

G2/7/NT

# OPERATION GRAPPLE-Z

### INTERIM REPORT

#### PART 7. NUCLEAR TRANSIENTS

### 1. Group Tasks

NT1 To record, for the balloon rounds, the gamma flux at S13, F-Site, throughout the exponential phase, using high time-resolution equipment.

NT2 To attempt to record, for the balloon rounds, the gamma flux at S11, D-Site, over a period of a following initiation, using low time-resolution equipment.

NT5 To attempt a crude energy resolution of the gamma peak from Burgee, using the different gamma absorption characteristics of materials of high and low atomic number.

The equipment arrived 48 hours before firing and was installed at D-Site, instead of at F-Site as originally intended.

## 2. Results

The results, except where specifically stated are the same as quoted in the Initial Summary of results.

## 2.1 Round 1 - Pennant

2.1.1 Task NT1 P-Site 1000 metres slant range.

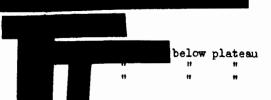
The value of Alpha measured 1 generation below plateau was

The plateau flux was

Alpha at breakaway

Peak Flux greater than

Maximum value of Alpha (The values quoted may be up to 10% low)





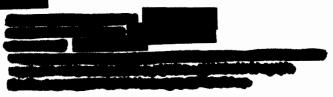
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2.1.2 Task NT2/NT3 D-Site 4000 metres slant range.
High speed measurements (NT3)

The value of Alpha measured 1 generation below plateau



The low speed measurements (NT2) were valueless.





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# 2.4 Round 4 - Burgee

2.4.1 Task NT1 F-Site 1000 metres slant range

in region of maximum Alpha.

No plateau. Shape of peak was almost identical at both D and F Sites, and almost identical with that of Pennant.



(The values of Alpha quoted may be up to 10% low).

2.4.2 Task NT2/NT3 D-Site 4000 metres slant range.

High speed measurements

Alpha, measured just before
Alpha at approximately
Relative peaks at F and S Sites indicate

2.4.3 Task NT5 D-Site

Transmission of high-Z filter Transmission of low-Z filter



of lead shot added to low-Z filter to offset build up.

The expected transmission of all filters to Much further experimental work necessary before results can be interpreted.

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