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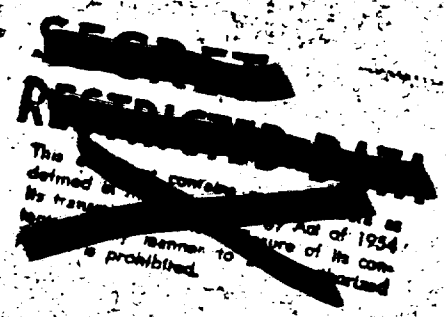

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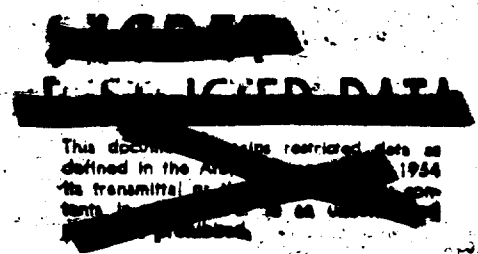

DANNYBOY - SEISMIC EFFECTS

From 0.8 - 340 km $a(g) = W_{(kton)}^{0.75} \times 10^{-2.9} \times R_{(km)}^{-2}$

Measured values

R (km)	Acc (g) (10^{-3})
.76	4.7, 6.7, 6.8
1.22	2.8, 6.6, 9.4
2.13	1.11, 2.1, 3.2

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Event Name	Yield	Medium
Mississippi	110	SWT
Merrimac	DELETED	Slightly consol. all

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Dried salmon

Event	W(kt)	Loc.	DOB (ft)
Abtanum	DELETED	U2L	750
Clearwater		U12c	1800
Tornillo		U9ag	500

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$R = \frac{40 \times 3}{70 \times 70}$

$R = .16$

$= \sqrt[3]{.16}$

$R =$

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Date	Name	action
21, ov 5 Dec		
Nov 24 *	DELETED Greys	U9ax, 1050
~~30~~		

*Ope or other on 144

* ~~Dec 6~~ Jan 16	~~Klickitat~~	~~U10e, 1625~~
	Oconto	U9ay, 875
Jan 30	Payette	U2ab, 750
Feb 6	Flat.	U20a, 2050
Jan 16	Fore.	U10i, 1600 U9ao
Mar 4	Turf.	U10c, 1673
	Slice	U7a, 220'

DELETED

LASL

DELETED

* Klickitat - 2/6 per Cont. T.B. *72(7)

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8

Con. Test Bull #71

Date Shot	W	Depth/Hole
Nov 21 or Dec 5	Greys	U9ax, 1000
Jan 16	Fore	U9ao, 1625
Feb 6	Klickitat	U10e, 1625

DELETED

4X163

CTE #72 – 29X63 –

W [redacted]

Date	W	Name	Location/DOB
11/21 or 12/5		Greys	U9ax, 1000'
> 1/6/64		Oconto	U9ay, 875
1/16		Fore	U9ao, 1625
2/6		Klickitat	U10e, 1625
2/27		Alva	U2j, 550

DELETED

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Throw-out -
Nothing on R/A aspects

Lacrosse — (W ~ 40 kT) Land surface Burst.
WT 1354 Reducing F/O studies

WT 1319 - Land F.O Studies
Prog 2.65 Evaluate B.S. transport

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Baker-Howland Study —

Seminole — Opn Redwing — DELETED
— For the opn — Surveys @ H+1 to H+4
H+4 to H+8
D+1 & D+2.

13.7±1.5
~~12±~~ kt
Water tank - ground surface
Eniwetok.

per WT 1366 -
630,000 mr/hr on shot island at H
Reentry held up 2 days
Helicopter reentry to bunker not effected

Earlier shot I	mr/hr	
5 May	9,900	31 days
28	40	
31 May	70	

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VXT = 1200 r/h @ 44 l/min²

La Crosse – DELETED Redwing

– 5 May – 40 kt – Ground surface – Eniwetok

+17 ft.

I mr/hr @ H+4 — 30,200 on Island

at edge (outer) of crater – H+1

57000 r/hr.

$A_t = A_b t^{-1.2}$

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WT 1311 -

Avg decay - 1.1 - 1.3

Some affected by rain leaching:
A ~ 50% of what
it would be from
decay alone.

Detectors in pipe: Collimation factor 4.4

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WT 1311 – Proj 2.2 – REDWING RAD SAFETY

Residual & Radiation: $I_t = I_1 t^{-1.2}$

$$r = \int_{t_1}^{t_2} I_1 dt = 5 I_1 (t_1^{-.2} - t_2^{-.2})$$

Decay curves for Cherokee, Yuma, Flathead, Navajo, Tewa.

"Beach Ball" Crater residual detector used; Calibration problem? 50000 r/hr @ H+6.
No measurements (except beach ball) at 1 r/mi

WT 942 – CASTLE RAD SAFE.
Meteorological wave effect
Decay curves – See next pg –
Craters

WT 913. Castle – 6 vs T
51R for 1st 25 hr
1.28 decay between H+1 & H+12
70 000 ft ft. GZ

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WT 912. Spectral response of gage → uncertainty
Decay rate for koon < 1 generally
Reason not known

Total Max. (in/near crater)

DELETED 1500 r/hr @ H+4 (ex
15KT DELETED on reef
DELETED 11KT DELETED
on barge. H+4 extra 2000 r/hr in crate
DELETED Koon - 100 DELETED KT, DELETED
on Ground. 5000 R/HR @ H+4 in crater.
There were samples taken from some craters

WT1366

LaCrosse: H+4 on Short Island
30000 mr/hr.

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WT-942 - Initial Hel. surv. 50-1000' altitude at H+4 hrs.

Shot 1 - Land - 15 MT - DELETED
Rpt incl. A at a no of location (rem

Shot 3 - Land - 100-150 KT
"Small sand dunes around crater were washed away by
Crater A - 5000 r/hr at H+4

WT1366 - Work done in Mike, Crater for Apac
A - 4-5 ~~mr~~/hr @ ?

Helicopter surveys at H+2 H+4
Detailed " " H+6
& succeeding days.

DELETED
Zuni Shot - island H+4 > 2500 mr/hr
Dakota DELETED H+4 ~ 5000 mr/hr.

WT1366 - Edge fr Choppers of Probes converted to 3' land values.
Conversion includes:
Collimation
Depth of mixing in Ocean
Air Absorption

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Effect of Sodium
Just outside LLNL
Crater A: H+1
57000 mr/hr - Lacrosse
13000 - ~~Zuni~~ Mohawk, not Zuni

WT1317 - Very little of value.

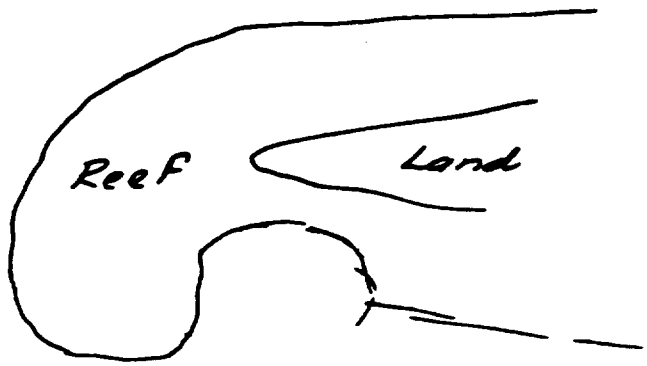
CASTLE I (WT 920) (Crater Study)

W_T = 14.5 MT ; DELETED On Reef under very shallow lg.

On D+6 — A 10' above water 25-75 mr/hr

"Much higher" on nearby land.

No lip above water.



WT942

1500 r/hr on adjacent (SW) island. @H+4

Debris radius — 2-3 mi

CASTLE II DELETED

W_T = 11 MT, DELETED

Barge

D_{H+4} ≃ 2000 r/hr "in crater area)

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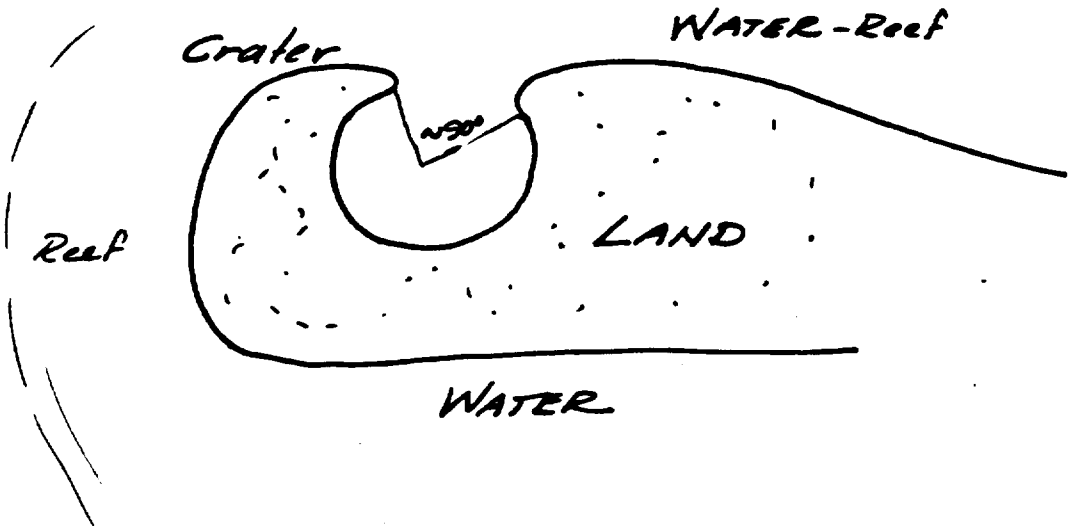
CASTLE 3 (WT 920 Gala survey)
D+24 - A ~ 1500-3500 mr/hr on lip
50 mr/hr 10' above water
Shot 4 had been fired between Shot 3 and D+24. Shot 4 wave had flooded C3 lip.
There was a lip.

WT942. Shot 4 did not significantly > R.A. at Shot 3 island.



WT942- Koon- DELETED Castle 3. 130kT all F.
5000 r/hr @ H+4 in crater.
Samples taken fr. some craters.

Castle 4 DELETED
Barge in center of lagoon
~~H~~ 7 MT = WT
DELETED

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Nearest land ~ 3 mi
D+4 on nearest land ~ 1400 r/hr

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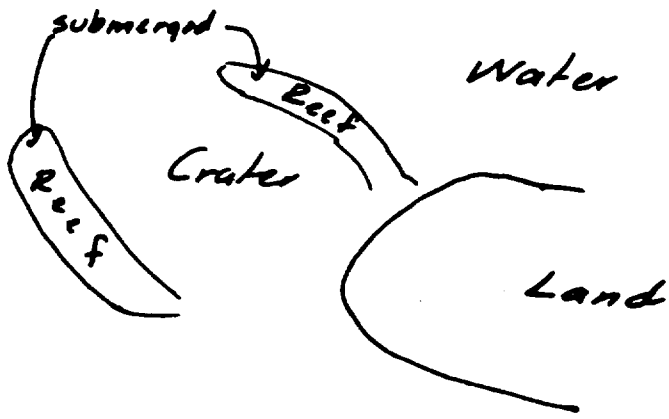
Zuni : 3.5 MT Total; DELETED
WT1307 - Breaching of crater permitted reentry at D+6



WT1366 H+4 - W_T . 3.5 MT
25000 mr/hr DELETED
on shot island
75000 mr/hr @ H+4 on Able (~25 mi.)

WT1311 - Beachball measurement
50000 r/hr @ H+6 in crater.

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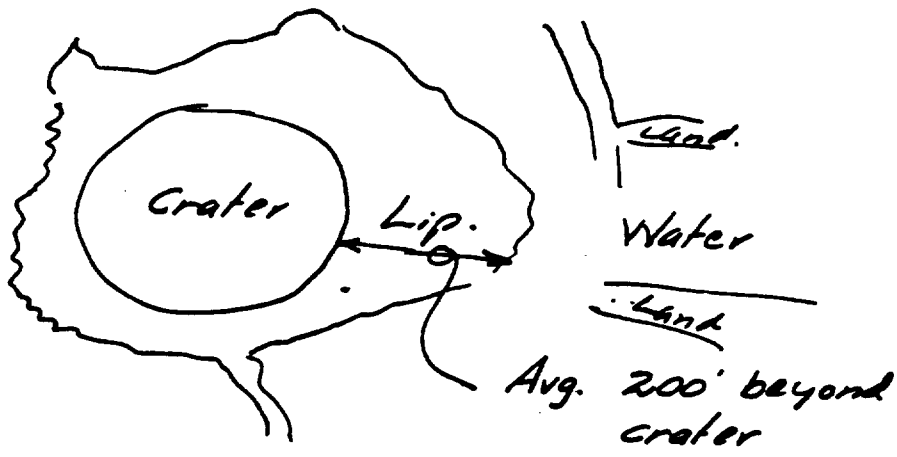
Lacrosse- no breaching - 40kt, hob = 17'
2' water over shot reef at Zero time.
Lip ~15' high



WT 1366 - H+4 on shot island 30000mr/hr

JASON MINKLER. See notes.

WT 1344 - 57000 r/hr at outer lip - H+1

WT 1319 - 57000 r/hr @ H+1 was isolated
Gen. level 1600-4800 r/hr @ H+1.

Tide had washed reef twice between shot & readings.

Dmax - 6000 - 6000 r/hr. @ H+1.

$\delta \simeq 1.36$ avg.

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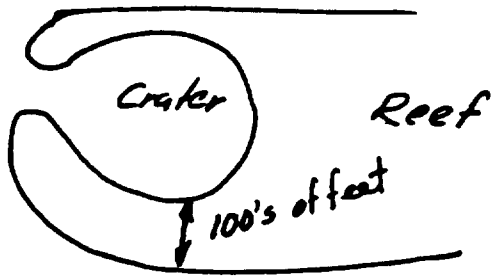
CACTUS.

Unwashed WT1604 (Water few ft deep)
∴ D should be down.



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TEIUM

DANNY ≤ 1500-/hr on islands
2 mi distant.

- Reef shot. Barge, shallow water.

~ 4.7 MT, DELETED

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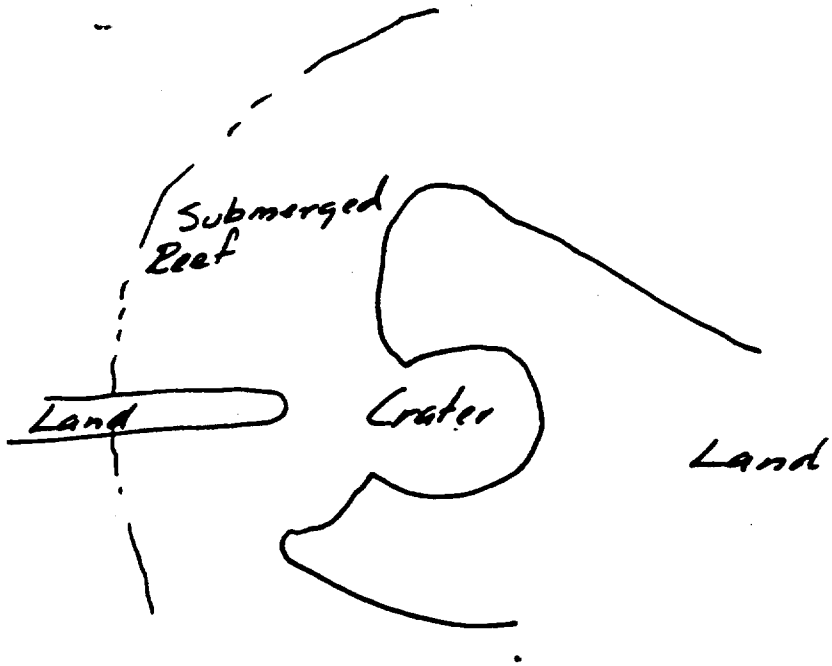
Seminole. 13.5 Kt.
Surf Water Tank



1366 - 630 r/hr @ H+4 on adjacent island.

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TE NA -

Shallow water barge shot

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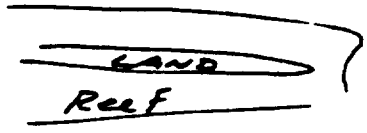
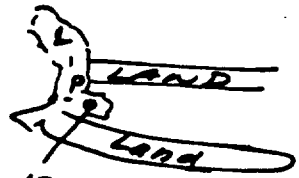
MONA K — 3C Tower. on Land.

DELETED

WT 1344





13200 r/hr @ H+1

Based on H+2 reading

H+1 around crater 8-000 13000 r/hr

Area of high readings not submerged.

WT1366 - 1450 r/hr @ H+4 on Shot Isl.

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ZCM

BL CICFOOT
WT 1344

DELETED

200' Tower

WT 1366 - $D_{H-d} \leq 360 v/hr$

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Erie

WT 1344

DELETED

300' Tower

WT 1366 - @H+4 D= 200 r/hr.

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FLATHEAD (TS 2&5)
WT1304 –

DELETED

Barge

WT1366 –

H+4 ~40 r/hr.

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PANUTE '68A EQPMT VULNERABILITY

Gnome:

Acc = 5 g. safe

For deep soil; hard rock shot

$a = .53 W^{.54} R^{-1.4}$

$R^{1.4} = \frac{.53 W^{.54}}{a} \simeq .1 W^{.54}$

$R \simeq (.1 W^{.54})^{.7} = .2 W^{.38}$

$R_{170} = .2 \times 7 = 1.4$ mi $<$ 7500'

$R_{500} = .2 \times 10.5 \simeq 2.1 \simeq 11000'$

$R_{1000} = .2 \times 14 \simeq 2.8 \simeq 15000'$

$R_{1500} = .2 \times 16 \simeq 3.2 \simeq 17000'$

For rock/shallow soil; hard rock shot; say Terrain coef = 2

$a = \frac{.53}{2} W^{.54} R^{-1.4}$

$R = (R \text{ from above}) \times (\frac{1}{2})^{.7} \simeq .6 R$ from above

$R'_{170} = 4500$
$R'_{500} = 7,000$
$R'_{1000} = 9,000$
$R'_{1500} = 10,000$

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Velocity: Say 150 cm/sec.
For deep alluvium, hard rock shot: v

$v = 1.7 W^{.67} R^{-1.5}$ in/sec, mi, kt

$R^{1.5} = \frac{1.7}{v} W^{.67}$

$R = \left[\frac{1.7 W^{.67} \times 2.54}{150}\right]^{.67} = .1 W^{.44}$

(cont on page 25)

BILBY: Say safe motion = $\frac{2}{3}$ actual Bilby motion
$\simeq$ ~~4/3~~ 2g w/proper shock mtg of eq pt.

$R^{1.4} = \frac{.58}{2} W^{.54}$ for deep alluvium.

$R = .27^{.7} W^{.38} = .4 W^{.38}$ = ~~Twice~~ Twice Gnome R

$\therefore$ $R_{170} = 14{,}500'$
$R_{500} = $ ~~25000~~ 22000
$R_{1000} = 25000$
$R_{1500} = 34{,}000$

Using 3g (Bilby. acc.) (R = 1.4x Gnome R)
$R_{170} = 11000$
$R_{500} = 18000$
$R_{1000} = 22000$
$R_{1500} = 25000$

Using Tens. Coef = 2.

R' still = 2 x Gnome R'
R_{170} 9000
R_{500} 14000
R_{1000} 18000
R_{1500} 21000

Bilby Velocity (Say 70 $\frac{2}{3}$ cm/sec)

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$R = \left[\frac{1.7 W^{.67}}{27.5} \right]^{.67} = .15 W^{.44}$

R = 1½ times R from pg 25.

$R_{170} = 10000$
$R_{500} = 17000$
$R_{1000} = 22000$
$R_{1500} = 26{,}000$

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$R = .1 W^{.44}$

$R_{170} =$	.95 mi	$\simeq$	5000'
$R_{500} =$	1.6	$\simeq$	8500
$R_{1000} =$	2.1	$\simeq$	11,000
$R_{1500} =$	2.5	$\simeq$	13000

— from Gnome vel.

Occupied Trlrs.

$V = 30$ cm/sec. $\simeq 12$ ips

$V = 1.7 W^{.67} R^{-1.5}$

$R = \left(\frac{1.7}{V} W^{.67}\right)^{.67} \simeq (.14 W^{.67})^{.67} = .27 W^{.44}$

R_{170}	=	.27	× 9.5 × 5280	=	13,500'
R_{500}	=		17	=	24 000'
R_{1000}	=		21	=	30 000
R_{1500}	=		25	=	35,500

Acc. 3g on Rock (T.C. = 2)

$a = .53 w^{.54} R^{-1.4}$

$R^{1.4} = \frac{.53 w^{.54}}{2a} = \frac{.53 w^{.54}}{6} \simeq (.09 w^{.54})$

$R \simeq .18 W^{.38}$ mi $= 950 W^{.38}$ ft

$R_{170} =$	~~18~~ 950	× 7.2	=	7000
R_{500}		11	=	10500
R_{1000}		14	=	13500
R_{1500}		17	=	16 000

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Clouds again

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