R J Meyer : for your info - files

BRITISH GEON LIMITED

PRODUCTS APPLICATION DEPARTMENT

LABORATORY WORK REPORT

Job No:	PAD.211	Date:	5.7.64
Project No:	533	Work Done By:	J.W.G. Heald B. Jenkins P. Simpson.
Origin:	P.A.D.	Completed:	10.9.64
Customer:	Stewart & Lloyd	Reported by:	J.W.G. Heald.

RE-APPRAISAL OF RA.131 TO BS.3505 TOXICITY REQUIREMENTS

OBJECT:

To estimate the lead extraction of grey RA131 pipe according to the proposals of the 4th Meeting of the B.P.F. Toxicity Working Party.

CONCLUSIONS:

Results show that RA.131 failed the present BS.3505 requirements but passed the amended requirements.

RECOMMENDATIONS:

That further work be done on the 6 hour prewashing of RA.131 pipe.

INTRODUCTION:

This work follows on from that of Stewart & Lloyds who determined the extraction of lead from RA.131 pipe by CO_2 water after prewashing the pipes with tap water for periods of 1 hour, 6 hours and 24 hours.

WORK DONE:

The work was carried out in two main stages:-

1st Stage

Three 3 ft. lengths of pipe were washed with tap water for 1 hour allowing the water to run through the pipe at a rate of 3 metres/minute. Another three 3 ft. lengths were similarly treated for 6 hours and finally three more 3 ft. lengths were treated for 24 hours. Each pipe was rinsed once with distilled water to remove last traces of tap water.

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2nd Stage:

The pipes were then filled with CO_2 water which contained 150 ppm CO_2 per litre and allowed to stand for 48 hours at room temperature. The liquid from this first extraction was then analysed for lead content. Results are given in Table 1 of this report. The pipes were refilled with a fresh solution of CO_2 water and again allowed to stand at room temperature for 48 hours. The solution from this second extraction was rejected and the pipes refilled once more with a fresh solution of CO_2 water and treated similarly. The liquid from this 3rd extraction was poured into flasks and lead content determined, results also being given in Table 1 of this report.

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TABLE 1

Prewashing		1st Extraction		3rd Extraction	
Time	Sample	p.p.m.	mgms/m^2	p.p.m.	mgms/m^2
One hour	A	1.6	8.8	0.2	1.1
	B	1.6	8.8	0.3	1.6
	C	1.3	7.1	0.2	1.1
Six hours	A	0.4	2.2	0.1	0.5
	B	0.8	4.4	0.1	<0.5
	C	0.8	4.4	<0.1	<0.5
Twenty-Four hours.	A	0.5	2.7	0.1	0.5
	B	0.4	2.2	<0.1	<0.5
	C	0.5	2.7	<0.1	<0.5

mgms/m^2 calculated from the expression

$$\text{p.p.m.} = \frac{\text{mgms/m}^2}{6.3 \times D}$$ where D = int dia. of pipe in ins.

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APPENDIX:

Present: BS.3505 Requirements:-

1 Hour Prewashing

1st extraction - lead content must not exceed 4 mgms/m^2
3rd extraction - lead content must not exceed 1.5 mgms/m^2

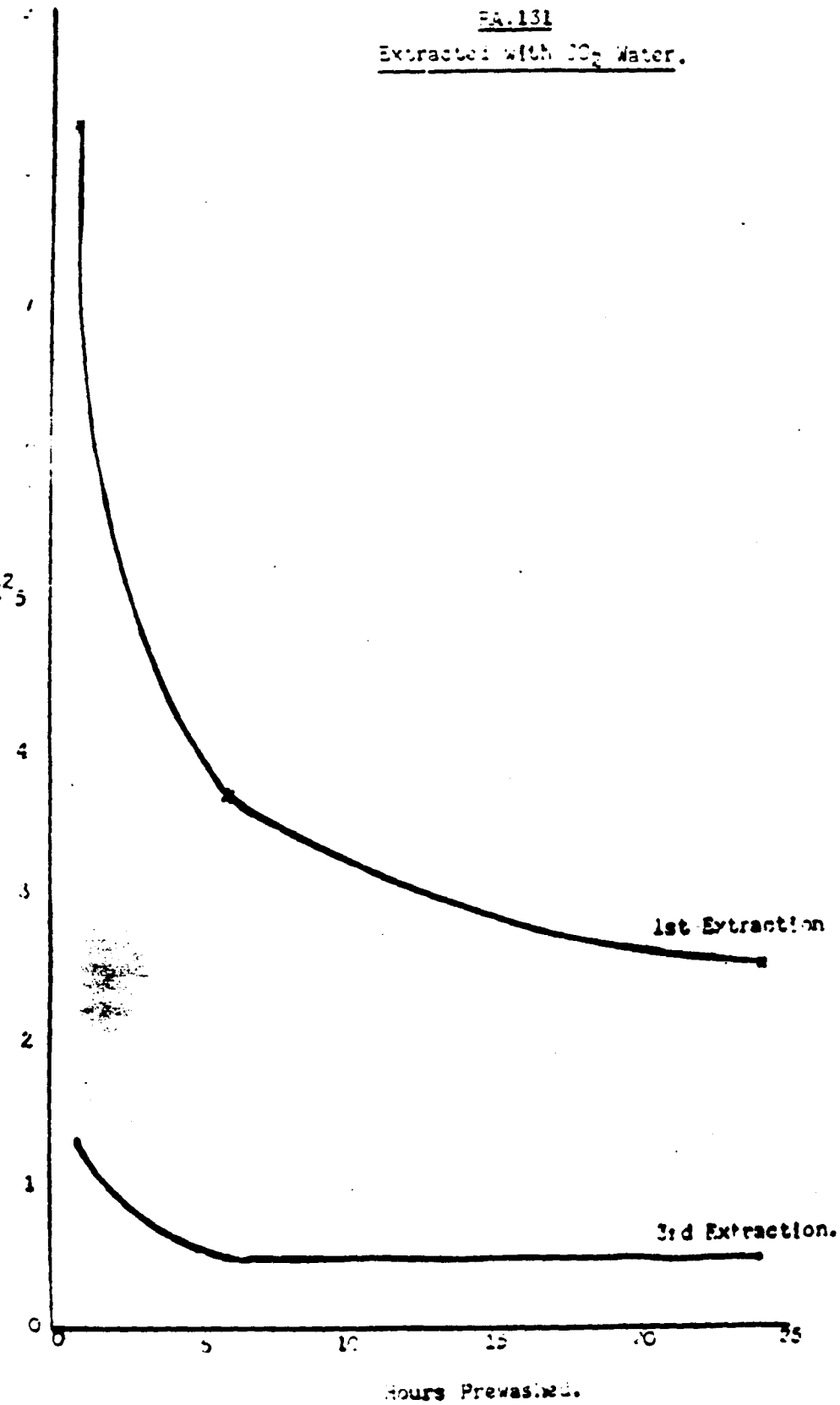
Future amendment:-

6 Hour Prewashing

On average of 3 results.
1st extraction - lead content must not exceed 6 mgms/m^2
3rd extraction - lead content must not exceed 1.5 mgms/m^2

EA.131

Extracted with CO_2 Water.



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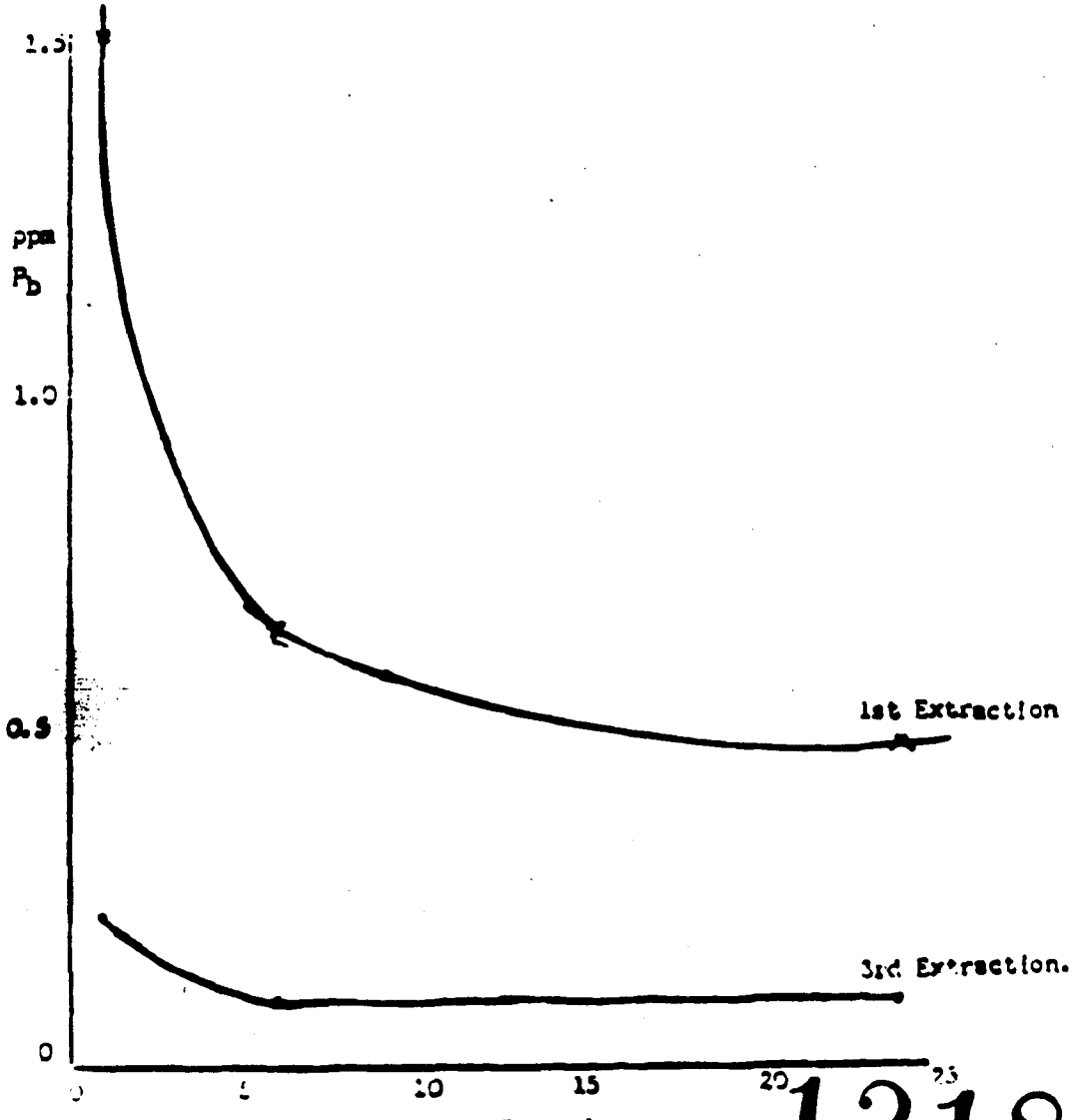
RA.131
Extracted with CO_2 Water.



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