

Dear Mr. Nail:

Some work has been done on your CIW sample 1. These results are enclosed in the form of Xerox copies of recorder traces. Before proceeding with more work, we thought that we should discuss these results with you.

These results were obtained in the following manner: The probe was set for a particular radiation (i.e. Titanium), and the sample positioned so that by moving the sample in an "x" direction the sample would cross under the beam at 24 microns per minute. (chart speed 1 inch per minute). In the case of field "B", sample CIW-1 the traverse was started at the point of the single hardness mark and moved toward the two marks. As can be seen in the first two trace copies, there are definite rich areas of titanium and molybdenum. Other elements also show some variations.

Field "C" was traversed in the same direction as seen on your 100x micrograph. Field "D" was traversed from the point of the hardness mark closest to the material of interest to the point of the other mark.

The starting point is marked on each trace copy and this point was within one or two microns on the sample each time.

Carbon analysis was not made since the samples had been carbon coated. If you would like to try this, we can lightly polish the samples to remove your carbon.

I will try to give you a call on Monday (January 30) to discuss this further.

Yours truly,

James W. Johnson
Research Physicist

JWJ/fr
Enclosures

A-232-344

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ATLANTA, GEORGIA 30332

March 17, 1967

Mr. Don Nail
Metallographic Department
Cameron Iron Works
P.O. Box 1212
Houston, Texas 77001



Re: Project A232-344

Dear Mr. Nail:

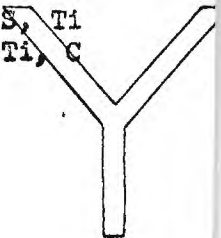
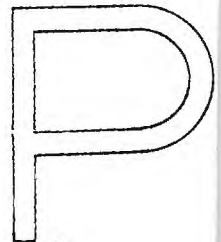
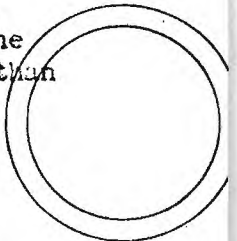
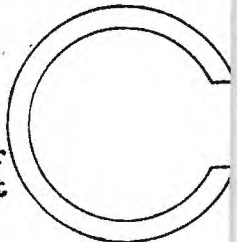
Under separate cover you will receive microprobe traces of your samples. These traces are marked with the sample number and element on each trace. Some further explanation for each sample follows.

For sample ClW-2, all traces were run at 24 microns per minute and a chart speed of 1 inch per minute. On your micrographs, also to be returned, I have marked in pencil the direction of the traces, the starting and ending points of the traces, and in the areas of more than one trace, numbers for each trace. All of the traces were run over the same path which can be seen as a brown line when viewed with a microscope. Some few of the traces are marked "over" which means the trace ran too long.

On sample ClW-3 traces are marked as for other samples. Again all traces except ClW-3F are at 24 microns per minute. ClW-3F is at 90 microns per minute. The direction of trace for ClW-3F was from the double hardness mark toward the single mark. All other traces were in the same direction.

Fields B, C, and D for sample ClW-3 were spot checked with the particles of interest to you numbered on the print.

Field "B"	Field "C"	Field "D"
Particle		
1 - Ti, Ni, S, C	1 - Mo, (Fe, Ni questionable)	1 - Mo, S, Ti
2 - Ti, Ni, S, C	2 - particle missing	2 - Mo, Ti, C
3 - Ti, S, C		
4 - Cr, Fe, Mo, C		



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Mr. Don Nail
March 17, 1967
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In addition to the probe traces, we will also return your micrographs and samples.

If you have questions concerning these samples or if we can be of further service, please let us know.

Yours truly,

James W. Johnson
Research Physicist

JWJ:map