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LATERAL TRANSLATION OF EXPLOSION CRATER EJECTA: A WORKING MODEL BASED UPON PELLET EXPERIMENTS

Mark Settle

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Air Force Cambridge Research Laboratories Hanscom Air Force Base, Massachusetts

19 August 1975

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Lateral Translation of Explosion Crater Ejecta: A Working Model Based Upon Pellet Experiments

MARK SETTLE, 1/LT, USAF

19 August 1975

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approximately comparable to the coarsest fraction of naturally occurring unconsolidated surficial materials (for example, playa and alluvium). A comparison of pellet throwout ranges with the translation of dyed sand and other artificial tracers in smaller and larger scale explosion experiments supports the analogy between the pellets employed here and the coarser size fraction of unconsolidated earth media.

The postshot range r of a mass point ejected by an explosive cratering event can be related to its preshot range x (measured from surface ground zero) by a power-law expression of the form: $(r/R) \propto (x/R)^{c}$, where absolute ranges x and r are normalized to R, the crater radius. Lateral (radial) translation of the artificial pellets ejected from the upper portions of the explosion craters could be approximately characterized by this expression with $c \cong -4.0 \pm 1.0$. In comparison, translation of the bulk of the ejects excavated by larger explosion cratering experiments (for example, Stagecoach, Air Vent I) and smaller laboratory scale experiments (conducted at the University of Dayton Research Institute) in relatively unconsolidated earth media is characterized by the power law expression with $c \cong -2.5 \pm 1.0$. This relationship describing the lateral translation of the bulk of the ejecta is observed over a wide range of charge size and crater shape.

The lateral translation of the coarsest fraction of explosion crater ejecta initially situated near the original ground surface exceeds the average translation ranges of smaller particle sizes and thus poses the most severe natural missile hazard to personnel and surface facilities. The variation of the exponent c with depth within the crater of excavation for a series of experiments at various scaled depths of burst can be employed as an empirical model of the translation of the coarsest ejecta size fraction for larger scale explosion events.

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Preface

Field assistance was provided by R. Dowling, D. Pendleton, SSgt R. Sands, and MSgt R. Tarnawa. The author is grateful for frequent discussions with S. Needleman. The coherence of the manuscript was improved considerably by the helpful comments of J.W. Head. The patience and effort of Cathy Dion in preparation of the manuscript is also appreciated.

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Section and marching

1

Lateral Translation of Explosion Crater Ejecta: A Working Model Based Upon Pellet Experiments

1. INTRODUCTION

The ability to characterize the spatial and temporal distribution of ejecta produced by an explosive cratering event is essential to the development of accurate siting criteria for surface and near surface weapons systems and various support facilities (for example, detection and communication facilities). Empirical studies of block size distributions around explosion craters ¹⁻³ together with ballistic models of ejection conditions ^{4,5} result in a partial, largely statistical description of the actual ejecta environment. ⁶ The ability to relate the process of ejecta deposition to the mechanics of excavation controlling the formation of the crater would cortribute significantly to (1) developing a framework for extrapolating empirical ejecta studies to a variety of yields and geological settings, and (2) characterizing the relative threat the total ejecta environment poses to ground based facilities and personnel.

Similarly, the sampling goals of the recent Apollo missions have led to an intensive study of the impact cratering process, 7-11 ("urrent theories describing the cratering of impact crater formation are based primarily upon (1) small scale impact experiments performed over a limited range of impact velocity, projectile size, and with idealized target materials, and (2) field relationships observed at

(Received for publication 19 August 1975)

*Due to the large number of references in above text, please refer to Reference Page No. 45 for references 1 through 11.

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large terrestrial impact craters that have been preserved at various erosional levels. An impact cratering event in a layered target produces a stratified ejecta deposit with stratigraphy which is approximately inverted with respect to the local pre-existing layering, with deepest material deposited near the crater rin: and successively shallower horizons extending to succ saively greater radial ranges. Geometrical models of ejecta distribution^{10, 12} and secondary cratering effects^{13, 14} have suggested that variations in the amount of primary ejecta and the velocity at which it impacts the original ground surface are responsible for the morphology of ejecta deposits observed over a range of impact crater size, 11, 15, 16 The variety of morphologies associated with impact crater ejecta deposits primarily reflects the range of particle velocity associated with the lateral translation of primary ejecta from the crater of excavation to a specific radial range. Generally, material thrown farther travels faster so that the total ejecta deposit can reflect a variety of depositional processes ranging from the low velocity overturning of massive sections of target material up onto the crater rim to a region of discontinuous secondary cratering at greater ranges (see Oberbeck, 1975), 11

In comparison, the ejecta deposit produced by an explosive cratering event has qualitatively similar features: the deepest material excavated appears on or near the rim, and the ejecta deposit is thickest at the erater rim crest and thins rapidly at larger radial ranges. Oberbeck¹⁷ has demonstrated dimensional similarities in crater shape and ejecta plume formation, and dynamic similarities in the radial attenuation of shock pressures for experimental impact and near-surface explosive cratering events. These similarities are observed for explosion craters with scaled depths of burst (SDOB) in the range 0, 10 to 0, 50 ft/(lb TNT)^{1/3}. This analogy between impact and near-surface explosion cratering may extend to much

- Oberbeck, V. R., Morrison, R. H., Horz, F., Quaide, W. L., and Gault, D. E. (1974) Smooth Plains and Continuous Deposits of Craters and Basins, NASA Tech Man X-52, 376, Ames Research Center, Molfett Field, California,
- Oberbeck, V. R., Horz, F., Morrison, R. H., and Quaide, W. L. (1973) Emplacement of the Cayley Formation, NASA Tech Mem N-62, 302, Ames Research Center, Molfett Field, California,
- Morrison, R. H., and Oberbeck, V. R. (1975) Features of crater continuous deposits and interpretations of their origin, Lunar Science VI, p. 578-580, The Lunar Science Institute, Houston, Texas.
- Settle, M., and Head, J.W. (1975) Topographic variations in lunar crater rim profiles: Implications for the formation of ejecta deposits, submitted to learus.
- 17. Oberbeck, V.R. (1971) Laboratory simulation of impact cratering with high explosives, Jour. Geophys. Res. 76:5732-5749.

McGetchin, T.R., Settle, M., and Head, J.W. (1973a) Radial thickness variation in impact crater ejecta: Implications for lunar basin deposits, Earth Planetary Sci. Lettr. 20:226-236.

larger craters, ¹⁸ Thus, the variety of depositional processes which characterize large impact craters may also be produced by correspondingly large, nearsurface explosive events. In fact, an annular zone of secondary craters was produced by the Sedan explosion, a large nuclear explosion in alluvium. ¹⁹

1.1 Purpose of the Present Study

A complete characterization of the mechanics of ejecta deposition should include a description of ejection velocity, ejection angle, particle size distribution, and postshock strength of material excavated by an individual cratering event. These ejection parameters are primarily determined by the response of the specific material to the stress wave generated by both explosive and impact events and by the acceleration of gases produced in the explosion case. The postshock strength of the material, ejecta particle size distributions, and ejection parameters generally reflect the relative intensity of the stress wave at different distances from the center of the crater. The subsequent excavation stage of the crater formation process then redistributes these stress-induced variations by translating material to a variety of ranges. The distribution and morphology of the resulting ejecta deposit represent a transformed record of excavation paraters within the transient crater of excavation during the cratering event.

The purpose of the present study is to empirically characterize the 'transformation function' by which the excavation phase of an explosive cratering event translates material from a pre-event position to a post-event range within the ejecta deposit. The relationship between the original and final position of ejected material places important constraints on the distribution of shock stress and kinetic energy produced within the test medium by the explosion. This, in turn, permits the association of observed ejecta morphologies such as the hummocky and grooved terrain observed within the continuous ejecta deposit, ejecta rays, and discontinuous ejecta clusters with the relative levels of energy distribution within the test medium.

The explosion cratering experiments described in this report were designed to empirically describe the material translation process. Tracer pellets were emplaced at specific positions within the test medium prior to a shot, then these pellets were located and their final positions were $surv \epsilon yed$ after the shot. Lateral pellet translation refers to the radial displacement of a pellet produced by the explaced cratering event measured from surface ground zero (SGZ). All experiments

^{18.} Baldwin, R. B. (1963) <u>The Measure of the Moon</u>, The University of Chicago Press, Chicago, Illinois.

Roberts, W.A. (1965) Permanent angular displacement and ejecta-induced impulse associated with crater formation, <u>learus</u> 4:480-493.

were conducted at SDOB in the range appropriate to the impact crater analogy. Thus, the results of the present study can be directly compared with small impact cratering experiments.

2. THE EXPERIMENTS: SETTING, MATERIALS, AND PROCEDURE

Small scale explosive cratering experiments were conducted within the Ft. Devens Reservation during the period of September 1973 through September 1974. The pellet experiments described in this report represent a part of the total research program accomplished during this period. The results of parallel studies concerning the effects of explosive cratering on the bearing strength of granular earth materials will be reported elsewhere (see Settle and Needleman (1974) for preliminary results²⁰).

2.1 Test Site

All cratering experiments were performed in an area approximately 50 m \times 75 m within the Hotel Range on the Ft. Devens Reservation (see Figure 1). The bedrock geology of the area consists of a metamorphosed sequence of carboniferous sedimentary units situated within the Worcester trough. In the vicinity of the test site, this sequence is represented by phyllite, schist, and quartzite rocks which are extensively intruded by granite and minor amounts of diabase.²¹ The surface geology surrounding the site is dominated by glacial deposits of variable thickness.

Hotel Range in particular is an area of substantial fill, consisting mostly of quartz sand with minor amounts (<3 percent) of feldspar and mica also present. Seismic investigation of the subsurface structure of the site has revealed that the deposit of fill extends to a depth of approximately 2 to 3 m and has an acoustic velocity of 1000 m/sec. The fill rests upon much coarser material which appears to be a deposit of glacial till (S. Needleman, personal communication).

The edges of Hotel Range are generally overgrown with bushes and saplings while the periphery of the actual test site is consolidated primarily by grasses and mosses (see Figure 1). The range of particle size distributions of the

Settle, M., and Needleman, S. (1974) Deformation in granular earth media produced by explosive cratering: Implications for impact cratering, EOS <u>Transactions Am. Geophys. Union</u> 56, No. 12:1142.

^{21.} Emerson, B.K. (1917) (eology of Massachusetts and Rhode Island, U.S. Geological Survey Bull, No. 597, 289 pp.



unconsolidated quartz sand fill near the surface of the test site is shown in Figure 2. Generally 10 percent of the surface material is coarser than 1 mm while approximately 50 percent of the surface material is finer than 0.5 mm. Repeated precipitation in areas of fill will commonly wash finer material from the near surface portion of the fill deposit and redeposit this finer material at greater lepth. Such an effect has been observed at the Boeing Company Tulalip test site, 2^{21} Indeed, grain size analysis of subsurface samples reveals that a shallow ledge of finer, clay-like material exists approximately 0.5 m beneath the western side of the test site. This is consistent with the drainage of the area: the test site dips gently to the south southwest by 3° to 5°.



Figure 2. Particle Size Distribution of the Quartz Sand Fill at Ho 1 Range, Ft. Devens. Other sands and soil types are shown for comparison²², 3

- 22. Durgunoglu, H.T. (1972) <u>Static Penetration Resistance of Soils</u>, PhD Thesis, University of California, Berkeley, California.
- 23. Turnage, G.W. (1974) <u>Measuring Soil Properties in Vehicle Mobility Research</u>; <u>Resistance of Coarse Grained Soils to High Speed Penetration</u>, Tech. Rpt No. 3-652, Report 6, U.S. Army Waterways Experiment Station, Mobility and Environmental Systems Lab., Vicksburg, Mississippi.
- 24. Fulmer, C.V. (1965) Cratering Characteristics of Wet and Dry Sand, The Boeing Company Report D2-90683-1, Seattle, Washington.

2.2 Materials

The pellets used in these experiments were spheres made of silica glass, acrylic resin, and aluminum alloy. The relative size and densities of the different pellet types are documented in Table 1,

Table 1. The Pellets Employed in These Experiments Were Made of Acrylic Resin, Glass, and Aluminum Alloy. The sizes and densities of the pellets are given in cm and grams/cm³, respectively

Pelle	et Type	Diameter (cn.)	Density (gm/cm ³)
Acrylic	red	1.97	1.02
Resin	orange	1.24	1.19
	yellow	1.53	2.20
Glass	brown	1.43	2.70
	blue	1.55	1,92
Aluminum Alloy		1.27	2.84

The explosives used in these experiments were Hi-velocity gelatin, a mixture of 60 percent nitroglycerin and 40 percent inert material, and C-4, a mixture of 91 percent RDX (cyclonite) and 9 percent inert material. The relevant physical properties of these materials are compared with TNT and PETN (pentaeryghritol tetranitrate) in Table 2. The explosive charges were spherically shaped and centrally initiated by bridge wire electrical detonators. Two types of detonators were employed, an 'SSS' EB Cap, Strength No. 8, sold by Dupont and an M6 EB Cap, Strength No. 12, which is the Standard Army EB Cap.

2.3 Experimental Procedure

Pellets were emplaced within the test material 2 to 28 hours before the experiment (see Figure 3). Typically, several groups of pellets would be buried, with each group emplaced at a common depth along an imaginary horizontal line radial to a vertical centerline through the explosive charge. The radial range of an individual pellet was determined to within \pm 0, 125 in. (measured from surface ground zero); its depth of burial was determined to within \pm 0, 25 in. (measured from the original ground surface). Table 2. The Physical Properties of the Hi-Velocity Gelatin and C4 Explosive Employed in This Study are Compared With Other Commonly Used Types of Explosives

	TNT (Trinitrotoluene)	Hi-velocity gelatin 60% nitroglycerin 40% inert	C4 9.% RDX 9% inert	PETN
Heat of Explosion (cal/g)	1080.	1204.	1120.	1385.
Density (g/cm ³)	1.6	1.3	1.6	1.7
Detonation Velocity (m/sec)	~67.00	~6030.	~8050.	~8300.
Relative Quickness*	1.0	0.87	1.34	I
TNT Equivalent Weight	1.0	0.85**	1.30	1

16

*Relative 'quickness' is a military rating applied to different explosives on the basis of their explosive energy, density, and detonation velocity.

******TNT equivalent weight for Hi-velocity gelatin based upon relative 'quickness' and the results of the brisance sand test and ballistic pendulum test.





Figure 3. Schematic Map of Pellet Emplacement. A variety of pellet groups emplaced at different depths are excavated by the explosion. (Note pellet size is greatly exaggerated)

In-situ soil moisture was monitored by a Soiltest speedy moisture tester which measures the gas pressure generated by a mixture of calcium carbide reagent and test site material. The moisture content of the upper 0.3 m of the test site ranged from extremes of 1.5 wt percent to 9.0 wt percent but more typically equaled 1.5 to 5.0 wt percent.

Experiments were conducted on good weather days when local wind conditions were suitably calm. Even so, higher level gusts with velocities on the order of 1.0 m/sec may have influenced the trajectories of some pellets.

After a test shot, the pellets were relocated and their range from the center of the crater determined to within \pm 0, 125 in.

3. PELLET BEHAVIOR

In order to describe the translation of the bulk of the crater ejecta by tracking artificial pellets, the pellets should ideally behave as point masses during the cratering event. This means that the pellet could be replaced by a quartz particle and the quartz particle would be translated to the postshot range observed for the pellet. Clearly this is not the case. The pellet sizes are necessarily larger than the average or median size of quartz grains in order to permit postshot identification. Air drag resistance to pellet motion depends upon its velocity, surface area, and the appropriate drag coefficient. While the surface area of the pellets is larger than that of the quartz grains, the drag coefficient to the quartz grains. ²⁵ These counterbalancing effects make it difficult to contrast pellet translation ranges with the throwout distances of quartz grains of comparable density initially accelerated to similar ejection velocities. However, the ballistic studies of Sherwood²⁵ indicate that pellet behavior should generally overestimate the translation of the smaller sized quartz sand.

The initial acceleration of material ejected by the explosive cratering event is produced by (1) the interaction of the individual particle with the compressional stress wave initially generated by the explosion and subsequent rarefaction waves reflected from the free surface of the ground, and (2) the interaction of the individual particle with the high velocity gases produced by the detonation of the explosive.

The effect of the size difference between the quartz grains and the artificial pellets on the relative particle accelerations imparted by the stress wave interaction mechanism is difficult to assess. In order to avoid differential accelerations of the in situ and emplaced materials, the strength of the pellet-quartz sand interface should approximate the strength of the quartz sand. It is not clear that this is the case. Recovered pellets occasionally have cone-shaped cappings of quartz sand that appear to have been compressed or molded onto the pellet surface. This may indicate that grain interaction initially accelerates some pellets to ejection velocities which exceed the velocities of quartz grains initially situated in similar preshot positions.

The velocity imparted to an individual particle by the accelerated gases vented from the expanding crater cavity will be proportional to the particle cross section. Therefore, the larger cross section of the pellets may cause them to be ejected at initial velocities greater than the velocity that would be imparted to a smrller quartz particle originally situated in a similar position. This would imply that the

^{25.} Sherwood, A. E. (1967) Effect of air drag on particles ejected during explosive cratering, Jour. Geophys. Res. 72:1783-1791.

postshot pellet range represents a maximum estimate of the postshot range of a quartz particle originally in a similar position.

It is difficult to quantitatively estimate the extent to which these different effects influence pellet motion. In addition, variations in pellet translation can result from (1) azimuthal variability in the detonation wave that travels through the explosive, (2) the natural heterogeneity of the quartz sand test medium, and (3) the variability of local air currents. The densities of the pellets bracket the range of density of the natural materials that make up the quartz sand fill. Therefore, by considering both size and density, the actual behavior of an individual pellet during the cratering event may best represent the behavior of the ccarsest fraction of the natural test material. In a later section, the translation histories of a group of pellets lying in a common radial direction will be compared with the translation of colored quartz sand tracer materials.

4. RESULTS

The pellet experimental program can be divided into three phases. The purpose of the first group of test shots was to determine the effects of charge size on the lateral translation of the artificial pellets. In this series of experiments, the explosive charge weight was varied from 1 to 4 lb at a constant scaled-depth-ofburst (SDOB). The second phase of experiments was designed to investigate the effect of variable scaled-depth-of-burst on the postshot pellet distribution. In this explosive series the charge weight was constant (5 lb) and the scaled-depth-ofburst varied from 0.20 approximately $0.55 \text{ ft/(lb TNT)}^{1/3}$. In the final phase, the generality of earlier results was tested by repeating the second phase of experiments using another type of explosive and different pellet materials. The results of the three phases will be discussed in this section. A compilation of the experimental field data is presented in Appendix A.

4.1 Crater Dimensions

The relationship between crater dimensions and the scaled-depth-of-burst of the explosive charge for all the craters produced by this experimental program is presented in Figure 4. For comparison, the crater depth (below vim crest)/radius (rim crest radius) ratios observed for a series of smaller scale experimental craters produced at the University of Dayton Research Institute (UDRI) are also shown in Figure 4C (see Pickutowski, 1974).²⁶

Piekutowski, A. J. (1974) Laboratory Scale High Explosive Cratering and Ejecta Phenomenology Studies, University of Dayton Research Institute, AFWL-TR-72-155, Air Force Weapons Lab., Kirtland AFB, Albuquerque, New Mexico.





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The explosion craters produced by the present experimental series in quartz sand are consistently deeper and more bowl-shaped than the smaller scale UDRI craters. This probably reflects the greater natural cohesion of the quartz sand fill used in this study in contrast to the Ottawa sand employed in the UDRI experiments.

4.2 Presentation of Data

McGetchin et al²⁷ have suggested that the postshot range r of a mass point ejected by an explosive cratering event can be related to its preshot range x, measured from surface ground zero, by a simple power-law expression of the form

$$\frac{\mathbf{r}}{\mathbf{R}} \propto \left(\frac{\mathbf{x}}{\mathbf{R}}\right)^{\mathbf{C}},\tag{1}$$

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where R is the crater radius and the exponent c is a negative number. The form of Eq. (1) is particularly useful for comparing the results of a series of pellet experiments since the radial distances r and x have been normalized to the radius of the apparent crater lip, R. These normalized ranges permit comparison of the results of this study with explosive cratering events conducted at different scales.

A graphical representation of the experimental data is schematically outlined in Figure 5A. A linear plot of the power-law expression [Eq. (1)] for a variety of values of c produces a family of curves that converge as x/R approaches 1.0, or, in other words, near the crater rim where x = R. Larger negative values of c correspond to greater distances of radial translation for groups of pellets emplaced at r common depth. It is more convenient for the purpose of this study to consider the pellet data in the logarithmic coordinate system shown in Figure 5B.

A logarithmic plot of Eq. (1) yields a family of straight lines which similarly converge near the crater rim where $\log_{10}(x/R = 1.0) = 0$. Representation of the experimental pellet data in this form will reveal; (1) how accurately Eq. (1) describes the postshot distribution of pellets (note that a straight line fit to the experimental data would verify that the power-law expression provides a 'perfect' description of the relationship between preshot and postshot pellet position); (2) the approximate value of c for groups of pellets emplaced at specific depths within the test medium (note that the slope of a line, and not its absolute position within the logarithmic plot, defines the exponent); and, (3) the approximate radius of the true crater of excavation (note that the R measured experimentally is the rim crest radius). Material has not been excavated out to the rim crest radius R

McGetchin, T. R., Settle, M., and Head, J. W. (1973b) A model for the distribution of impact crater ejecta and its implications. EOS Transactions Am. Geophys. Union 54, No. 4:357.



Figure 5. The Postshot Range r of a Mass Point Can Be Related to Its Preshot Range x (measured from surface ground zero) by a Power Law Expression. Figure 5A shows a linear plot of such an expression; 5B shows a logarithmic plot of the same expression. Data presented in this report will be plotted in the logarithmic format

since the material underlying the apparent rim crest consists of ejecta and structural uplift. The true limiting range at which material has been excavated can be approximately defined as the range x/R at which a straight line logarithmic fit to the pellet data equals 0.00. Graphically, this means that a straight line logarithmic fit to the actual pellet data will not pass through $\log_{10} (x/R = 1.0) = 0.00$; however, the range x/R at which it crosses the line $\log_{10} (r/R = 1.0) = 0.00$ will correspond approximately to the limiting range at which material was ejected by the cratering event (that is, the true radius of the crater of excavation).

Figure 5B also demonstrates the difficulty in determining an accurate value for the exponent c for a group of pellets that are transported to relatively small postshot ranges. This is the range of values of r/R in which the straight lines in Figure 5B converge. The recovery of pellets transported to large radial ranges (that is, the region in which the straight lines diverge in Figure 5B) is extremely valuable in distinguishing between different values of c.

4.3 Effect of Charge Size on Postshot Pellet Distribution

Figures 6 and 7 show the results of two series of explosive cratering experiments in which the size of an explosive charge of Hi-velocity gelatin was varied from 1 to 4 lb at a constant scaled-depth-of-burst of 0.00 and 0.15 ft/(lb TNT)^{1/3}, respectively. Both acrylic and glass pellets were simultaneously employed in these two series of explosion cratering experiments. The pellet data in Figures 6 and 7 demonstrate that the acrylic resin and the silica glass pellets were transported to generally similar normalized ranges by the individual cratering events. No consistent discrepancy exists between the postshot distributions of the two types of pellet materials.

A straight-line fit to the experimental pellet data appears to be a reasonable approximation of the lateral translation of individual pellet groups emplaced at different preshot depths. The reference line c = -4 offers an approximate description of the distribution of postshot ranges for the group of pellets nearest the original ground surface for both SDOB = 0.00 and SDOB = 0.15 ft/(lb TNT)^{1/3}.

In Figure 6 (SDOB = 0.00) the deeper pellet group, originally situated at a depth of 2 in., is translated to significantly shorter ranges than the pellet group initially situated at a 1-in. depth. This consistent relationship, successively deeper levels of material being transported to successively shorter postshot ranges, results in the inverted stratigraphy observed in the rim ejecta deposit produced by larger scale cratering in layered materials. However, in Figure 7 (SDOB = 0.15) the difference between the postshot positions of pellets, originally at a 1-in. and 2-in. depth within the quartz sand test medium, is much less. This is because both the 1-in. and 2-in. depths within the test medium will behave as near-surface 'layers' during the deeper SDOB = 0.15 event. Even in Figure 7, the deeper pellets generally travel to shorter postshot ranges and lie below the postshot range curves of pellet groups originally situated nearer the ground surface.

A further comparison of Figure 7 with Figure 6 suggests that the slope of a straight line fit through the 1-in, pellet data of Figure 7 (not shown) would generally be steeper than a similar straight line fit in Figure 6 (see data in Appendix A). In relation to the configuration of the explosive charge, the 1-in, pellet group in the SDOB = 0.15 case lies at a 'shallower' level than the 1-in, pellet group in the SDOB = 0.00 case and shallower levels <u>should</u> be translated farther. Steeper curves are indicative of greater lateral dispersion of ejected material and hence a more energetic excavation process at specific depths and explosive SDOB.









This effect arises in the experimental data from a nonlinear increase in the coupling of explosive energy into the quartz sand test medium with increasing SDOB particularly in the near-surface range of SDOB from 0.00 to approximately 0.15 ft/(lb TNT)^{1/3}. In addition, the lateral confining pressure of the quartz sand increases with depth. This stress inhibits the growth of the crater and limits initial ejection angles to generally higher values (measured from the ground surface) with increasing SDOB. Higher ejection angles will tend to limit the lateral dispersion of crater ejecta. The pronounced steepening of the Figure 7 (SDOB = 0.15) curves can thus be interpreted in terms of an increase in the efficiency of explosive coupling, which is not cancelled by the corresponding increase in lateral confining pressures. At greater SDOB, the increase in confining pressure (which inhibits crater growth) compensates the increase in coupling efficiency (which promotes the formation of larger craters).

Figures 6 and 7 summarize the distribution of postshot pellet ranges for explosion experiments conducted at a constant SDOB, over a 1- to 4-lb range of charge size. Inspection of the pellet data from a particular preshot burial depth in each case demonstrates no consistent change in lateral translation of the pellet group with variation of the size of the explosive charge. Figure 7A (SDOB = 0.15, 1-lb charge) appears slightly anomalous in comparison with the other three experiments performed at SDOB = $0.15 \text{ ft}/(10 \text{ TNT})^{1/3}$. The cause of this discrepancy is unknown. However, the uniformity of the results of the three other experiments suggests that heterogeneity within the test site material and/or transient wind conditions may account for the pellet data presented in Figure 7A.

Finally, extrapolation of a straight line fit to the pellet data in both Figures 6 and 7 would intersect the abcissa $\log_{10} (r/R = 1.0) = 0$ at $\log_{10} (x/R) = -0.05$ to -0.15. This implies that the radius of the true crater of excavation is approximately equal to 70 to 90 percent of the measured rim crest radius.

4.4 Effect of Explosive Scaled Depth of Burst on Postshot Pellet Distribution

In order to observe the effect of the variable explosive SDOB on the translation of material ejected by an explosive cratering event, a series of experiments employing 5-lb Hi-velocity gelatin charges was conducted at SDOB ranging from 0.20 to 0.55 ft/(lb TNT)^{1/3}. The distribution of postshot pellet ranges for pellet groups emplaced at 2-in, and 3-in, depths in the quartz sand test medium are shown in Figure 8.

Surprisingly, the pellet data in Figures 8A (SDOB = 0.21) and 8B (SDOB = 0.42) reveal that the near-surface pellet groups (2 to 3 in.) within the quartz sand have been translated to normalized postshot ranges comparable to the normalized throwout distances observed for the corresponding near-surface pellet



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Figure 8. Distribution of Normalized Pellet Postshot Range for a Series of Experiments Employing Explosive Charges of Constant Size at a Variety of SDOB. (A) SDOB = 0.21 ft/(tb TNT)1/3; (B) SDOB = 0.42 ft/(tb TNT)1/3; (C) SDOB = 0.53 ft/(tb TNT)1/3. Hi-velocity gelatin was used in this experimental series. The label "1-in. acrylic" refers to a group of acrylic resin pellets emplaced at a 1-in. depth within the quartz saud prior to the explosion (see Table 1 for other pellet types)

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groups excavated by the surface burst test series (see Figure 6, SDOB = 0.00). In both cases, a least-squares fit of a straight line through the experimental pellet data would be reasonably approximated by Eq.(1) with the exponent c representing the slope of the line approximately equal to -4 ± 1 (see Appendix A).

The pellct data in Figure 8C (SDOB = 0.53) is somewhat ambiguous. The translation of the two groups of silica glass pellets emplaced at a 2-in. depth differs. The trend of the data from the repeated experiment is similar to the dominant trends in Figures 8A (SDOB = 0.21), 8B (SDOB = 0.42), and 6 (SDOB = 0.00). However, the slope of a straight-line fit to the 2-in. pellet data from the initial experiment at a SDOB = 0.53 ft/(lb TNT)^{1/3} is shallower, suggesting a value of c = -2. The cause of this anomalous distribution of normalized pellet throwout ranges cannot be resolved. In the absence of any consistent trend in the data for the other buried cratering events [that is, Figures 8A (SDOB = 0.21) and 8B (SDOB = 0.42)], it is possible to attribute these relatively shallower sloping curves to heterogeneous physical properties within the test site material and/or transient wind conditions. Alternatively, this variation may be real in the sense that it indicates a decrease in the ability of the explosive cratering event to laterally transport ejected material at relatively larger SDOB. With increasing depth-ofburst of the explosive, the explosive energy released upon detonation becomes increasingly confined. Thus, since particle accelerations are initially directed radially away from the explosive, a transition may occur with increasing SDOB at which lateral particle motions are suitably confined to produce a decrease in postshot threwout ranges. For the particular charge size and quartz sand medium used in these experiments, the pellet data shown in Figure 8C (SDOB \cong 0.53) may be indicating a transition in the ability of an explosive cratering event to laterally translate material at a SDOB \cong 0.55 ft/(lb TNT)^{1/3}. This would suggest that within a certain range of SDOB bracketed by $0.00 < \text{SDOB} < 0.55 \text{ ft/(lb TNT)}^{1/3}$. the excavation process achieves a maximum ability to laterally translate ejected material beyond the crater rim. The discrepancy between the pellet data for the 2-in, level at a SDOB = 0.53 ft/(lb TNT)^{1/3} (Figure 8C) may reflect the effect of variable physical properties of the test material on the actual value of such a transitional SDOB.

Comparison of Figure 8 with Figure 7 (SDOB = 0.15) demonstrates that the steepest pellet-data curves (implying the greatest lateral translation distances) observed in all test series are associated with the SDOB = $0.15 \text{ ft/(lb TNT)}^{1/3}$ explosive cratering events. This relationship is consistently observed in Figures 7B, 7C, and 7D. Therefore, the distributions of postshot pellet ranges shown in Figure 7 (SDOB = 0.15) cannot reflect natural variations in the quartz sand or transient wind conditions. This observation supports the concept of a

critical SDOB at which the lateral translation of ejected material is at a maximum. Furthermore, it suggests that this critical SDOB is in the range 0.10 to 0.20 ft/(lb TNT)^{1/3} for the quartz sand and 1- to 5-lb explosive charges employed in this study.

4.5 Effect of Experimental Materials on Postshot Pellet Distribution

A final series of explosive cratering experiments was conducted employing 1.0- and 1.1-lb charges of C4 explosive and spherical pellets made of aluminum alloy. A calibration test shot using acrylic resin, silica glass, and aluminum pellets and a Hi-velocity gelatin explosive was conducted at a SDOB = 0.26 ft/(lb TNT)^{1/3} to compare the behavior of the three pellet types in a 'standard' explosive cratering event. The resulting postshot pellet distributions presented in Figure 9 show that the three pellet types are transported to generally similar normalized ranges.

The experimental test series employing the C4 explosive was conducted over a range of SDOB varying from 0.00 to 0.45 ft/(lb TNT)^{1/3}. The results presented in Figure 10 support the generality of Eq.(1) with $c \approx -4 \pm 1$ as an empirical description of the translation of near surface material ejected by an explosive cratering event at SDOB = 0.00 and at 0.23 < SDOB < 0.45. Unfortunately, no experiment was performed at a SDOB = 0.15 \pm 0.05 ft/(lb TNT)^{1/3} in the range of the critical SDOB suggested by the results of the earlier experimental series.

Figure 10 also demonstrates that deeper levels within the quartz sand test medium are translated to significantly shorter ranges at all SDOB. In Figure 10D (SDOB = 0.45), the results of two explosive cratering experiments conducted at the same SDOB are presented together. These results show in part the variability of the behavior of the quartz sand test medium which is ejected and transported by the cratering event. (Compare, for example, the data for the 3-in, pellet depth from the two experiments.) Figure 10D also shows that the lateral translation of successive depths within the crater of excavation can be described by a series of equations having the form of Eq.(1) with the exponent c varying from ~ -4 to ~ -1 with increasing excavation depth. The possibility of comprehensively describing the translation of material transported by an explosive cratering event will be extiored in the following section.



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Figure 9. Distribution of Normalized Pellet Postshot Range for a Series of Experiments Employing a Variety of Pellet Materials and a 0.4-lb Charge of Hi-velocity Gelatin Explosive in a SDOB = 0.26 ft/(lb TNT)^{1/3} Configuration. The label "1-in. acrylic" refers to a group of acrylic resin pellets emplaced at a 1-in. depth within the quartz sand prior to the explosion (see Table 1 for other pellet types)



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Figure 10. Distribution of Normalized Pellet Postshot Range for a Series of Experiments Employing Explosive Charges of Constant Size at a Variety of SDOB. (A) SDOB = $0.00 \text{ ft}/(\text{lb TNT})^{1/3}$; (B) SDOB = $0.23 \text{ ft}/(\text{lb TNT})^{1/3}$; (C) SDOB = $0.34 \text{ ft}/(\text{lb TNT})^{1/3}$; (D) SDOB = $0.45 \text{ ft}/(\text{lb TNT})^{1/3}$. C4 explosive was used in this experimental series. The label "1=in, acrylic" refers to a group of acrylic resin pellets emplaced at a 1-in, depth within the quartz sand prior to the explosion (see Table 1 for other pellet types)

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5. DISCUSSION

The excavation process which accelerates material above the original ground surface is made up of two component mechanisms.^{28,29} One mechanism is the complex interaction of the initial shock stress wave with the subsequent suite of rarefaction waves produced by reflection of the stress wave from the ground (free) surface. This family of rarefaction waves is essentially a broad relaxation pulse which provides for the continuous decompression of the shock-stressed material. The initial stress wave accelerates material radially away from the point of detonation while the rarefaction wave tends to re-orient the direction of individual particle velocity (see Gault et al⁸). Near the free (ground) surface the particle acceleration supplied by the stress and rarefaction waves act in a similar, outward direction. Material near the free surface is ejected at approximately twice the particle velocity to which material was initially accelerated by the stress wave. This phenomenon of stress wave interaction in the vicinity of the free surface has been termed 'spalling'. In hard rock materials, spalling creates new free surfaces below the original ground surface permitting continued stress wavefree surface interaction beneath the original ground surface.³⁰ In granular and soft rock materials, particle accelerations induced by the initial stress wave and the subsequent rarefaction waves do not act in the same direction below the immediate ground surface. The tensile rarefaction waves cause the radial flow field established by the initial stress wave to diverge. As a result, the acceleration of individual particles is re-oriented upward, contributing to the ejection of material beyond the transient rim of the growing crater and the plastic deformation of substrate material. This wave interaction phenomenon has been termed 'lateral flow' by Gault et al.⁸ In both cases, spall and lateral flow, the kinetic energy of the ejected material is derived from the interaction of compressive and tensile stress waves propagating through the target or test material.

The second mechanism that excavates and ejects material from an explosion crater is gas acceleration. Nordyke²⁸ has described how the initial acceleration of ejected material can be significantly increased by the venting or expansion of gases produced by the detonation of the explosive materials.

Nordyke²⁸ has hypothesized that the wave interaction mechanism dominates the excavation process at shallow explosive depths-of-burst and is replaced by

Nordyke, M. D. (1961) Nuclear craters and preliminary theory of the mechanics of explosive crater formation, <u>Jour. Geophys. Res</u>. 66:3439-3450.

Short, N. M. (1965) A comparison of features characteristic of nuclear explosion craters and astroblemes, <u>Annals N. Y. Acad. Sci.</u> 123:573-616.

Horz, F. (1969) Structural and mineralogical evaluation of an experimentally produced crater in granite, <u>Contributions Mineralogy Petrology 21</u>:365-377.

the gas acceleration mechanism at larger depths-of-burst (see Figure 11). At intermediate depths-of-burst, both mechanisms are important. In turn, experimental investigations have attempted to relate the morphology and distribution of explosion crater ejecta deposits to the two components of the excavation process. For example, the study of pellet data from the Air Vent/Flat Top Series of



Figure 11. (A) Schematic Representation of the Relative Importance of the Mechanisms of Spall, Gas Acceleration, and Compression in the Formation of Explosion Craters with Increasing SDOB (after Nordyke, 1961), (B) Spall and Gas Acceleration are the Two Processes Responsible for Transporting Ejecta Beyond the Crater Rim. The relative importance of these two mechanisms at different SDOB is implied by Nordyke's (1961) model

explosion cratering experiments in playa and limestone mediums, led Ahlers³¹ and Anthony³² to characterize regions within the crater of excavation as sources of "ballistic ejecta" and "scoured ejecta" (Figure 12). These terms attempted to distinguish material that was accelerated and ejected into clearly definable ballistic trajectories (that is, "ballistic ejecta") from other material that appeared to be pushed or shoved up and over the crater lip (that is, "a oured ejecta"). Ballistic ejecta originated from near ground zero and regions adjacent to the explosive charge and was transported to large postshot ranges. Scoured ejecta originated from regions beneath and beyond the ballistic zone and it was transported to relatively small radial ranges (see also Merritt, 1968).³³

The maximum acceleration due to spalling can be anticipated at surface ground zero where the magnitude of the stress wave at the time of reflection will be greatest (that is, the travel time of the shock wave at the time of reflection will be a minimum directly above the detonation point). The fact that the area adjacent to surface ground zero is the source region of ballistic ejecta suggests an association between this material and the spall mechanism. The additional observation that the ballistic ejecta travels to distant ranges and is thus initially accelerated to higher ejection velocities than scoured ejecta, also supports such an association. Alternatively, the source region of scoured ejecta is situated at some distance from the detonation point. The acceleration mechanism responsible for the acceleration of the scoured ejecta can be inferred to be somewhat weaker than the dominant ballistic ejecta mechanism since this material is translated to significantly shorter ranges. In this case, an association is implied between the scoured ejecta and the gas acceleration mechanism. However, neither of these mechanisms is solely responsible for the translation of individual ejecta particles. Both spall and gas acceleration contribute to the kinetic energy of an ejecta particle, though the combination of the two component accelerations is undoubtedly more complicated than the simple vector addition of these two forces for individual particles.

The results of Ahlers³¹ and Anthony³² indicate that each of the two different mechanisms may dominate the excavation process for significantly different

Ahlers, F. B. (1965) Crater Ejecta Studies - Flat Tops II and III, Project 1, 5a, Ferris Wheel Series, Flat Top Event, POR - 3006, IIT Research Institute, Chicago, Illinois.

Anthony, M. V. (1965) Ejecta Distribution from the Flat Top I Event, Project 1, 5b, Ferris Wheel Series, Flat Top Event, POR - 3007, The Boeing Company, Seattle, Washington.

Merritt, M. L. (1968) Ferris Wheel Series, Air Vent/Flat Top Events, Project Officers Report, Scientific Directors Summary, POR - 3000, Sandia Corporation, Albuquerque, New Mexico.



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Figure 12. Ejecta Source Regions Within the Original Ground Surface for Large Scale Explosion Cratering Experi-ments (see text for references). Note that compression of substrate material, fallback, and post-excavation slump-ing may significantly restructure the geometry of the ejecta source region to produce the apparent crater. (SDOB is given in ft/(IB TNT)^{1/1})

portions of the crater of excavation (see Figure 12). This is in addition to Nordyke's²⁸ hypothesis that each of the two different excavation mechanisms should dominate the overall excavation process at different depths-of-burst (see Figure 11). Furthermore, the relative position of the ballistic and scoured zones within the crater of excavation mapped by the pallet data from the Flat Top Series suggests that ballistic ejecta is unloaded at an earlier stage of crater formation and is chronologically followed by excavation of scoured ejecta (Figure 12).

The later studies of Henny and Carlson¹ were directed towards a quantitative description of the block distribution produced by explosive cratering in a hardrock basaltic medium. Their results characterize three modes of ejecta deposition:

Mode I consists of a blanket of missiles extending from the continuous ejecta distribution being roughly symmetrical to the crater. Mode II consists of missiles forming tonguelike structural lineaments extending radially out from the crater. Mode III consists of a number of missile clusters and/or individual missiles superimposed upon the first two modes and extending from the immediate vicinity of the crater outward to the maximum depositional range.

These three depositional modes were then related to initial ejection conditions which determine the ballistic trajectories of individual particles. Mode I is interpreted as an extension of the continuous deposit ejected from the crater of excavation at relatively small angles (for example, less than 25° measured from the original ground surface). Mode II is interpreted as material initially ejected at intermediate angles (for example, 25° to 65°). Finally, Mode III material is inferred to be high-angle ejecta which remains in flight for longer periods of time and is generally superimposed upon the first two morphologies. Though the separate modes are interpreted as beginning and ending in order, all three may occur simultaneously at intermediate ranges.

There is no straightforward relationship that defines the relative ejection velocity of particles which are ejected at different angles. Qualitatively, however, photographic investigation of the early stages of excavation suggests that ejection angle generally decreases as the radius of the transient crater increases.¹⁷ Since material directly overlying the detonation point achieves the maximum ejection velocity, it is probable that the fastest material is ejected at the righer ejection angles (measured from the ground surface). Therefore, it is possible that the successively higher modes of ejecta depesit morphology are associated with both larger ejection angles and greater particle ejection velocities,¹

The empirical description of the translation of pellet strings developed in the previous section (see Eq. (1)) is not related to specific excavation mechanisms. Rather, it expresses the observed relationship between pre-event and post-event pellet position without reference to the mechanics of excavation process. As

suggested previously, it may be possible to extend the simple power-law expression to a description of the translation behavior of pellets emplaced at a variety of levels within the crater of excavation. Ideally, parametrization of the power-law exponent c in terms of relative depth within the crater of excavation and the scaled depth of burst of the explosive charge would permit a continuous description of pellet translation for a variety of explosive cratering events. This is attempted in Figure 13 where the value of the exponent c (that is, the slope of the straight line determined by a least-squares fit of the pellet translation data presented in Appendix A) is plotted as a function of relative depth within the crater (that is, the ratio of the depth of burial of individual pellet groups/depth of the fresh crater measured from the original ground surface) for a variety of SDOB. It appears that the variation in c can be generally described by an S-shaped curve trending from large negative values of c for shallow levels within the crater of excavation to smaller, limiting negative values of c for deeper levels. This conforms to the earlier qualitative observation that successively deeper levels within the crater of excavation are laterally translated to relatively shorter ranges since larger negative c values characterize larger radial translations. In the deeper portions of the crater of excavation, compressive deformation and plastic flow of the underlying material plays a significant role in crater formation. The methods of surveying preshot- and postshot-peller positions employed in these experiments were not sufficiently accurate towarrant pellet emplacement at depths greater than approximately half the anticipated crater depths where the phenomenon of plastic flow would considerably complicate pellet translation.

Figure 13 describes the average behavior of the artificial pellets and the granular quartz sand test medium over the range of ground moisture conditions and localized particle size distributions, and the performance of the explosive charges over their effective energy yields and their effective yield of easeous products which characterized the entire test program. However, the relative seafter over a range of depth and SDOB demonstrates that for a particular explosive cratering event (that is, SDOB = constant), the translation of pellets at different levels within the granular quartz sand is most variable near the surface and becomes less variable with increasing depth. In addition, the relative position of the approximate bounds which have been placed on the pellet data at different SDOB (Figures 13A, B, and C) indicate that within increasing SDOB the radial translation of nearsurface pellet strings (d < 0.7 d_{cr}) is significantly attenuated while the relative translat on of intermediate levels within the crater of excavation (0.2 d_{cr} < d < 0.4 d_{cr}) remains approximately the same.

The possibility of a critical near-surface SDOB. At which pellet-translation distances achieve a maximum, is suggested by the large negative values of c associated with shallow depths (d ~ 0.1 d_{cr}) for SDOB = 0.15 $\Re/(16 \text{ TNT})^{13}$ in



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Figure 13. A Comparison of the Variation of the Exponent τ (from Eq. 1) with Depth Within the Ejecta Source Region for a Variety of SIND. This exponent describes the relative translation of the artificial pellets. (A) SDOB = 0.00 ft/(lb TNT)^{4/3}; (B) SDOB = 0.15 ft/(lb TNT)^{1/3}; (C) 0.44 s SDOB < 0.54 ft/(lb TNT)^{2/3}. Note that the crater depth employed here is measured from the original ground surface

Figure 13B. Such a maximum has also been suggested by the preliminary results of the current U.S. Army program concerned with the effects of subsurface explosions, Project ESSEX.³⁴ In the context of the earlier discussion of excavation mechanisms, this value of SDOB may approximately mark the maximum in the lateral translation of ejected material produced by the combined effects of spall and gas acceleration shown schematically in Figure 11.

The results of this small-scale experimental program can be compared with two large-scale, 20-ton TNT explosive cratering events, in which detailed pellet experiments were also conducted. The results of these arge-scale experiments, in which several hundred artificial pellets were used, are presented schematically as regions within the crater of excavation which are transported to some limiting postshot range. Such regions are delineated by equal postshot range contours within the crater of excavation similar to the generalized contours shown in Figure 12. The radial variation of the position of inferred isorange contours within the crater Vent I (SDOB = 0.50 ft/(lb TNT)^{1/3}, in playa) events have been fitted to the powerlaw expression used in this study at different depths within the crater of excavation (see Vortman and MacDougall (1962) and Merritt (1968), respectively).^{33,35} (Note that translation data was not available for material initially situated at ranges less than 0.2 crater radii from surface ground zero, see Figure 12.) The trend of the Stagecoach and Air Vent I curves in Figure 14 generally corresponds to the SIXOB * 0.50 ft/(lb TNT)^{1/3} data produced by the present study, but consistently lies at smaller negative a values. Such values indicate smaller normalized translation ranges for the emplaced pellets and are to be expected for larger scale events in which (1) test medium materials are better consolidated and (2) greater charge yields for events with similar SDOB require larger actual depths-of-burst which result in larger lateral confining pressures in the region of charge detonation (see Sun. 1970; White, 1973), 36,37

The pellet-translation experiments presented in this study have employed losse, relatively dry quarts sand under very low confining pressures as a test medium.

- 34. Dishon, J. L. (1975) ESEN Hamood Ore Research Fregram: Fireta Measurements Report - ESSEX J. Phase J. WES MP-K-75-3, C.S. Army Waterways Experiment Station, Explosive Excavation Research Lab., Livermore, California,
- Vortman, L.J., and Marthaugall, H.H., eds. (1982) Project Suggeoach: 20 Two RK Cratering Experiments in Desert Alluvium, Final Report. SC-4590. THE-4500, Sandia Corporation, Albequerque, New Mexico.
- Sun, J. M. (1970) Every counter-pressure scaling equations of linear crater dimensions, <u>Jour. Geophys. Res</u>. 75:2003-2027.
- White, J.W. (4973) An empirically derived cratering formula, <u>Jour. Geophys.</u> <u>Res.</u> 79:8623-8633.

Thus, the values of c describing pellet-postshot distribution reported here should represent <u>maximum negative values</u> when compared with larger scale explosion events in other geological environments.

The results of the present study can also be compared with smaller scale explosion cratering experiments conducted at the University of Dayton Research Institute (UDRI) using ~ 2-gm lead azide charges in Ottawa sand.²⁶ Dved sand was employed as a tracer material in a series of experiments in order to delineate transistion ranges of material ejected from the crater of excavation.³⁸ Leastsquare fits to the power-law expression used in this study were performed using the data of Andrews³⁸ for SDOB = 0.00 and SDOB = 0.11 $\text{fr}/(\text{lb TNT})^{1/3}$, and are presented in Figure 14. (Note that translation data for material indianly situated at ranges less than 0.2-crater radii was not well resolved and was not used in calculating the power-law exponents shown in Figure 14.) Remarkably, there is a similarity between the variation of the mapping exponent c, with depth within the crater of excavation for the small scale UDRI experiments and the much larger scale 20-ton experiments. In comparison, the normalized translation ranges of the artificial pellets employed by the present study are much greater than the normalized ejecta-translation ranges reported by the smaller scale experiments and the normalized pellet-translation ranges reported by the large-scale experiments. This contrast is particularly surprising with regard to the smaller scale (UDRI) experiments in which smaller lateral confining pressures would a priori have suggested greater normalized ejecta-translation ranges (that is, larger negative values of the exponent of than the pellet-translation results of the present study.

The fact that the artificial pellets employed in this study are thrown to such anomalously large normalized ranges, indicates that they are not being translated in the same manner as the bulk of the ejecta. The critical difference between the experiments conducted here and the explosion events conducted at larger and smaller scales, is the relation of pellet size to ejecta-particle size. In the smallscale experiments, dyed sand was employed as the tracer material, and so the size of the 'pellet' tracer was approximately equal to that of the ejecta particle. In the larger scale experiments, artificial pellets ranged in size from 3/2 to 1-1/2 in, 33,35 while ejecta particles spanned a larger size range which included the sizes of the emplaced pellets. In this study, the artificial pellets were consistently larger than the charsest fraction of the quarter sand fill. Therefore, the similarity of ejecta-translation results of the small-scale UDRI experiments (geolet (dyed sand)

^{38.} Andrews. R.J. (1974) Origin and Distribution of Reports from Near-Surface Laboratory Scale Cratering Experiments. University of Daston Research Institute, to be published AFWL-TH-75. Air Parce Weapons Lab.; Kirtland AFH, New Mexico.



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Figure 14. A Comparison of the Variation of the Exponent c [from Eq.(1)] with Depth Within the Ejecta Source Re-gion for Explosion Experiments Conducted Over a Wide Range of Charge Size. Note that for the Stagecoach, Air Vent I, and UDRI experiments crater depth is measured from the original ground surface. Data trends from Figure 13 are also shown

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particle size \cong ejecta particle size] and the large-scale experiments (pelletparticle size \cong limited fraction of ejecta-particle size) suggests that these results represent reasonable descriptions of the translation of the bulk of the crater ejecta. Thus, for explosion craters with shallow depths-of-burst (0.00 \leq SDOB \leq 0.55) in relatively unconsolidated geological materials, the translation of material ejected from the upper one-third to one-half of the crater of excavation can be approximately described by Eq.(1) in which the exponent $c = -2.5 \pm 1.0$.

On the other hand, the present study indicates that the coarsest fraction of the material ejected by explosive events with shallow SDOB travels to significantly greater ranges than finer-sized material originally situated in a similar preshot position. Essentially, this is a restatement of the general sorting effects of atmospheric drag on ejecta deposition: finer material is preferentially decelerated and deposited near the crater rim while the ballistic trajectories of larger fragments are relatively less affected by the atmosphere,²⁵ However, a comparison of the pellet-translation data of the present study with the ejecta-translation results of the larger and smaller scale experiments, permits a more quantitative description of the actual size-related differences in the translation of explosion crater ejecta. In particular, for shallow explosive events in relatively unconsolidated geological materials, the pellet-translation results presented here suggest that the translation of the coarsest fraction of near-surface ejecta may be approximately described by a power-law expression of the form of Eq. (1), in which the exponent c = -4.0 \pm 1.0. Furthermore, a maximum in the lateral translation of the coarsest size fraction of the ejected material may occur at a critical, near-surface SDOB. Such a maximum in the normalized translation range of the coarsest ejecta-size fri ctions would not appear to correspond to the SDOB which produces a maximum crater volume.

6. CONCLUSIONS AND IMPLICATIONS

(1) The excavation of explosion crater ejecta is a complicated process which consistently transports successively deeper levels of the target or test medium to successively smaller ranges beyond the crater rim. Postshot analysis of the distribution of emplaced pellets in large-scale 20-ton TNT experiments and the distribution of dyed-quartz sand tracer materials excavated by small-scale gram-sized explosive events indicate that the bulk of the ejected material originates from the upper portions of the crater. This material is excavated as a continuous sequence of nested spherical segments or shells as the crater grows. Furthermore, the lateral translation of the bulk of the material ejected by shallow explosive events $(0.00 < \text{SDOB} < 0.55 \text{ ft}/(\text{lb TNT})^{1/3})$ within poorly consolidated geological materials

(for example, sand and alluvium) is a surprisingly uniform phenomenon and can be empirically described by the expression:

$$\frac{r}{R} \propto \left(\frac{x}{R}\right)^c \text{ when } c = -2.5 \pm 1.0 \\ \text{(bulk of the ejecta)}.$$

The lateral translation of ejecta originating from the upper portions of the crater of excavation remains approximately constant for $0.00 < \text{SDOB} < 0.55 \text{ ft/(lb TNT)}^{1/3}$ explosive events in poorly consolidated geological materials, whereas the crater depth/radius ratio increases by a factor of two with increasing SDOB.

Further experiments in a variety of softrock and hardrock materials would permit parametrization of the mapping exponent c for the bulk of the ejected material in terms of the physical properties of different earth media. Such a functional form for the mapping exponent could be used to quantitatively predict the postshot range of explosion crater ejecta as a function of its original position, the event SDOB, and the physical properties of the target or test medium.

(2) The coarsest fraction of explosion crater specta derived from unconsolidated geological materials will be translated to ranges which are much greater than the radial throwout distances which characterize finer-sized material initially situated in a similar preshot position. Values of c in the previous power-law expression, which describe the translation of this coarse-size fraction, lie in the range $c = -4.0 \pm 1.0$.

A comparison of the behavior of groups of artificial pellets emplaced within quartz sand demonstrates that (a) the translation of coarse material at near-surface levels is more highly variable than the translation of coarse material at intermediate levels for a particular type of event (that is, SDOB = constant), and (b) that with increasing SDOB, the translation of coarse material from near-surface levels is more strongly attenuated than the translation of coarse material originating at intermediate levels within the crater of excavation. These results imply that shallow bursts in poorly sorted unconsolidated geologic materials may eject significant amounts of blocky fragmental material well beyond the range of the continuous ejecta deposit. Further experiments in unconsolidated materials with different ranges of particle size would permit parametrization of the mapping exponent c for the coarsest ejecta-size fraction in terms of the degree of sorting of such materials.

(3) This study suggests that the lateral translation of coarser fractions of explosion-crater ejecta derived from unconsolidated geological materials may be maximized at a particular SDOB. Such a critical SDOB for the translation of the coarse-sized ejecta should not necessarily correspond to the SDOB producing maximum crater volume. The artificial pellets and quartz sand fill materials

all the basis terms of

suggest that this critical SDOB $\approx 0.15 \pm 0.05$ ft/(lb TNT)^{1/3} for small explosive charges (1- to 10-lb TNT equivalent). Current understanding of the relationship between crater excavation and the process of ejecta deposition implies that the development of rays, and fragment chains and clusters within the zone of discontinuous deposition should be extensive for explosive events conducted at such ccritical SDOB.

The threat that natural missiles pose to a nearby target surface is proportional to their size and velocity. Thus, a major conclusion of this study is that knowledge of the average translation of the bulk of the ejected material places a minimal constraint on the siting of "safe" surface structures. More realistic siting criteria should be based upon the translation of the coarser fractions of the explosion crater ejecta deposit.

(4) Models of ejecta translation can be combined with models of energy distribution and stress wave propagation in order to predict the post-event location of material which has experienced various degrees of shock metamorphism. This material can then be sampled directly within the ejecta deposit and its post-event strength and physical properties can be studied in the laboratory in detail. In turn, improved understanding of how specific shock stress histories change the measurable physical properties of geological materials will make it possible to employ individual ejecta samples as in-situ barometers which reflect transient stress conditions within the crater at the time of formation. Ultimately, knowledge of the initial stress distribution produced by the explosive event and the postshot distribution of stress-induced physical property changes in the ejected material will supply the quantitative boundary conditions required for a comprehensive model of ejecta translation.

(5) Caution is required in extrapolating the results of this study of explosion crater ejecta to the case of impact cratering. Oberbeck¹⁷ and Baldwin¹⁸ have demonstrated the similarity of crater dimensions, ejecta cloud growth, and subcrater deformation which can exist between craters formed by impact and craters formed by explosions within a limited range of SDOB. However, Oberbeck¹⁷ has also demonstrated that projectile velocity critically influences impact crater dimensions and subsurface deformation. Projectile velocity may also critically influence the lateral translation of impact crater ejecta. The results of this study indicate that changes in the shape of explosion craters and the role of compressional deformation in crater formation do not severely change the observed translation of the bulk of the ejecta excavated by a variety of near-surface explosive cratering events. Since shallow SDOB events (SDOB = 0.25 ± 0.10 ft/(lb TNT)^{1/3}) provide an approximate analogy to the features of impact cratering mentioned above, this study tentatively supports the concept that the lateral translation of impact crater ejecta normalized to crater radius may be approximately uniform over a range of crater size and impact conditions even though impact and explosion cratering events are not identical phenomena.

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Appendix A

Field measurements of crater dimensions and pellet preshot and postshot ranges are presented in tabular form in this appendix. Table A1 serves as an index to the listing of the field data contained in Table A2. Table A1 can be used to identify the pellet groups employed in a specific experiment and provides data on pellet emplacement and the configuration of the explosive charge. Table A2 lists the preshot and postshot distances of individual pellets (measured from surface ground zero) and the results of a least-squares fit to the power-law expression discussed in this report [see Eq. (1)] for groups of pellets initially emplaced at a common depth beneath the original ground surface.

The explosion experiments are listed chronologically in both tables. In cases where incomplete or unreliable pellet data was returned from a specific experiment, it is not included in Table A2, although a description of pellet emplacement, charge configuration, and crater dimensions is provided in Table A1.

Guide to Table A1

DATE - date upon which the experiment was conducted.

EXPLOSIVE DOB (M) - explosive depth-of-burst (DOB), measured in meters from original ground surface to center of the explosive charge.

EXPLOSIVE TYPE - explosive material, see Table 2 in the text of this report. EXPLOSIVE WT (LB) - explosive weight in pounds.

EQUIVALENT TNT WT (LB) — equivalent weight of a TNT charge in pounds. see Table 2 in the text of this report.

SCALED DOB — scaled depth-of-burst (SDOB) of the explosive charge determined by dividing actual charge depth-of-burst by the cube-root of the equivalent TNT charge weight (SDOB measured in ft/(lb TNT)^{1/3}).

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Appendix A

PELLET DEPTH - depth of emplacement of a group of pellets measured from the original ground surface presented in centimeter and inch units.
PELLET TYPE - a description of the pellet material, see Table 1 in the text of this report (Al represents aluminum alloy pellets).
CRATER RAD (M) - crater rim crest radius measured in meters.

CRATER DEP (M) – crater depth measured from the rim crest in meters.

Guide to Table A2

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Experiments are referenced by an identifier phrase which gives DEVENS as the experimental site followed by the experiment date, charge weight, <u>approximate</u> description of scaled depth-of-burst, pellet type, and pellet emplacement depth. Crater rim crest radii are presented in meters. The variable x refers to preshot pellet range; r refers to postshot pellet range (both measured from surface ground zero). A least-squares fit to the power-law expression discussed in the text [Eq. (1)] is presented beneath a tabular listing of the field measurements. (The first number after the = sign is a multiplicative factor; the second number represents the exponent c in the power law expression.) The correlation coefficient represents a measure of goodness-of-fit; a value of 1.000 is indicative of an 'exact' fitting of the data.

DATE	EXPLOSIVE	EXPLOSIVE	FXPLOSIVE	FOUTVALFHT	SUALFO	PFLLEI	FFLLET	PELLET TYPE	CRATER	CRATER
·	008141	TYPE		TNT WTTEPST	107	*****	THINKING			TRI 430
100173	0.000	HI-VFL	5.000	4.250	0.080	5.08	2.01	GREEN GLASS	.641	.287
100173	0.000	HI-TFI	5.787	4.257	0.000	7.67	7.00	SRFEN GLASS	. 841	+287
106173	0.000	HI-VEL	5.700	6.250	6.000	5.08	2.00	NRANGE ACPTLIC	.841	. 287
TOLITS	7.000	MI-VIL	5 640	N.279	0.000	10.16	3.00	CRANCE ACPTLIC		.207
	0.000		* ******	10 10 10 10 10 10 10 10 10 10 10 10 10 1	1.000			CAPITAL CLASS		
1800173	8.000	HT-WEL	10.000	A.599	0.000	5.08	2.00	GPFFN GLASS	1.012	.381
1900773		HT-VEL	19.907	5.570	0.000	7.62	3.00	CREEN GUASS	1.117	. 38 1
190C T73	8.000	HI-VEL	11.010	A.537	9.109	2.54	1.09	ORANGE ACRYLIC	1.012	. 3 81
1000773	6.070	WI-VEL	17.000	P.570	0.907	5.84	7.07	CHANGE ACRYLIC	1.512	.381
1800173	0.000	HT-VFL	10.300	A. 403	0.008	7.+2	3.00	CRANGE ACRYLIC	1.412	.361
-1100773-			* ****	1 1.857	• 15 1	7.54	1.00	REU ACRAFIC	.677	.235
1100173	. 844	HI-VEL	1.011	. 150	• 151	5.04	2.00	ORANGE ACPYLIC	. 672	.235
1100173	. 844	HI-WEL	1.74"		.151	7.54	1.00	GALLN CLARS	.622	.235
1100173		H 1-4EL	7.000	1.734	.170		1.07	NO ALPYLIC		
1100773		41-4FL	3 8 6 6	1.707	.140	7.00	1.00	CREEN CLASS		276
1100173	****			2.997				New BERNITE		
1106773	8.000	H fe yEt	1.111	2.557	0.100	5.84	2.08	OPANGE ACATOLE	.738	.267
1100177	8.070	HT-771	1.000	7,559	0.101	2.54	1.00	GREEN GLASS	.738	.247
1100773	0.000	HI-VFL	4.781	3.403	0.000	2.54	1.00	AFF ACPYLIC	.792	.247
TIOCT71	0.010	M I- AE F	4.407	1.690	0.970	5.05	7.0*	ORANGE ACPYLT	.792	247
11 OC 17 3	0.000	H[-VFL	4.110	1.479	9.660	2.54	1.00	GREEN GLASS	.792	.247
-1000175 -	*****	47=VEC	1.907	• 1 1 *	7.787	19,86 T		ALC RCHAFTIC	.561	.177
1600173	0.007	H 1- V-L	1.101	.* 5 7	9.700	5.00	2.00	CRANGE ACRAFT.	•561	.177
1800 773		MT-V"1	1.00*	. 451	4.404	7.55	1.77	SHE FW REASS	. 561	.177
1600773	0.000	HI-VFL	2.001	1.700	0.000	2.54	1.07	MEC ACMALIC	.719	.213
TRUCTYS	4 1 2 2 4	HI-WFL	2.709	1	a		2.07	CRANGE ACMALIC	./19	.213
16001/3	0.000			2.73	9.707	· • •		GREEN GLASS		.213
1600173	.062		1.000	2.551	. 149	5.00	2.60	CRANGE SCRUITC	.914	.244
-1800773-	.942	# 2-971	1.101	7.999	.169	2.54	1. 67	GREEN GLASS		
160CT73	. 169	HI-VFL	4.770	1.4.11	.151	2.54	1.00	PED AGRYLIC	1.112	.381
1800177		HT-TFL	4.998	7.477	.159	5.98	2.97	ONANGE RENTLIC	1.012	. 381
1606173	.069	HI-VFL	4.000	3.471	.150	2.54	1.03	GREEN GLASS	1.012	.361
-1000779-	****	*******	2.997	1.777	.178	7, 55	1.27-	PAN BUATEIC	.705	.259
160C 773	.059	41-VFL	5.000	1. 209	. 150	5.08	2.00	ORANGE ACRYLIC	.70%	.259
1800771		₩2-7FL	7.9*7	1.700	.158	*,*\$	1.07	CHAER UFAR	.784	.259
34.P# 74	.114	H 2-VE L	5.131	4.253	.711	5.08	2. 83	REC ACEVLIC	1.024	. 4 3 9
- 38PR74		#1-¥*1	9.909	4,799	.711	7.67	3.07	PRANCE SCALLC	1.925	.639
JAPR74	.184	HI-VEC	5.310	4.751	.711	5.04	2.09	VFLLCH GLASS	1.024	.439
			4,477	4,299	.422		7.07	ALC NCAAFIC	1.183	.527
JAPR74	.208	HI-VFL		4.257		7.42	3.09	CWANGE ACPYLIC	1.143	.527
	.277	4 I-471	9.775			7.07	2.07	TFLEOW GLASS	1.183	
JAPE76	.254	41-441	5.999			2.95	2.01		1.200	
A NINE 74	264		5 000	. 75.0	6.16	5.08	2.40	BUNE GLASS	1.259	.710
			*:***	4.297		7.80	7.00	PROFE DE SS		
19,000 776	0.001	HT-1+L	5.207	6.251	0.002	2.56	1.03	FFC ACPILIC	.514	.171
-19.01174	*. ***	# t- 7* t	9.977	4.789	5.909	2.24	1.07	PPCHN GLASS	.518	.171
19JUL 774	0.000	Ht-150	5.110	4.750	0.000	<.0A	2.07	PLUF GLASS	. 518	.171
19301774	- 8.848	#1-Y*L	9.341	4.257	7.111	2.54	1.07	AL		.171
19JUL775	0.007	H[-V[5.900	4.258	*. 748	5.88	7.00	PL .	.518	.171
-31-000-774-		···# f=##t		. * * 1	. 78 7	*_ ***	····· 1. *** ····		.622	.241
31 JUL 774		HT-VFL	. 141		.26 ?	5.04	2.01	REP ACPYLIC	. 622	.241
-71-302 994		- T- V* L		,	. 76.7	7.54	1.77	TUT 58155	.672	.241
31 JULY74	.055	41-VFL	. 189	.121	. 26.2		7.00	HACAN CLAZE	-622	.241
TIJUCTI		₩ Y• Y* L				- 5	¥.00	<i>"</i> L		241
31JUL774		4 T- VF L	. 387	. ***	. 24.2	5.00	2.01	AL .	.672	.241
31 JUL 774	; 9 99	#1-7FE	. 7.8"	.***	.757	7.87	T. 27	1	.572	-241
105EPT76	0.400	<u>6</u> 4	1.777	1.399	0.000	2.54	1.07	. AL	.658	. 329
TUSEPTIN	0.007		1.707	1.777		7.57	3.07	4	.558	.329
18369774	0.011	F4	1.001	1. 101	9.909	11.43		*L		.329
TOSEPT74		F 6	1.707	1. (77	.779	7.54	1.07	41	.713	.3.7
18.26 b1.14			1.907	1.137	* (24	****	5407			
1843FFT74	. 152	C 6	1.000	1.399		2.56	1.00	AL .	.841	.451
	• 1 7 C		1.889	1.708	458	7.67	3.07			
18SEPT 74	. 147	6.	1.004	1.399	.45A	11.43	4.50	*	.841	.451
-18329174		FA	1.000	1.300	. 74 4	7.54	1.00	-===		.379
14 SE PT 74	.114	64	1.000	1.344	. 144	7.42	3.01	AL	.799	. 329
-1032PT PV			1.000	1.399		17,78	5.07		.799	
25 SEPT /A	8.800	C %	1.100	1.439	0.000	2.54	1.00	AL	. 652	. 305
-29329774-	8.883	····**	1.137	1.6 40	0.001	5.00	2.00		.652	.305
255EPT /4	.976	<u>C4</u>	1.107	1.631	.222	2.54	1.01	1	.759	.305
-27327174	. 178	C4	1.107	1.577	.777	5.05	7.00	R	.759	. 302
25SEPT74	.075	64	1.100	1.430	. 222	7.67	3.07	<u>مر</u>	.739	.382
	.197		1.197	1.417		7 4 7	7.00	A1	.860	104
473271/4	. 172	- U.S. 	1.4170	1943) 1.247		10.16.	L.88			
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			1 + 1 7 7	1 4 4 1 9						

## Table A1. Index to the Listing of Field Data in Table A2

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PELLET DEPTH	TTSLU, HAL	FUUR 1801GA	EEN GLASS,2	INCH	GRATE	R RADIUS(RC)= .841 HETERS
	PR	E SHOT PELL	ET RANGES	POSI	SHOT PELL	ET RANGES
FIELD ONTAT	HETERS	<b>17</b> PC	10010147807	HETERS	#74G	C06141×/#C1
	.385	.3823	44891	23.997	28.5294	1,49923
	.341		26482	7.397	6.41J# 1.8687	
	.533	.6341	19787	1.568	1.8877	. 27593
	.918	.724+	13988	1.378	1.6377	+51453
LST 30 P17 TC	: LOG~LOG	EQUATION	(*/4C) =	. 77 0+6 x/#*} +1		CORRELATION COPPLICIENTS - 19217
DEVENS 100775	119 <b>1</b> 4, WAL	F-AURIFDIG	FEFN GLASS, J	TNCH	CRATE	R RACIUSIRGI= .841 WETERS
PELLET DEPTH	OF HURTA	L = 7.4 FSWAT #F11	284 68 884684			61 BANGER
FIELO DATAL	X	N/RC	LOGIOCHIECH	R	R/ RC	10618(#/#C)
	HPTERS	14.71		HETERS	1	L7701
	. 381	.4529	14400	2.364	2.8152	. 44951
	. 457	. 54 35	26447	1.596	1.6596	. 21996
LST SQ FIT TO	LOG-LOG	EQUATION	(P/RC) ș	.775+( 1/#C) +	-1.799	CORRELATION COEFFICIENT= .000
		F - A-10 1 F B + A				
PELLET DEPTH	OF BURLA	L = 4.4	ACH	1 1 2 1 4 · 4		
		ESHET FILL	FT PANGES	POSI	SHOT PELL	FT PANGES
FIELD DATAS	NETERS	*****		HETEPS	R/WF	
	.305	. 3623	44991	11.777	16.3768	1.21973
	- 301	. 4 5 2 9	34408	4.292	5.1014	.78769
	.533	.6 7 . 1	19787	1.04*	1.2474	. 594 39
ST SQ FIT TO	105-106	FQUATION	(#/961+	140*11/#01**	-4.630	CORFLATION COEFFICIENT= .9970
	- 185 - 385 - 381 - 197	. 9629 .4529 .5999	64591 54600 26882	461643 4.144 1.244 1.189	1.7609 1.5299 1.4139	.47424 .1444 .19016
197 98 F17 T0	106-106	EQUATION	(R/9C)=	.276*(1/#C)**	-7.474	COPRELATION COEPFICIENT= .9230
EVENS 100773	ISLA, MALI	F-RIRTENIN	FANGF ACPYLI 704	566 ENGH	CHATE	• RADIUS(RC)= .841 METERS
	PR	54CT PFLU 1/90	T PANGES	P()91 D	SHAT PELLI	FT #14GES
	HFTFRS			HETERS		codia (P) = C1
	.305	.3677	44991	1.817	2.1594	. 336 36
	105-105		10/003-	202044400100		
	C-95+ C00	CONTRACTOR	(0)0(11		-1.470	COMMENT WITCH COSENTICIENTS 1-0000
DEVENS 100CT7	3110L0,H	ALF-8UFIER:	IGREFN GLASS, New	1 INCH	CRATE	R PADIUS(PC)=1.011 NETERS
	PR(	SHCT FELL	T PANGES	P05T	SHOT PFLLE	T PANGES
TELO DATAT	NFTERS	1/47	FORIA (# )#C	HETFOS	R/RC	L0610(#/#C)
	. 18 1	. 3767	42.197	39.466	19.8215	1.59133
	-457	.4521	34479	23.314	21.0530	1.36273
	.610	.6028	71985	9,104	9.8024	. 95436
	.446	.6781	16869	4.867	4.8871	
	.762	.7535	12294	1.701	1.6417	.22576
LST SQ FIT TO	106-106	FOULTION	(#/RC)= .	787*(¥/RC) **	-4.231	CORRELATION COEFFICIENT: . 9696
	3110L8,0	<b>LF-</b> AUK[FN:	IGPEEN GLASS,	7 INCH	CRATF	R RADIUS(RC)=1.011 METERS
		L= 5.91	PCH .			
DEVENS LOOTT7 PELLET DEPTH						
DEVENS 100177 PELLET DEPTH	99) T	SHOT PELLI	T #446FS	PUST P	P/BC	
DEVENS 100577 PELLET DEPTH PTELO NATPT	T HETFRS	TSHOT PELLI	1 #14575 LOG11(#/#5)	POST # 4576#5	P/RC	LnG1((P/#C)
DEVENS 100017 PELLET DEPTH PEELO DATPT	**************************************	FSHOT PELLI V/KC +6521 -6224	T #44575 LOG14 (#/#5) -,14474		10.3014	LING1((17/90)
DEVENS 100777 PELLET DEPTH PEELO MATPT	* * * * * * * * * * * * * * * * * * *	FSHOT PELLI V/KC .6521 .5274 .4828	FT #ANGTS LOG11 (¥785) 14474 27784 21985	POST P NETERS 10.419 5.471 1.966	10.3014 5.4099 3.9241	LnG1(10/90) 1.01290 .73319 .93973
DEVENS 100117 PELLET DEPTH PEELO MATPT	T	5HOT PELLI V/87 .6521 .6274 .6020 .6741	T # ANGES LOG14 (#/#5) 74659 27786 21985 16864		10.3014 5.4099 3.9241 1.7024	1.01290 -73319 -74117
DEVENS 100777 PELLET DEPTH PTELO NATAT		FSHOT PELLI V/87 .6521 .6274 .6781 Eguation	(P/9C)+		++++++++++++++++++++++++++++++++++++++	Log(()+++++++++++++++++++++++++++++++++++

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Table A	2. Pres	shot an	d Postsh	ot Distand	es of l	ndividual Pellets (Co	nt)
	1110L P.HAL	r-8us 1f 7; G	REFN GLASS.	1 1NCH	CRATER	RADIUS(VC)+1.011 HETERS	
PELLET DEPTH	OP AURTAL	x J.A7" HET FFLLFT	***********	POSTS	HOT PALLET	P476F5	
FIELD DATAT	¥	¥/∜( L	6111X/PC1	4	Prac C		
	NETERS			19.766	19.0506	1.27991	
	.229	.2760		14.602	14.2405	1.15351	
	. 30 5	.3014		7.438	7.4511	. 87235	
* 1	581		. 16679	3.100	1.0651		
			+ .27/84	2.347	2.3207	• 36ff 1	
	410	6924	- 1944	1.951	1.9289	.24510	
			• •			PORTE ATTON CORFERENTE	9779
LST SO FIT TO	1 LOG-LOG F	NU 41 JUN	{D/9C}= .	676* ( <i>1700</i> )**	- 3.697	FUNNYLATION COMPTETING	
		5 - 5 10 1 F 1 * 1	PANGE APRYL	10.1 1504	CRATER	RAD INS CHOSE 1.011 METERS	
DEVENS INUCIA	************	2 7.56			_		
PELLET OFFICE		HOT PELLE	#ANG	P1515	MOT PELLET	PANGES	
TTTT O GATAL	4	1/90 1	0610147801	<b>P</b>	47¥C L	acture sec.	
	MFTFRS			****		1.24729	
	. 185	. 4014		10./17	10.7071	1. 21790	
	. 581	. 3767	62397	15.703	12.4767	1.09434	
	.457	. 4521	-,36670	10 078	9, 11.26	. 94619	
	.533	5275		6 776	6771	. 75374	
	.619	.6078		1.911	1.8577	.5Ab 33	
	. 686	.67+1	1-1-7	1 6 7 6	1.6576	.21949	
	.762	. 75 35		1.163	1.1352	. 05546	
	• R * A	10200	*****				
LST 50 F11 T	0 LOG-106 E	EPLATICN	(#/#C)= 1	, C 19+ ( ¥ /9/ ] ++	-7.874	CORRELATION COFFFICIENTS	. 9371
			ALANES AFAN	10.2 THEM	CRAIFS	PACTUS(#C)=1.011 METFRS	
DEVENS 100CT	71110L8,HA	LF-8061FD:	CMANCE REAL	LI . L40-	0		
PELLET DEPTH	Gh. stimItr		1	P1ST	SHOT PELLE	7 PANGES	
		3467 FFLCF V467	106111177961	e i	87 RC	LOG18(#/PC)	
FIELD DATES				₩E 7E 84			
	10104	1010		17.684	17 864	1,24279	
	.107			4.445	8. 1994	. «24.24	
				7.689	P.4151	. 85 4 7 7	
		6776	27746	4.747	4.2144	.A7525	
	.,,,,	40.74		947	1,9730	. 491 39	
		6.7.4.1	- 16469	2.215	2.1911	, *68KF	
		75.15	. 1 7 7 9 6	1.274	1.2548	.10031	
	• / ** *	••••					.9768
1 <del>31 30</del> PTT 1	C 195-196	<u> entaline</u>	(#/RC)=	. 752* [ */ #C) **	-2.918		
					CRATIS		
DEVENS 10007	73110LR.H4		11 - A MUT - M1 - 7 7 2 M		-		
PELLET OFPTH	OF GODIAL				SHOT PELL	F ###GF5	
			LCGIBIN/PC1	R	R/RC	LOGIO(P/PC)	
FIELD DATAT			L'action of	#E7F85			
		1240	- 66582	11.4?5	11.6978	1.06796	
		1016	- 529.88	5. 952	4.7752	.83892	
	. 10-			2.941	2.9496	. \$7175	
				2.155	2.1304	. 22858	
	41.0	.6878	1985	1.111	1.0066	.03287	
							0.706
LST 50 F17	C LOG-LOG	FOLATION	19/901*	.351*14/903*1	-2,154	CORRELATION COLOR IN LENT-	
<ul> <li>The second second</li></ul>				T THE	CRATE	R PADIUS (PC) + . NO? METERS	
DEVENS 1100	, /1;1(",")!! u ne miotei		6 (19) 6 (19)	•	-		
PELLET DEPT			T DANKES	PCS	TSHOT PELL	ET BANGET	
		y #00	1001914/00	, e	9/85	1061018/50)	
AIGTG GRAPS							
		2669		15.001	74.5685	1.69732	
	• [ 7 7	. 34 1 1		4.10	11.0264	1.11681	
		6.857		1.113	1.7475	.25224	
	. 177		21115	.935	1.4545	116270	
	171			-			
LST SQ FIT	<b>10</b> 196-L96	FOILATION	( 0 / 0 ( ) 2	.26441674634	• -1.451	COMPETATION COLLETCIENCE	, 4740
						# PADIUS(#C)+ .622 METERS	
DEVENS 1100	77311L8,FU	LL BUPIER	1977 ANN AGPY Afgin	ETCHT IM			
PELLET DEPT	N OF 9UPTA				TTHOT PELL	FT BANGES	
	P#	» չուն թեն։ Աման	1051811/00	a ₽.	#/#C	LOG18(P/RC)	
FIELO DATA		2700		HETER	-		
	161543			9.585	15.6016	1.18758	
	.176	. 1413		4.770	7.6641	. 88446	
			11006	1. 151	2.1743	. 73737	
						CORPERATION COFFEELST FUTU	.9859
111 1 111	TO LOS-LOS	TOUATION	(#/RG) #	. 362°( ¥/ ₩C) *	-2.747	POHALEN ITON POEL TOTENIA	

TTALLE UT PID	OF BUST		GURFFN GLASS Glow	1.1 THCH	CRATE	# #ADJUS(RC)# .672 HETERS	
FTFLE DATAS	•••=P	NESHO1 PELI	LET RANGES	P0\$1	SHOT PELL	FT RANGES	
	NETERS			RETERS			• • • • •
	.152	. 2449	61109	24.613	19.5446	1.59709	
	.229	.3673	43499	9.987	15.0347	1.20516	
	. 305	.6121	71315	4.00N .894	1.4447	.00007 .15977	
157 50 917 7	C-LOG-LO	FOURTION :	(#/80)=	. 389*( 1/80) **	- 3. 492	CORPELATION COFFFICTENTS	96
DEVENS 110CT PELLET DEPTH	DF NURT	JLL ¶UPIE∩: NL #	IEFN ACPYLIC Iefn	,1 INCH	CPATE	R PADIUS(RCIN .A41 HETERS	
	P1	PESHET PFLI	FT RANGES	#051	SHOT PELL	ET RARGES	
FIELD DATAT			C.C.C.T.S.E.C.M.C.	,	W/ W1	LOCIERANCI	
	. 305	. 3673	44091	48.615	57.7899	1.76185	
	. 18 1	4420	34408	25.944	30.7971	1.44651	
	.457	.5435	26482	12.040	14.3116	1.15569	
~		.4341	19787	2.448	7.9094	.96301	
	.610	.724f	1398#	1.052	1.7500	.09691	
LST SQ FIT TO	0 106-106	FOUNTION	(R/2C) =	.75 (* (*/RC)**	-5.692	COPRELATION COEFFICIENT=	.97
				. 1.6			
PELLET DEPTH	CF 10014	11 T F.F	FT PANGES		SHOT PELL	FT FANCES	
FTELD DATAS	x	¥/90	1051714/+0	) 0	R/PC	LOGIN(P/PC)	
	METERS			METERS			
	.229	.2717	- , 9 # 5 A K	18.984	66.34DF	1.66596	
	. 305	.3623	46791	16.736	19.8913	1.79866	
	. 181	.4579	- 344 90	4.321	9.8911	.99525	
		• • • • •	/	1.21	T. F.4 06	• > 3 4 4 0	
LST 50 FIT TO	106-106	EDUBTION	(#/9C)=	.526* 61/001**	-1,503	CORRELATION COEFFICIENT:	•99
PELLET DEPTH PIELO DATAI	0F 99914 PR ¥	L # 2.5 ESHUT PFLL X/50	6CH FT PANGES LOG14EN/PC:	P()ST	SHOT PELL R/RC	FT PANGES LOGI C(#/#C)	
	. 175	.362*		46.917	67.6812	1.83867	
	. 36 1	.4520	14400	22.144	26.1225	1.42033	
	.457	. 5435	26482	7.274	5.5070		
	.533	.6241	19747	4.054	4.8188	. #8294	
	.533 .610	.6241 .774F	19747 17948	4.054	4.818A 7.2783	. 23394 . 28294 . 34297	
L <del>ST SI PIT</del> TO	.533 .610 tog=tog	.6241 .774F 20187304	19747 19747 (R/RC)=	4.054 1.875 .470*(*/*C)**	4,8184 7,2781 -4,941	. 13304 . 48294 . Super Corrections	.99
157-51 PTT TO	.533 .619 1 EOG-EOG	.6341 .774F TOUSTION	19747 19747 (R/RT)=	4,054 1,875 ,470*{*/*C}**	4,8188 7,2783 -4,941	- 73384 - 68794 - 34797 CCPRFLATION COFFFICIENT* -	.99
LST ST PIT TO DEVENS 110CT 7 PELLET DEPTH	.533 .610 1 tog=tog 31319,MA OF HUR1A	.6241 .724F POISTION LF-PUEIFDI L # 2.5 PSHOT PFLU	19787 19787 (#/RC)= (#/RC)= (#/RC)=	4.054 1.875 .670*(4/403**	4.8188 7.2281 -4.941 CRATE	-73384 -68794 -34797 COPRELATION COFFFICIENTY - R RADIUS(PC)+ .737 HETEPS	- 199
LST SI PIT TO DEVENS 110CT P PELLET DEPTH PIELD DATA1	.533 .619 7 106-106 731319,44 0F 40814 	.6241 .724F EQUATION LF-PUEIFDI L # 2.5 FSHOT PFLU X/90		4,044 1,875 .470+(4740)++ .1 140+ 	4.8184 7.2283 -4.941 CRATE SHOT PELL P/90	- 73384 - 68794 - 34797 CCPRELATION COFFFICIENT R RADIUS(PC)+ .747 HETER ET PANGES LOGIO (PC)	
LST SI PIT TO Devens 11007 P PELLET DEPIN FIELD DATAT	,533 ,610 I LOG=LOG I LOG I LOG=LOG I LOG I	.6241 .7246 EDISATION LF-PURIFOI L 2.5 SHOT PTLL X/90	19747 19747 1988 (#/#73# \$70 8009110; 570 80084 10610(2/FC)	4,054 1,875 ,670+(7/40)+* ,1 147H ,	4.8188 7.2281 -4.941 CRATE SHOT PELL 0/90	- 73384 - 6824 - 34797 CCPRELATION COFFFICIENTE R RADIUS(PC)= .737 HETEPS CT PANGES LOGIO(P/RC)	
LST SI PIT TO DEVENS 110CT 7 PELLET DEPTH FIELD DATA1	,533 ,610 1 106-106 231310,04 0F HURIA 0F HURIA 0F HURIA 152	.6341 .7246 201337104 LF-PUSIENI L 2.5 75407 PTLL X/90 .2069	19747 17988 (8/803# (8/803# (9/803# (9/803# (9/803# (9/804 (3/804 (3/804 64431	4,044 1,875 ,4704(4/40344 ,4704(4/40344 ,4704 ,4704 45,441	4.8188 7.2281 -4.941 CRATE SHOT PELL 9/90 41.2887	- 73384 - 68794 - 34797 COPRELATION COFFFICIENTY - R RADIUS(PO)+ .737 HETEPS ET PANGES LOGID(P/PC) 1.79035	-99
LST SI PIT TO DEVENS 110CT 7 PELLET DEPTH FIELO DATA1	.533 .610 EUG-LOG SITL9, HA OF HURIA .152 .229	.6241 .7246 FOURTION LF-PUETEON L 2.5 SMOT PFLU X/90 .2069 .3103	-19747 -119747 (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)= (#/RE)=	4,044 1,875 ,470+(4/40)++ + + + + + + + + + + + + + + + + + +	4.8184 7.2783 -4.941 CRATE SHOT PELL 9/90 41.7887 29.4787	- 73384 - 68294 - 34797 CCPRELATION COFFFICIENT R RADIUS(PC)+ .747 HETEPS ET PANGES LOGID(P/PC) 1.79035 1.46951	
LST SI PIT TO Devens 11007 P Pellet Depin Pielo Datai	.533 .610 7 106+106 7 106+106+106 7 106+106+106+106+106+106+106+106+106+106+	.6241 .7246 .7246 .70187 [DW .00187 [DW .2.5 .5007 .9711 .2069 .3103 .4137	-119787 -11988 (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)= (4780)=	4,054 1,875 ,470*(4/403** )1 140* 	4.818A 7.2783 -4.941 CRATEL SHOT PELL 0/90 41.7887 29.4787 11.8535	- 73354 - 6874 - 34797 CCPRELATION COFFFICIENT R RADIUS(PC)+ .737 HETEPS ET PANGES Logio (#/#C) 1.79035 1.79035 1.07385	
LST SI PIT TO DEVENS 110CT 7 PELLET DEPTH FIELD DATAT	.533 .610 F LOG=LOG OF HURLA OF HURLA NFTEPS .152 .229 .305 .771 L	.6241 .7246 TOTIST TON L 2.5 SHOT PFLU X/97 .2069 .3103 .4137 .9177	-1977 -11978 (4/87)= 670 800710; 670 800710; 670 80074 10610(2/FC) 68431 -58027 -1972 28617	4,044 1,875 .4704(4/40)+ .4704(4/40)+ .4704 .4704 .4704 .4713 .4713 .4713 .4713 .4713	4.8184 *.2783 -4.941 CRATE SHOT PELL 9/90 41.7837 11.8535 6.6418	- 73384 - 68794 - 34297 COPRELATION COFFFICIENT* - R RADIUS(PO)+ .737 HETEPS 27 PANGES LOGID(P/PC) 1.79035 1.44481 1.07305 - 67207	.99
LST SE PIT TO DEVENS 110CT D PELLET DEPTH FIELD DATAS	.533 .610 FLOG=LOG CF HUR1A .152 .229 .305 .771 .457 .437	.6241 .724F FOIJAT TON LF-PUETED1 L 2,5 SHOT PFLL X/PC .2069 .3103 .4137 .9177 .6296	-1977 -11978 (4/803 (4/803 (7) 081024 LOG-1012/60 -58427 -19126 -27817 -28451 -28451 -28451 -28451 -28451 -28451 -28451 -28451	4,044 1,875 470*(*/*C)** 1,470* 	4.8184 7.2283 -4.941 CRATEL 6/90 41.28635 6.6418 2.0273	- 73384 - 68244 - 34797 CCPRELATION COPPFICIENT R RADIUS(PC)= .737 HETEPS ET PANGES LOGID(P/PC) 1.29035 1.49355 .27497 .30492	.99
LST SI PIT TO DEVENS 110CT P PELLET DEPTH FIELD DATAT	.533 .610 F LOG=LOG OF HUR1A OF HUR1A .157 .229 .305 .791 .457 .510	.6241 .7744 FOURT TOW LF-PURTFOR L= 2.5 THOT WFLL X/97 .2069 .3103 .4137 .6276 .7241 .6277	-1977 -11978 (4/803 (4/803 (7) 081024 LOG1012/00 -58027 -19126 -28617 -2919 -19026 -28617	4,044 1,875 470*(*/*C)** 1,170 	4.8184 7.2783 -4.941 CRATEL 0/90 41.7847 11.8535 6.6418 2.0273 1.757	- 73384 - 68744 - 34797 CCPRELATION COFFFICIENT CCPRELATION COFFFICIENT CCPRELATION COFFFICIENT R RADIUS(PC) = .747 WETEPS ET PANGES LOGIO(P/PC) = .747 WETEPS ET PANGES LOGIO(P/PC) = .747 WETEPS ET PANGES LOGIO(PC) = .747 WETEPS ET PANGES ET PANGES	.99
LST SQ FIT TO DEVENS 110CT 7 PELLET DEPTH FIELD DATAT	.533 .610 F COG-LOG SISLO, MA OF HURIA OF HURIA SISLO, MA NFTERS .152 .729 .535 .515 .610 F LOG-LOG	.6241 .7244 .7247 .7247 .7247 .7247 .7269 .3103 .4137 .4137 .6277 .6277 .6277	-19787 -11988 (4/803 ± (4/803 ± (4/803 ± (50 ± 2/00 ± -64 ± -64 ± -64 ± -75 ±	4,054 1,875 470*(*/*C)** 51 100 H HETEOR 45,461 21,717 4,731 4,721 1,494 ,797 1,494 ,797	4,0104 7,2781 -4,961 CRAT() SHOT PTLL 0/9C 41,7867 79,4787 11,0757 -1,146	- 73304 - 68704 - 34797 COPRELATION COFFFICIENT* - R RADIUS(PO)* .737 HETEPS ET PANGES LOGID(P/PC) 1.79035 1.44481 1.07355 .67497 .3187 .03170 CORFELATION COFFFICIENT*	.98
LST SI FIT TO DEVENS 110CT P PELLET DEPIN FIELD DATAT	.533 .610 I COG-LOG 	.6241 .7744 20138 104 LF-PU01601 L = 25 SNOT FFLU X/97 .2069 .3103 .3103 .4137 .6276 .7241 .6277 .6277 .6277	-1977 -1978 -11988 (4/80)= frn Brovilo, Ern Brovilo, Ern Brovilo, -68451 -7847 -7847 -28471 -28471 -19024 (8/40)=	4,054 1,875 ,470*(*/*C)** 1 [*C* **********************************	4,0104 *,2781 *4,941 CRBT81 0/90 41,7887 9,4787 11,8535 6,6418 2,0273 1,1249 1,0757 *1,146	- 73384 - 68744 - 34797 CCPRELATION COFFFICIENT* R RADIUS(PO)* -737 HETEPS ET PANGES LOGIO(P/PC) 1.79035 1.79035 1.07385 .87497 .30492 .12187 .03170 CORFLATION COFFFICIENT*	. <del>79</del>
LST SE PIT TO DEVENS 110CT 7 PELLET DEPTH FIELD DATAT	.533 .610 F LOG-LOG 317L9,MA MFTERS .152 .729 .729 .305 .729 .305 .729 .305 .729 .305 .729 .305 .753 .610 F LOG-LOG STIL9,MAL	.6241 .7244 .7244 .7247 .7247 .2012 .2069 .3103 .4137 .4137 .4137 .4137 .6275 .6275 .6275 .6275 .6275	-19787 -11988 (4/873 # (4/873 # FF ACOVLIC, FF ACOVLIC, FF ACOVLIC, ICA-1012/FC 	4,054 1,875 ,470*(*/*C)** 4,70*(*/*C)** 4,745 4,745 4,743 4,743 4,743 4,743 4,743 1,494 ,743 1,494 16,7 [404	4,0104 *,2781 *,2781 *4,941 0/90 41,208 70,4787 11,0535 6,641 1,0757 *1,146 CRATF®	- 7334 - 8874 - 34787 CCPRELATION COFFFICIENT R RADIUS(PC)+ .737 HETEPS CT PANGES LOGID(P/PC) 1.79035 1.4645 1.4645 1.4645 .03170 CCRPFLATICN COFFFICIENT PADJUS(PC)+ .737 HETEPS - 00000	, 98 I
LST SI FIT TO DEVENS 110CF7 PELLET DEPTH FIELD DATAT	.533 .610 I COG-LOG 317L0,MA OF HURLA .152 .229 .305 .7152 .610 I LOG-LOG 117L0,MAL 	.6241 .7744 COURTON LF-PURTENT .2069 .3103 .4137 .4246 .7249 .6277 .6276 .7241 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6477 .6477 .6477 .6477 .6477 .6477 .6477 .6477 .6477 .6477 .6477 .64777 .64777 .64777 .64777 .647777 .647777777777	-1977 -1977 -1978 (4/80)= (4/80)= (0,00000000000000000000000000000000000	4,054 1,875 470*(*/*C)** 470*(*/*C)** *********************************	4,0104 7,2781 7,2781 6,4941 6,4941 6,4940 41,787 70,4787 11,0535 6,418 2,0273 1,1240 1,0757 -1,144 CQATTO 0,000	- 73304 - 68744 - 34797 CCPRELATION COFFFICIENT* R RADIUS(PC)* -737 HETEPS ET PANGES LOGID(P/PC) 1.79035 1.47961 1.47961 1.47961 1.47965 .27497 .3170 CORFLATICN COFFFICIENT* PADIUS(PC)* .737 HETEPS T PANGES	. <del>99</del> ,981
LST SI PIT TO DEVENS 110CT 7 PELLET DEPIN FIELO DATAT LST SO FIT TO NEVENS 110FT 7 FELLET DE FIT	.533 .610 FLOG-LOG 311L0,MA 0F-UPE X NFTEPS .152 .721 .523 .771 .533 .610 FLOG-LOG 111L0,MA 117L0,MA	.6241 .7244 .7247 .7247 .7247 .7247 .7269 .3103 .4137 .4137 .4137 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .6277 .741 .6277 .741 .6277 .741 .741 .741 .741 .744 .744 .744 .7	-19787 -11978 (4/803 # (4/803 # (4/8) # (4/8))))))))))))))))))))))))))))))))))))	4,054 1,875 470*(*/*C)*** 51 140 H HETPOR 4,713 4,723 1,494 ,793 1,494 ,793 1,494 .591*(*/80)*** 16,7 1404 	4,0104 7,2781 -4,941 CRATEL SHOT PELL 91,4787 11,0757 -1,148 CRATEN CRATEN CRATEN 0,671 1,0757 -1,148	- 73304 - 68744 - 34797 CCPRELATION COFFFICIENT R RADIUS(PC)+ .737 HETEPS P PANGES LOGID(P/PC) 1.79036 - 47491 1.07305 - 47491 1.07305 - 47491 1.07305 - 47491 - 03170 CORFLATICN COFFFICIENT PANGES LOGID(P/PC) T PANGES LOGID(P/PC)	.99
LST SI PIT TO DEVENS 110CT P MELLET DEPIN FIELD DATAT	.533 .610 F LOG-LOG S17L0,MA OF HURLA OF HURLA S0F HURLA .152 .224 .057 .225 .305 .225 .305 .225 .305 .225 .225 .225 .225 .225 .225 .225 .2	.6241 .7244 COVIATION LF-PUETENT LE 2.5 SMOT PFLL X/40 .2069 .3103 .4137 .4177 .6216 .7249 .6277 EQUATION F-FUETENTC 	-1977 -11978 -11988 (4/87)* Frn AcevLlc, Ke 77 Banges Locid (2/FC) -58427 -1974 -28477 -28719 -28477 (8/97)* (8/97)* Frances tocid (2/FC) -28477 (8/97)*	4,054 1,875 470*(*/*C)** *********************************	4,0104 7,2781 -4,941 CRBTEI 9/9C 41,787 70,4787 11,0535 6,8418 2,0273 1,1249 1,1249 1,1249 1,1249 1,1249 1,146 CRBTFI CRBTFI 0,910 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249 1,1249		. 99
LST SI FIT TO DEWENS 110CT J PELLET DEPIN FIELO DATAT LST SO FIT TO DEWENS 110TT 7 TELET DE FTH	.533 .610 I COG-LOG 	.6241 .774F 20138 104 LF-PUBIENT L = 2.5 5 NOT FFLU X/97 .2069 .3103 .4137 .4137 .4137 .4137 .4137 .4137 .4276 .2247 .627F .627F .627F .627F .500 FFLU X/97 .5401 FLU X/97 .241 .3103	1977 1977 1988 (#/#C)= srn_brovilo; bru (#/#C)= 64431 64431 64631 28647 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 28714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714 27714	4,054 1,875 470*(*/*C)** ** IMCH ************************************	4,0104 7,2781 -4,941 CRBTEL 9/9C 41,7887 79,4787 11,8535 6,6418 2,0273 1,1249 1,0757 -1,144 CRBTEP QRBTEP QRBTEP 31,7246 31,7264		.99
LST SI PIT TO DEVENS 110CT 7 PIELD DATAT LST SO FIT TO DEVENS 110CT 7 TELET DE PTH	.533 .610 FLOG-LOG 317L9,MA 05 HUGS-LOG NFTERS .152 .729 .305 .729 .305 .729 .305 .729 .305 .729 .305 .729 .305 .715 .715 .715 .715 .715 .729 .737 .757 .757 .757 .757 .757 .757 .757	.6241 .7744 .7744 .7747 .7747 .7012 7104 .2.5 .7500 .741 .2069 .3103 .4137 .7417 .7241 .6275 .7241 .6275 .7241 .6275 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .7241 .72411.72	-19787 -11978 (47873 - (47873 - (47873 - (47873 - (47610 (2776) -68431 -68431 -68431 -68432 -78738 -78738 -78738 (87873 - 18076 - -28457 (87873 - 18076 - -88451 -68451 -68451 -68451 -68451 -68451	4,054 1,875 470*(*/*C)** 47.400 47.400 47.400 47.400 47.401 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 4.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.743 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.745 7.74	4,0104 7,2781 -4,941 CRATE: 9/9C 41,787 11,0535 6,641 2,0273 1,7247 -1,146 CRATF! CRATF! CRATF! CRATF! 3/8C 1,0757 -1,146 CRATF! 2,781 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,265 -1,	- 7334 - 6824 - 74797 CCPRELATION COFFFICIENT* R RADIUS(PC)* .747 HETEPS CT PANGES LOGIO (P /PC) 1.74035 1.44491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491 1.4491	. 99
LST SI FIT TO DEVENS 110CT 7 PELLET DEPTH FIELD DATAT	.533 .610 F LOG-LOG JITLO, MA OF HURLA .152 .224 .305 .725 .305 .725 .305 .735 .610 F LOG-LOG T RIPTAL CF RIPTAL CF RIPTAL .227 .305 .152 .227 .305 .152 .227 .305 .152 .227 .305 .305	.6241 .7744 TOTAT TOW LF-PUETENT .2069 .3103 .4137 .6275 COULTINN F-FUETENTC .2069 .5103 .4137 .5172.	1977 1798 (4/87)= (4/87)= (4/87)= (0,10(2/40) 6847 7847 7847 7847 7847 7847 (8/87)= (8/87)= (8/87)= (8/8441 50427 2857	4,054 1,875 470*(*/*C)** *********************************	4,0104 7,2781 7,2781 -4,941 CRBTEL 9/9C 41,787 70,4787 11,0535 6,6118 2,0273 1,37247 1,0757 -1,144 CRBTFR 9/9L 4,765 31,767 1,4125 1,4125 1,4125 1,4125 1,4125 1,4125 1,4125 1,4125 1,4125 1,4125 1,4125 1,4125 1,4125 1,4125 1,4125 1,4125 1,4125 1,4125 1,4125 1,4125 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155 1,4155	- 73304 - 68744 - 34797 CCPRELATION COFFFICIENT* CCPRELATION COFFFICIENT* CCPRELATION COFFFICIENT* CCPRELATION COFFFICIENT* 1.70035 1.70035 1.70035 .27491 1.07305 .27491 .10170 CORFLATION COFFFICIENT* PADINSIRC1* .737 HETEPS 7 PAN(FS LOG10(P/PC) 1.4875 .5375 .5375 .5375	. 99
LST SI PIT TO DEVENS 110CT J PELLET DEPIN FIELO DATAT LST SO FIT TO NEVENS 110FT 7 TELLET DEPIN	.533 .610 FLOG=LOG 311L0, MA 05 - UUP1, MA 05 - UUP1, MA 05 - UUP1, MA 152 .729 .305 .305 .510 FLOG-LOG TIL0, MA 157 .533 .610 FLOG-LOG TIL0, MA 157 .533 .305 .305 .305 .305 .305	.6241 .7244 .7247 .7247 .7247 .7247 .7269 .3103 .4137 .4137 .6275 .7301 .6275 .7301 .6275 .7301 .6275 .7301 .6275 .7301 .6275 .7301 .6275 .7303 .6275 .7304 .7305 .7269 .3103 .6117 .5172 .5172	-19787 -1978 -11988 (#/#73 # #FF 8097110 -68431 -5827 -1972 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 (#/#73 # 16026 -38451 -58227 -38541 -58451 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28637 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -28757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -27757 -277	4,054 1,875 470*(*/*C)*** ********************************	4,0104 7,2781 -4,941 CRATE SHOT PELL 91,2487 11,0757 -1,148 CRATE CRATE 0,671 1,0757 -1,148 CRATE 2,0273 1,10757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,148 CRATE 1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,07577 -1,07577 -1,07577 -1,07577 -1,07577 -1,07577 -1,0757	- 7330 - 68704 - 34797 CCPRELATION COFFFICIENT CCPRELATION COFFFICIENT CCPRELATION COFFFICIENT CCPRELATION COFFFICIENT 1.79034 1.4695 1.79034 1.4695 1.07305 .27499 .3047 .3047 .03170 COMPELATION COFFFICIENT PANGES LOGIO (P/PC) 1.48771 .55820 .25820	.99
LST SI PIT TO DEVENS 110CT J PIELD DATAT LST SO FIT TO NEVENS 110FT 7 TELET DE PTH TELET DE PTH	.533 .610 FLOG-LOG SITL9,MA OF-WERLOG X MFTERS .152 .229 .305 .229 .305 .510 FLOG-LOG TITL9,MAL CF HIMTAL CF HIMTAL CF HIMTAL 	.6241 .7744 .7747 .7747 .7747 .7047 .7047 .7047 .7167 .7167 .7177 .6277 .7177 .6277 .7177 .6277 .7241 .7241 .7241 .7241 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417 .7417	-19787 -11988 (4/873 = (4/873 = (4/873 = (4/873 = (4/873 = (4/873 = (4/873 = (50427	4,054 1,875 470*(*/*C)** 47.400 47.400 47.400 47.400 47.41 4.713 4.723 4.723 1.494 .723 .591*(*/801** P #FTEac 2.754 4.700 7.407 1.335 1.754	4,0104 7,2781 -4,941 CRATE: 9/9C 41,7867 79,4787 11,0535 6,8418 2,0773 1,3767 -1,146 CRATE: CRATE: 0,477 -1,146 CRATE: 1,0757 -1,146 CRATE: 1,0757 -1,146 CRATE: 1,0757 -1,146 CRATE: 1,0757 -1,146 CRATE: 1,0757 -1,146 CRATE: 1,0757 -1,146 CRATE: 1,0757 -1,146 CRATE: 1,0757 -1,146 CRATE: 1,0757 -1,146 CRATE: 1,0757 -1,146 CRATE: 1,0757 -1,146 CRATE: 1,0757 -1,146 CRATE: 1,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,146 CRATE: 0,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,0757 -1,07577 -1,07577 -1,07577 -1,07577 -1,075777	- 7334 - 6824 - 74797 CCPRELATION COFFFICIENT* R RADIUS(PC)* .747 HETEPS CT PANGES LOGIO 10 /PC1 1.74035 1.4495 1.4495 1.4495 1.4495 CCRPFLATICK COFFFICIENT* PANGES LOGIO 10 /PC1 CCRPFLATICK COFFFICIENT* PANGES LOGIO 10 /PC1 1.44771 .5507 - 25820 .75500 .01119	. 98 5

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FLEET DEPTH	31360.HAL	-PURIFOIG	EFN GLASS, 1 I	NCH	CRATER	RADIUSINCIA .737 HETERS	
	OF BURIAL	* 2,960 NGT PFLLF	CH RANGES	P057	SHOT PELLET	RANGES	
	X	X78C 1	10639E¥7RC3	*	*#/RC U	DGIDIR/ACI	
	HETERS			METERS	78.9788	1. 19913	
	. 22 9	.3195	50927	21,010	10.4882	1.02070	
	.305	.4137	-, 30320	6.538	8.8756		
	. 78 1			1.716	2,3293	. 26723	
		. 776.0	14075	1.143	1.5919	. 19875	
	.733	.8275		. 453	1.1585	. 06 18 4	
	•••••					CORPELATION COFFFICIENTS	.9795
SY SQ FIT TO	0 106-106	FOUATION	(P/RC)= .58	4+ (X/PC)++	- 3, 368	CORCEPTER GOOD FOR	
						BADTUS (PC) + .795 METERS	
EVENS 110CT	71:4L8.HAL	F-BUR IFNIF	FC ACRYLICAL I	NCH	CRATTR		
ELLET DEPTH	OF BUPLAL	\$ 2.54	ζ. <b>ω</b>		SWAT PELLE	T RANGES	
	P#f	SHOT PFLLF	1 VANDE 3		PIRC	1061818/801	
IELO DATAT	۲	4146	[06131]/#17	451585			
	HETERS			11.979	49.2266	1.0041	
e		1010	+.41564	17.574	22.1467	1. 16531	
	. 30-		31675	1.044	1.4402	. 564.35	
		5760		1, 161	4.74*5	*62772	
			- 1 7760	1.082	1. 16 31	.13477	
	51 1	.76#1	11461	.405	1.1406	.07/16	
		-				COPPELATION COEFFICIENTS	. 972
st sa ett i	C 106-106	FOLATION	(n/30) x - 4	49 <b>€X\8</b> C1 •	1.4 78	Phone Providence and an and an	_
EVENS 110CT	7326L9,48L	FURUEIENIO	PANGT APPYLIC.	D INCH	C041E0	RADIUS(PC)= "794 METERS	
FLLET DEPTH	OF BURTAL	3 5,0P	T DANGESHART	P15	SHOT PELLE	T PANGES	
	PPF	SHOT FELCE	10010111000		87 AC	LOCIOIP/RCI	
IELO DATAT	*		Luit 111.00	HETERS			
	METERS		- 71667	11.132	41.743 ⁴	1.62859	
	4152	3443		10.254	23.0031	1.36179	
		3460		4.471	5.5453	.76393	
			31 67 3	1.519	1.9278	.28506	
				.917	1.2097	. 84267	
	0.105-105	FOURT ICN	(R/PC)= .1		• -1.45+	COPRELATION COEFFICIENTS	. 978
	••••						
			AFTN GLATSIT	THUM	CRATE	N WADIUSIRGI .794 WETERS	
PELLET DEPTH	OF RUPLAS	L = 2,51		- 0.05		FT #ANGES	
	<b>P</b> P	ESHOY PELL	[ ] WINGES	P	9/60	LOG10(#/*C)	
FIELD DATAS	X	3140	L0510107007				
	19 TY 4 *			14.655	LA.7020	1.68755	
	. 27			9,967	10.1342	1.01595	
	. 39-			2.804	8.5530	. ****15	
				. 24 0	2.8724	. 45065	
			-17260	1.161	1.6897	• 227 M 1	
			+.11461	. 899	1.1329	. 8543 #	
	1410	•••••				CORPENANTEN COFFFICIENTS	.98
		60118 T TOM	{@/RC} = -	347+(X7PC)	*** * 3. 097		
LST 50 F17 1	TC LOG-LOG						
LST SQ FIT T	TC LOG-LOG	2004110					
LST SQ FIT	TC LOG-LOG	L P-911# 1701	PER AGRYLIGAT	INCH ,	CRATE	R PADIUSTPUTE .SAP HETPES -	
LST 50 FIT T OEVENS 180CT PELLET OFPT	70 106-196 7791119,89 8 05 9971	E F-911# 1901	PER ACPALICIE	1NCH .	CRATE	R PADIUSTPUTE .SAP HETPES -	
LST 50 FIT T DEVENS 180CT PELLET OFPT	TC LOG-LOG TTTILN.NS N OF NUPTS PR	L P-911# 1701 L = 7.5 FSHOT #4LL	PER ACPVLIC.I	INCH .	CRATE STSHOT PELL R/PC	R PADIUS(PI) +	
ST 50 FIT T	TC LOG-LOG TTTLN,H8 H OF SUPIA PR	L =	PER AGPYLIGII ICM IT HANGES Logistyfegi	INCH	CRATE STSHOT PELL R/PC	R PARLUSTPUTT ,982 METPRS - ET PARCES Locitier/PC3	
LST 50 FIT T DEVENS 180CT PELLET OFFTT FIELD DATAT	TC LOG-LOG PPTILR.HB N OF SUPIE PR FTERS	L #-911#1201 L # 7.5 FSHOT B4LL ¥/RC		INCH PC 0 4ETF#< 3a-624	CRATE STSHOT PELL R/PC 20.5803	R PADIUS(PI)+ ,982 METPHS - ET #ANGES Lociuer/PC3 5.84665	
ST SQ FIT T DEVENS 180CT PELLET OFPTT FIELD DATAT	TC LOG-LOG TTTLR.HA H OF HUPTA PR K HFTEPS -152	L == 9118 1901 L = 7.4 FSHOT B4LL ¥/8C .7711	PER ACPYLIC.I LOGIJEVECI , 54 444655	INCH PC 46180C 39,671 4,671	CRATE STSHOT PELL R/PC 20.5803 16-2873	R PARIUSIPUIT ,982 METTPS - ET PARES Locilian/PCI 1.2477A	
ST 50 FIT T DEVENT 180CT FELET OFFT FIELD DATAT	TC LOG-LOG PPTTSLR.HB N DF JUPTA PR X HFTERS .152 .PPJ	L =- 9118 1901 L = 7.4 FSHOT B4LL ¥/RC .7711 .4898P	PER AGPYLIG.I ICM I GANGES LOGISIX/EGI -,39756 -,39757	INCH PC 0 4ETE®C 19, KP1 9, 177 1, KT1	CRATE CTSHOT PELL R/PC 24,5803 16,2477 2,4143	R PADIUSTPUTE .582 METTPS - ET PANGES LOFIGER/PC) \$.84865 1.21978 .6874	
ST 50 FIT T DEVENS 180CL DELLET OFPTI FIELO DATAT	TC LOG-LOG P 997 SLR. HA H OF 911PTA 	L = 7.4 FSWOT RALL 27711 .489F .543	PER ACPYLIC.I (+ CM (- 1061942/CC) - 55676 - 39776 - 36776 - 14685	INCH PC 0 461780 19,577 1,687 1,687	CRATF CTSHOT PFLL R/PC 74.5803 16.2477 7.9191 1.0954	R PADIUS(PI)* .982 METPRS . E1 #AKCE< LOT164R/PC3 5.84664 5.21978 .46874 .83099	
ST SQ FIT T REVENS 160C FELLET OFPTI FIELD DATAT	TC LOG-LOG TTTLR.WB H OF 90071 PR K HFTERS .152 .779 .395 .391	L = - 911# 170: L = - 7.5 FSWOT #4LC ¥/#C .7711 .85#F .5471 .6775	000 400 410.5 404 5 44405 4105544700 - 45470 - 45470 - 25576 - 45685	INCH PC PC 	CRATE RTSHOT PELL R/PC 24,5803 58,2477 7,9191 1,0944	R PARIUSIPUTE .982 METPES ET PARCES LOCIGER/PCJ 5.84664 1.21978 46874 .83999	
ST 50 FIT T	TC LOG-LOG PTTILR.WB H OF SUPIA PR H TEPS .152 .755 .391 .391 .406-LOG	L P-9(18) [PD: L = 7.4 FSW0T #2/4C .7711 .489P .4575 .6775	PER AGPYLIG.J 404 11 444655 1061947663 54976 34976 34976 14884 (#/463+ .	JNCH 90 NETFOC 19.677 4.177 1.687 .615	CRATF STSHOT PFLL R/PC 74,5803 16,2477 2,9191 1,0454 ** -4,616	R PADIUSIPUIT	
LST 50 FIT 1 DEVENT 180C PELLET OFFT FIELD DATAT	TC LOG-LOG PTT1LR.WB N OF RUPTA PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR PR 	L P-9(18 190: L = 7.4 FSHOT 840 X/8C .7711 .489P .4373 .6775 : E91141104	PED ACPYLIC.J LC 1 404055 LC 1,5147/503 	INCH PC 0 45750 4,177 1.647 .616 190+(*/#C)	CRATF RTSHOT PFLL R/PC 74,5803 16,2477 2,4141 1,0454 +* -4,616	R PADIUSIPUIT	
LST SQ FIT I DEVENT 180C PELLET OFFT PIELD DATAT	TC LOG-LOG TTTLA.MA N OF HUPTA 	L P-9118 1901 L P - 9118 1901 F SHOT BALL X/RC -7711 -0975 -0775 -0775 -0775 -0775		INCH PC NETERC 1,671 1,671 515 190+(1/PC) 5 190+(1/PC)	CRATF STSHOT PFLL R/PC 74,5803 58,2877 7.9951 1.9954 ** -6.616 CRAT	R PADIUSIPUIN	
LST 50 PIT 1 PELLET OFPT PIELO DATAT LST 50 FIT PELLET OFPT	TO LOG-LOG TTTLN.MA M OF HUPIA H TEPS HFTEPS 152 .779 .391 .00 LOG-LOF CT731128.MI M OF HUPI	L P-911#1001 L 2 7.4 FSHOT BELL 27711 .909P .4575 .6775 : COUATTON AL P-PURITON	РЕП АСРУЦІС, ) 160 17 444654 1061344/563 -, 14676 -, 14684 (Р/4634 1084467 АСРУЦІ 108467	INCH PC NETFOC 14.87 4.17 1.67 140+(7/97) 	CRATE RISHOT PELL RIPC IN,5803 16,2879 7,4193 1,0944 ** -6,636 CRATE S15401 PEL	R PADIUSTPUTE .982 NETFRS ET PANCES LOCIGER/PCJ S.A4844 S.21978 .44824 .83999 COMPFLATION COEFFICIENTE FR RADIUSTPCJF .945 METERS LET PANGES	
LST 50 FIT I DEVENS 180C PELLET OFFT FIELD DATAN LST 50 FIT DEVENS 180C PELLET DEFT	TC LOG-LOG TTTLN.MB N DF 900F1 	L = - 911# 1901 L = - 7.4 F SHOT #4LL 		INCH PC NETERC 140+(1/2C) 140+(1/2C) 140+(1/2C) C.2 TACH PC D	CRATE R/#C 74,5007 PFLL 74,5077 2,9191 1,0954 1,0954 1,0954 1,0954 1,0954 1,0954 1,0954 1,0954 1,0954 1,0954 1,0954 1,0954 1,0954 1,0954 1,0954 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0955 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,0055 1,005	R PADIUSIPUIN	
LST 50 PIT 1 PELLET OFPT PIELO DATAI 	TC LOG-LOG PTTILN.MA M OF HUPIA 	L P-941#1801 L = 7.4 FSW0T BELL 2711 4597 4575 6775 E 2014TTOM E = 7.1 TVBT		INCH PC 0 4 140+(1/07) PO 0 140+(1/07) PO 0 0 0 0 0 0 0 0 0 0 0 0 0	CRATE RISHOT PELL RISHOT PELL RISHOT PELL STSHOT PELL RISHOT PELL	R PADIUSIPUIT ET PANCES LOCIGUR/PCJ 1.24654 1.24778 	
LST 50 FIT D PELLET OFFT FIELD DATAN LST 50 FIT PELLET OFFT FIELD DATAN	TC LOG-LOG TTTLLN.MA H OF JUPIN FTTLLN.MA H OF JUPIN FTTLN.MA IN LOG-LOF TTTJILE.MI H UT TTTJILE.MI H UT H UT H UT H UT H	L P-911#1PD: L = 7.4 FSHOT #6LL ¥/8C -7711 -859F -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -7755 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -6775 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -7755 -77555 -7755 -7755 -7755 -7755 -7	- 144454	INCH PC 0 NETERC 1.42 1.42 1.42 1.42 0 0 0 0 0 0 0 0 0 0 0 0 0	CRATE STSHOT PELL PASO PASO PASO PASO PASO CRATE STSHOT PELL RACC A.0309	R PADIUSTPUTE .987 METPES ET #ANGES LOCIDGR/PCJ S.RAAAA 1.2147A .4874 .83089 COMPFLATION COFFFICIENTE FR MADIUSTPCJ .447 METPES LOCICE/PCJ .90504	. 99
LST 50 FIT 1 DEVENT 180C DELLET OFFT FIELD DATAT	TC LOG-LOG TTTLN.MB M OF HUPTA MFTEPS .152 .779 .381 .U LOG-LOF .T7311L8.MI MFT RUP3 .122	L P-9118 1901 L P - 9118 1901 L P - 92 - 7711 - 697 - 6471 - 6471 - 6471 - 6471 - 6471 - 6471 - 6471 - 711 - 7211	PER ACPYLIC.I LC LC LC LC LC LC LC LC LC LC	JNCH PC 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	(RRATE R/RC 74,5803 56,247 1,044 1,044 ** -4,616 CRAT 515401 PELI R/RC 4,0304 1,0246	R PADIUSIPUIT	
ST 50 FIT 1 PELLET OFFT FIELD DATAT	TC LOG-LOG TTTLN.WA M OF NUPIA NFTEPS .152 .779 .381 .U LOG-LOF 	L = - 911# 1901 L = 7.4 F < H07 B & LL X/RC . 7711 . 809F . 4.31 . 639F . 6375 . 6375 . 6375 . 6375 . 7711 . 407 . 7711 . 407 . 7711 . 407 . 7711 . 407 . 7711 . 407 . 407 . 7711 . 407 . 4		INCH 	CRATF RISHOT PFLL R/PC 74,5803 16,2877 7,4193 1,0944 ** -6,636 ** -6,636 CRAT S15HOT PEL R/PC 9,0369 1,0286 1,028	R PADIUSTPUTE .982 NETTPS . ET #ANCES LOCIGUR/PCJ S.A464 S.21978 .4474 .83999 COMPFLATION COEFFICIENTE FR #ADIUS(PC) .447 METERS LOGIE(#/PC) .40908 .4008 .4008	
LST 50 FIT D DEVENS 180CC DELLET OFFT PIELO DATAN LST 50 FIT DEVENS 180C PELLET DEFT FIELO DATAN	TC LOG-LOG TTTLN.MB N OF 900F18 	L = - 911# 1901 L = - 7.4 F SHOT # 6LL 2771 .507 .5473 .6775 .6775 .6775 .6775 .6775 .6775 .6771 .5477 .5477		INCH PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC 	CRATE R/#C 70.5001 PFLL R/#C 70.5071 2.0191 1.0954 ** -4.616 CRATE 51501 PEL R/#C 4.0304 1.0304 1.0304 1.0314	R PADIUSIPUIN	
ST SQ FIT I ELLET OFFI TIELD QATAN LST SQ FIT WEVENS 1600 PELLET GEFT FIELD QATAN	TC LOG-LOG TTTLA.MA N DF 910F1A 	L = - 911# 1901 L = - 7.4 F SHOT #4LL 	PER ACPYLIC.1 LC LC LC LC LC LC LC LC LC LC	JNCH PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC PC 		R PADIUSIPUIN	 • • • •

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		LI-OURIEU,	SREEM GLANS	S INCH	GRATE	R RADIUS (RC) = .	762 MEILKS
PELLES DEPI	N OF BURIAN	L 5 243 FSHAT DELL	NUP FT PANGES		SHOT PELL	T PANGES	
FIELD DATAT		X/RC	LOGIO (X/RC	) R	R/RC	LOGIDIRIRE	
	METERS			NETERS			
		.2711	-,56679	21.580	38.3948	1.58427	
	.229	.4067	39070	8.111	14.4306	1.15928	
	.305	.5423	·26576	3.859	6.8655	+83557	
131.20 HTL	10 106+106	EQUATION	(#/90)=	1.523*(X/RG)**	+2.479	CORRELATION	COFFFICIENT= *AAA
DEVENS 160C	17312L8,1K	LF=EURTFO:	PEDTACRYLIC	1 INCH	CRATE	R RADIUS(RC) = .	719 HETERS
PELLET DEPT	OF BURIA	L= 2.5	4CH				
	~~~ <b>&gt;</b>	ESHOT PELL	FT RANGES	POST	SHOT PELL	ET PANGES	
FIELD DATA:	x	×/RC	LOG18(X/PC) P	R/RC	LOG13(R/RC)	
	HETERS			METERS			
	• 22.9	+3181	49748	20	28.9779	1.46207	
	+ 307	.4241	-,37254	10.351	14.4190	1,15894	
	4351	• 7 7 7 1 6 7 6 1	- 10665	4.0/5	7 6 4 7 7	+ C1 - 70 SE 700	·
	.533	.7452	12951	2 + 257	1.5479	+77/90	
	•/55	• • • • • • •	-112 331		1.9479	.109/9	
LST SO FIT	TC LOG-LOG	EQUATION	(8/80)=	.689*(X/RC)**	+3.392	CORRELATION	COFFFICIENT= .990
			-				
DEWENS 160C	T7312LB,HA	LF-BURIEDt	RANGE ACRY	LIC,2 INCH	CRATE	R RADIUS(PC) = .	719 HETERS
PELLET DEPT	H OF SUPIAL	L= 5.0	КСН				•
		ESHOT PELL	ET RANGES	POST	SHOT PFLL	T RANGES	
LEU DALVI			LIGIO (X/PC	J 7	RIRC	LOGITRAPCI	
	NETERS			METERS			
	.157	.7125	57357	2.015	2.8032	, 14755	
	• 22 9	•3161	49748	1.925	2.6802	+42817	
	.305	.4241	3/254	1.709	5.0445	.32202	
<u> </u>	• 30 1		- 10465	1.407	1.49700		
	• • • • •	.0301	-11404-	• • • • •	1.3374	+10077	
	Fe 1 06-1 06	FOUNTION	(8/80)=	1. 1784/ 9 /001 40	- 626	COCOCI AT TON	
		20041104	1.(1 - 07 -			OURCE LATION	OUCH TOTENIA #311
FIELD DATAT	X	X/RC	LOGIO (X/PC) R	R/RC	LOGIO(P/PC)	
	HETFRS			HETERS			
	•229	+ 1151	~.49748	28,383	39.4911	1.59650	
		.4241	57754	16.511	22.3729	1.36127	
		• 2 3 3 1	******	4.511		•19/12	
	+ + 97	6761			3 7000	74 0 0 /	
	577	•6361 71.22	19645	1.555	2.3024	.36226	
	.533	•6361 •7422	19645 12951	1.655	2.302A 1.2892	.36226 .11033	
LST SQ FIT '	,533 10 LOG-LOG	.6361 .7422 EQUATION	19645 12951 (R/RC)=	1.655 .927	2.302A 1.2892	.36226 .11033 CORRELATION	
LST SQ FIT	,533 TO LOG-LOG	.6361 .7422 EQUATION	19646 12951 (R/RC)=	1.655 .927 .383*(X/RC)**	2.302A 1.2897 -4.288	.36226 .11033 CORRFLATION	GOEFFICIENT= .983
LST SQ FIT	,533 10 LOG-LOG	.6361 .7422 EQUATION	19646 12951 (R/RC)=	1.655 .927 .383*(X/RC)**	7.302A 1.2897 -4.288	.36226 .11033 CORRFLATION	GOEFFICIENT= .98
LST SQ FIT	,533 10 LOG-LOG	.6361 .7422 EQUATION	19646 12951 (R/RC)=	1.655 .927 .383*(X/RC)**	7.302A 1.2897 -4.288	.36226 .11033 CORRFLATION	GOEFFICIENT= .98
LST SQ FIT	.533 10 LOG-LOG 	.6361 .7422 EQUATION	19646 12951 (R/RC)=	1.655 .927 .383*(X/RC)**	2.302A 1.2892 -4.288 CRATE	.36226 .11033 CORRELATION R PACIUS(RG)= .	GOEFFICIENT= .983 913 HETFPS
LST SQ FIT	,533 10 LOG-LOG (731 3L8,FU) H OF SUPTAL	.6361 .7422 EQUATION	19645 12951 (R/RC)= F(D AGRYLIG	1.655 .927 .383*(x/RC)**	2,302A 1,2892 -4.288 CRATE	.36226 .11033 CORRELATION R PACIUS(RG)= .	GOEFFICIENT= .98
LST SQ FIT	.533 10 L06-L06 	.6361 .7422 EQUATION LL BHFIFD: L = 7.5 ESHCT PFLL	19645 12951 (R/RC)= (R/RC)= 1 RANGES 1 RANGES	1.655 .927 .383*(X/RC)** 	2.302A 1.2897 -4.288 CRATE	.36226 .11033 CORRFLATION R PACIUS(RG)= . ET PANGES	GOEFFICIENT= .98
LST SQ FIT	+533 TO LOG-LOG 	.6361 .7422 EOUATION LL BIFFIFOT L = 7.5 FSHCT PFLL X/RC	19645 12951 (R/RC)= (R/RC)= F:D AGRYLIG 4078 FI RANGES LOTIM(X/PC	1.655 .927 .363*(X/RC)**	2.302A 1.2897 -4.288 CRATE SHOT PFLL R/RC	.36226 .11033 CORRELATION R PACIUS(RC)= . ET PANGES Logid(P/PC)	GOEFFICIENT= .98
ST SQ FIT	.533 TO LOG-LOG 	.6361 .7422 EOUATION LL BHFIFDT L = 2.5 ESHCT PFLL X/RC .4176	19645 12951 (R/RC)= (R/RC)= (R/RC)= Lotig(X/PC) 	1.655 .927 .383*(X/RC)** .1 TNCH 	-4.200 CRATE SHOT PFLL R/RC	.36226 .11033 CORRELATION R PACIUS(PC) = . ET PANGEC LOGIO(P/PC) 1.43273	GOEFFICIENT= .98
DEVENS 160C PELLET DEPTI PIELD DATA1	,533 10 LOG-LOG (73; 3L8,FU) K OF 9UPTAI 	.6361 .7422 EOUATION LL BHFIFD: L = 7.5 ESHCT 0FLL X/RC .4174 .5008	1964 12951 (R/QC)= (R/QC)= LO-10(X/9C) 37949 37949	1.655 .927 .383*(x/RC)** .1 TNCH 	-4.208 -4.208 CRATE: SHOT PFLL R/RC 27.0851 14.7865	.36226 .11033 CORRFLATION R PACIUS(PC)= . ET PANGES LOGIO(P/PC) 1.43273 1.15091	GOEFFICIENT= .98
ST SQ FIT	,533 10 LOG-LOG 731 3L8,FU H OF SUPTA NFTFPS .381 .457 .533	.6361 .7422 EQUATION LL BHFIFD: L 2.5 FSHCT PFLL X/RT .4174 .5008 .5843	1964 12951 (R/QC)= (R/QC)= LOTACRYLIC TT RANGES LOTIT(X/PC 3794 3031 2333	1.655 .927 .383*(X/RC)** .1 TNCH 	27.0051 -4.200 CRATE SHOT PFLL R/RC 27.0051 14.7046 6.1235	.36226 .11033 CORRFLATION R PACIUS(PC)= . ET PANGES Log10(P/PC) 1.43273 1.16991 .78705	GOEFFICIENT= .98
LST SQ FIT T	.533 10 LOG-LOG (73; 3L8,FU) 4 OF SUPTAI 	.6361 .7422 EOUATION LL 9"FIFDT Lz 2.5 ESHCT PFLL X/RC .4174 .5008 .5847 .6678	1964 12951 (R/QC)= FID AGRYLIG AFM I RANGES LO-14(X/PC) 1794 30031 3336 17537	1.655 .927 .383*(X/RC)** .1 TNCH 	27.0051 1.2897 -4.288 CRATE SHOT PFLL R/RC 27.0851 14.7846 6.1235 3.5927	.30226 .11033 CORRFLATION R PACIUS(PC)= . ET PAAGES LOG10(P/PC) 1.43273 1.16941 .78700 .55552	GOEFFICIENT= .98
ST SQ FIT	.533 10 LOG-LOG (731 3L8,FU) H OF SUPTAI PO X HFTFPS .857 .537 .610 .646	.6361 .7422 EQUATION LL BHFIFO: L 7.5 ESHCT PFLL X/RC .4174 .5002 .5843 .6678 .7513	1964 12951 (R/QC)= (R/QC)= ICT RANGES LOTIG(X/OC 37940 30031 23336 17537 17537	1.655 .927 .383*(x/RG)** .1 TNCH 	27.0851 14.7865 27.0851 14.7865 14.7865 14.7865 14.7858	.36226 .11033 CORRFLATION R PACIUS(PC)= . LOGIO(P/PC) 1.43273 1.169A1 .78700 .55542 .17486	GOEFFICIENT= .98
DEVENS 1600 PELLET DEPTI	.533 10 LOG-LOG (731 3L8,FU) R OF SUDTAI STOP X HFTFPS .381 .457 .533 .610 .686 .762	.6361 .7422 EOUATION LL 9"FIFD: L 2 7.5 FSHCT PFLL X/RC .4174 .5843 .5843 .6278 .7513 .8347	1964 12951 (R/QC)= F(D AGPYLIC AFM 10031 37949 37949 3335 17537 12421 47846	1.655 .927 .383*(X/RC)** .1 TNCH 	21,202A 1,203A 1,203A 1,203A 1,203A CRATE SHOT PFLL R/RC 27,0651 14,7846 6,1235 3,5927 1,4958 1,0051	.36226 .11033 CORRFLATION R PACIUS(PC)= . ET PANGES LOG10(P/PC) 1.43273 1.16941 .78700 .55542 .17438 .(7739	GOEFFICIENT= .98
LST SQ FIT	.533 TO LOG-LOG (731 3L8,FU) K OF SUPTAN VF SUPTAN K OF SUPTAN 457 .531 .457 .531 .610 .646 .762	.6361 .7422 EQUATION LL 9"FIFD: L = 2.5 ESHCT OFLL X/RF .4174 .5008 .5843 .6678 .7513 .8347	1964# 12951 (R/AC)= F/D ACPYLIC 1844GES LC-14(X/90 37044 3031 2335 17537 12421 07846	1.655 .927 .383*(x/RC)** .1 TNCH 	-4.208 -4.208 CRATE SHOT PFLL R/RC 27.0051 14.7046 6.1235 3.5927 1.4958 1.0051	.36226 .11033 CORRFLATION R PACIUS(PC)= . ET PAGES LOG10(9/PC) 1.43273 1.16941 .78700 .55542 .17458 .(2739	GOEFFICIENT= .98
ST SQ FIT	.533 TO LOG-LOG (731 3L8,FU) K OF SUPTAI OF SUPTAI 	.6361 .7422 EOUATION LL 9"FIFD: L 2,5 ESMCT 0FLL X/RC .4174 .5000 .5843 .6678 .7513 .8347 EOUATICH	1964# 12951 (R/QG)= TI RANGES LOGIG(X/00 3031 3335 17537 17537 17546 (R/QC)=	1.655 .927 .383*(x/RC)** .1 TNCH 	27.024 1.2892 -4.288 CRATE SHOT PFLL R/RC 27.0851 14.7846 6.1235 3.5927 1.4958 1.0651 -4.870	.36226 .11033 CORRFLATION R PACIUS(RC)= . LOGID(P/PC) 1.43273 1.16941 .78700 .55542 .17438 .C2739 COPRELATION	COEFFICIENT= .98 913 HETFPS COFFFICIENT= .99
ST SQ FIT	.533 TO LOG-LOG .731 3LB, FU H OF SUPTAI .457 .537 .610 .646 .762 TO LOG-LOG	.6361 .7422 EOUATION LL 91%FIFD: L 2.5 ESHCT 0FLL X/RC .4174 .4008 .5843 .6678 .7513 .6347 EOUATICH	1964# 12951 (R/QC)= F(D AGPYLIC AF# LOGIN(X/90 31031 3334 17537 12421 47846 (R/QC)=	1.655 .927 .363*(x/RC)** .1 TNCH 	-4.288 -4.288 CRATE SHOT PFLL R/RC 27.0851 14.7846 6.1235 3.5927 1.4958 1.0651 -4.870	.30226 .11033 CORRFLATION R PACIUS(PC)= . ET PAAGES LOG10(P/PC) 1.43273 1.16941 .78700 .55552 .17438 .(2739 COPRELATION	GOEFFICIENT= .98 913 HETFPS CoffficienT= .99
DEVENS 1600 PELLET DEPTI PIELD DATA1	.533 TO LOG-LOG .731 3L8,FU H OF SUPTAI .457 .381 .457 .537 .610 .686 .762 TO LOG-LOG	.6361 .7422 EOUATION LL BHFIFOT LZ 7.5 ESHCT PFLL X/RC .4174 .500 .5843 .6678 .7513 .8347 EOUATICH	1964# 12951 (R/QC)= T+D AGRYLIC AGM 17943 17937 17421 17537 12421 47846 (R/QC)=	1.655 .927 .383*(x/RG)** .1 TNCH 	-4.288 -4.288 CRATE SHOT PFLL R/RC 27.0851 14.786 6.1235 3.5927 1.4958 1.0651 -4.870	.36226 .11033 CORRFLATION R PACIUS(PC)= . LOGIO(P/PC) 1.43273 1.45931 .78700 .55542 .17436 .C2739 COPRELATION	COEFFICIENT= .98 913 HETFPS Coffficient= .99
ST SQ FIT	.533 10 LOG-LOG 1731 3LB,FU 1731 3LB,FU 1751 3LB,FU	.6361 .7422 EOUATION LL 9HFIFD: L 2 75 ESHCT PFLL X/RC .4174 .5008 .5843 .6678 .7513 .6347 EQUATICH	1964# 12951 (R/QC)= C+D ACRYLIC AFM 10031 3334 17537 12421 37846 (R/QC)=	1.655 .927 .383*(x/RC)** .1 TNCH 	-4.288 -4.288 CRATE SHOT PFLL R/RC 27.0851 14.7846 6.1235 3.5927 1.4958 1.0651 -4.870	.36226 .11033 CORRFLATION R PACIUS(PC)= . ET PANGEC LOGID(P/PC) 1.43273 1.169A1 .78700 .55542 .17436 .C2739 COPRELATION	COEFFICIENT= .98
LST SQ FIT	.533 TO LOG-LOG .731 3L8,FU H OF SUPTAI .457 .531 .457 .537 .610 .686 .762 TO LOG-LOG	.6361 .7422 EOUATION LL 9HFIFDI L 2.75 ESHCT 0FLL X/RC .4174 .4002 .5843 .6678 .6678 .6878 .6878 .6878 .68347 EOUATICH	1964# 12951 (R/QC)= FID AGPYLIG AFM 10031 3031 3334 17537 12421 07846 (R/QC)=	1.655 .927 .363*(X/RC)** .1 TNCH 	-4.288 -4.288 CRATE SHOT PFLL R/RC 27.0851 14.7846 6.1235 3.5927 1.4958 1.0651 -4.870 CRATE	.36226 .11033 CORRFLATION R PACIUS(PC)= . ET PAGES LOGID(P/PC) 1.43273 1.16941 .78700 .55542 .17438 .C7739 COPRELATION R RACIUS(PC)= .	COFFFICIENT= .98 913 HETFPS COFFFICIENT= .99 913 HETFRS
LST SQ FIT	.533 10 LOG-LOG 731 3L8,FU H OF SUPTAI 	.6361 .7422 EOUATION LL 9HFIFOT LL 7.5 ESMCT PFLL X/RC .4174 .500 .5843 .6678 .7513 .8347 EOUATICH LL EURIEDT LL EURIEDT LL EURIEDT	1964# 12951 (R/RG)= T+D AGRYLIG AFM 17949 17949 17537 17537 17546 (R/RC)= OFANGE AGFY	1.655 .927 .383*(x/RG)** .1 TNCH 	-4.288 -4.288 CRATE SHOT PFLL R/RC 27.0851 14.7846 6.1235 3.5927 1.4958 1.0651 -4.870 CRATE	.36226 .11033 CORRELATION R PACIUS(PC)= . LOGIO(P/PC) 1.43273 1.16941 .78700 .55542 .17488 .(2739 COPRELATION R RACIUS(PC)= .	GOEFFICIENT= .98 913 HETFPS COFFFICIENT= .99 913 HETFRS
LST SQ FIT	.533 10 L0G-L0G 17313L8,FU H 0F 9UPTAI 	.6361 .7422 EOUATION LL 91'FIFO1 L 2 2.5 ESHCT 0FLL X/RC .4174 .4008 .5008 .5843 .6678 .7513 .6347 EOUATICN LL BURIEDT L 5.0 FSHOT PFCL	1964# 12951 (R/QC)= F(D ACPYLIC AFM 30031 3734 17537 17547 17546 (R/QC)= OFANGE ACFY ACM FT RANGES	1.655 .927 .383*(x/RC)** .1 TNCH 		.30226 .11033 CORRFLATION R PACIUS(PC)= . ET PAAGES LOG10(P/PC) 1.43273 1.16941 .78700 .55552 .17438 .(2739 COPRELATION R RACIUS(PC)= . ET PAAGES	GOEFFICIENT= .98 913 HETFPS Coffficient= .99 913 HETFRS
DEVENS 160C PELLET DEPTI PIELD DATA1 LST SQ FIT DEVENS 160C PELLET DEPTI FIELD DATAT	.533 TO LOG-LOG .731 3L8,FU H OF SUPTAI .533 .457 .533 .610 .646 .762 TO LOG-LOG T731 3L8,FU H OF SUPIAI 	.6361 .7422 EOUATION LL 9HFIFOT L 7.5 ESHCT 0FLL X/RC .4174 .508 .5847 .6278 .7513 .8347 EQUATICN LL EURIEDT L 5.00 FSHOT P(LL X/RC	1964# 12951 (R/4C)= T+D AGRYLIC AGM 10031 3336 17537 12421 47846 (R/4C)= OFANGE ACFY ACM	1.655 .927 .383*(x/RG)** .1 TNCH 	-4.288 -4.288 	.36226 .11033 CORRFLATION R PACIUS(PC)= . ET PANGES LOGID(P/PC) 1.43273 1.16941 .78700 .55542 .17438 .(2739 COPRELATION R RACIUS(PC)= . ET PANGES LOGID(P/RC)	GOEFFICIENT= .98 913 HETFPS COFFFICIENT= .99 913 HETFRS
LST SQ FIT	.533 10 LOG-LOG 17313LB,FUI HTTFCS .381 .457 .537 .537 .610 .646 .762 10 LOG-LOG 17313LB,FUI H OF AURIAL PR X HETERS	.6361 .7422 EOUATION LL 9"FIFD: L 2,5 ESMCT PFLL X/RC .4174 .5000 .5843 .6678 .7513 .6347 EOUATICH LL BURIED: L 5,0 FSMOT PFLL X/RC	1964 12951 (R/4C)= (R/4C)= (R/4C)= LOGIG(X/9C) 37949 3031 3335 17537 17537 17549 (R/4C)= OFANGE ACFY NCM FT RANGES LOGIG(X/PC) 27649	1.655 .927 .383*(x/RC)** .1 TNCH 	-4.288 -4.288 CRATE SHOT PFLL R/RC 27.0851 14.7846 6.1235 3.5927 1.4585 1.06551 -4.870 CRATE SHOT PELL R/RC 14.7717	.36226 .11033 CORRFLATION R PACIUS(RC)= . LOGIO(0/PC) 1.43273 1.169A1 .78700 .55542 .17438 .(2739 COPRELATION R RACIUS(RC)= . LOGIO(R/RC) 1.27310	COEFFICIENT= .98 913 HETFPS COFFFICIENT= .99 913 HETFRS
LST SQ FIT	.533 10 LOG-LOG 1731 3LB, FU H OF SUPTAI 	.6361 .7422 EOUATION LL 9HFIFOT L 7.5 ESHCT 0FLL X/RC .4002 .5843 .6678 .7513 .8347 EOUATICH LL PURIEDT L 7.5 EOUATICH LL PURIEDT L X/RC .3339	1964# 12951 (R/AC)= T+D ACPYLIC ACM 12951 (R/AC)= LOGIN(X/PC) 17940 (R/AC)= OFANGE ACFY NCM 17940	1,455 .927 .383*(x/RC)** .1 TNCH 	-4-288 -4-288 	.36226 .11033 CORRFLATION R PACIUS(PC) = . ET PAGE LOGIO(P/PC) 1.43273 1.16941 .78700 .55542 .17488 .(7739 COPRELATION P RACIUS(PC) = . ET PANGE S LOGIO(P/PC) 1.27349 .0300A	GOEFFICIENT= .981 913 HETFPS COFFFICIENT= .991 913 HETFRS
LST SQ FIT T	.533 10 LOG-LOG .731 3L8,FU H OF 900TAI 	.6361 .7422 EOUATION LL BHFIFOT L 7.5 ESNCT PFLL X/RC .4174 .608 .5847 .6678 .7513 .8347 EOUATICH LL EURILDI L EURILDI L 2.500 FSHOT PFLL X/RC .3339 .4174 .508	1964# 12951 (R/RG)= T:D AGRYLIG AGR 12951 (R/RG)= LG:14(X/90 17949 17949 17949 17949 (R/RG)= OFANGE AGRY AGR 17949 (R/RG)= OFANGE AGRY 17949 179	1.655 .927 .383*(x/RG)** .1 TNCH 	-4.288 -4.288 CRATE SHOT PFLL R/RC 27.0851 14.7846 6.1235 1.40551 -4.870 CRATE SHOT PELL R/RC 16.7713 8.6912 6.7571	.36226 .11033 CORRELATION R PACIUS(PC)= . LOGIO(P/PC) 1.43273 1.46941 .78700 .55542 .17486 .(2739 COPRELATION R RACIUS(PC)= . LOGIO(P/RC) 1.27349 .93908 .6037	COEFFICIENT= .983 913 METFPS COFFFICIENT= .994 913 METFRS
LST SQ FIT T	.533 10 L0G-L0G 17313L8,FU H OF NUTA NFTFC3 .381 .457 .537 .610 .646 .762 T0 L0G-L0G T7313L8,FUI H OF NURIA .762 T0 L0G-L0G T7313L8,FUI H OF NURIA .305 .381 .457 .331	.6361 .7422 EOUATION LL 914FIF01 L 2 2.5 ESHCT 0FLL X/RC .4174 .4008 .5843 .6678 .6678 .6678 .6678 .6678 .6678 .68347 EOUATICH LL BURIEDIL X/RC .3339 .4174 .5088 .5443	1964# 12951 (R/QC)= (R/QC)= (R/QC)= LOG10(X/90 37346 17537 17537 17549 (R/QC)= DFANGE ACFY RAMGES LOG10(X/PC) 47640 37949 17041 37346	1.655 .927 .383*(x/RC)** .1 TNCH 		.36226 .11033 CORRFLATION R PACIUS(PC)= . ET PAAGES LOGID(P/PC) 1.43273 1.16941 .78700 .55552 .17438 .C7739 COPRELATION P RACIUS(PC)= . ET PAAGES LOGID(P/RC) 1.27349 .0398 .80327 .60278	COEFFICIENT= .98: 913 HETFPS COFFFICIENT= .994 913 HETFRS
LST SQ FIT	.533 TO LOG-LOG (731 3L8, FU) H OF SUPTAN V HFTFPS .361 .6457 .531 .6510 .646 .762 TO LOG-LOG T731 3L8, FUU H OF SURTAN PR X HETERS .301 .533 .533 .533	.6361 .7422 EOUATION LL 9HFIFOI L 7.5 ESHCT OFLL X/RC .4174 .5008 .5843 .6278 .7513 .8347 EQUATICH LL BURIEDI L SURIEDI X/RC .3339 .4174 .5008 .5843 .5843 .5843	1964# 12951 (R/QG)= T+D AGRYLIC AGM 10031 3336 17537 12421 47846 (R/QC)= OFANGE ACFY ACM 57640 57849 17537	1.655 .927 .383*(x/RG)** ,1 TNCH 		.36226 .11033 CORRFLATION R PACIUS(PC)= . LOCIO(P/PC) 1.43273 1.16941 .78700 .55542 .17438 .C7739 COPRELATION R RACIUS(PC)= . ET PANGES LOGIO(P/PC) 1.27349 .9308 .80327 .61024	COFFFICIENT= .98: 913 HETFPS COFFFICIENT= .994 913 HETFRS
LST SQ FIT	.533 10 LOG-LOG .731 3L8,FU HTTFCS .381 .457 .537 .610 .762 TO LOG-LOG T731 3L8,FU H OF NURIA .722 TO LOG-LOG .753 .361 .752 TO LOG-LOG .753 .361 .553 .361 .553 .665	.6361 .7422 EOUATION LL 9HFIFOI Lz 7.5 ESMCT PFLL X/RC .4174 .5843 .6678 .7513 .8347 EOUATICH LL BURIEDI LL BURIEDI LL BURIEDI LL BURIEDI X/RC .3339 .4174 .5843 .5843 .5843 .5843 .5843	1964 12954 (R/RG)= (R/RG)= LOGIG(X/PG) 37949 3031 3335 17537 17537 (R/RG)= (R/RG)= LOGIG(X/PG) 47640 17949 17949 3336 17547 3336	1.655 .927 .383*(x/RG)** .1 TNCH 	-4.288 -4.288 -4.288 CRATE SHOT PFLL R/RC 27.0851 14.7846 6.1235 3.5927 14.45651 -4.870 CRATE SHOT PELL R/RC 16.7713 8.6912 6.1577 1.4826 1.0651	.36226 .11033 CORRFLATION R PACIUS(PC)= . LOGIO(P/PC) 1.43273 1.16941 .78700 .55542 .17488 .(2739 COPRELATION R RACIUS(PC)= . ET PANGFS LOGIO(P/RC) 1.27349 .93908 .80327 .60274 .21024 .14270	COEFFICIENT= .983 913 METFPS COFFFICIENT= .994 913 HETFRS
LST SQ FIT T	.533 FO LOG-LOG (7313L8,FU) H OF SUPTAL .457 .331 .457 .531 .610 .686 .762 TO LOG-LOG T7313L8,FUI H OF SUPTAL .751 .305 .305 .305 .533 .686	.6361 .7422 EOUATION LL 9HFIFDI L 2 2.5 ESHCT 0FLL X/RC .4174 .4002 .5843 .6628 .6628 .6628 .6628 .6628 .6628 .6513 .8347 EOUATICH L EURIEDI L 2/SLO FSHOT PFLL X/RC .3339 .4174 .5088 .5843 .5843 .5843 .5843	1964# 12951 (R/AG)= TI RANGES LC-14(X/PC) 17634 17637 12421 07846 (R/QC)= OFANGE ACFY NCM 47640 17637 12431 17637 12431	1.455 .927 .383*(x/RC)** .1 TNCH 		.36226 .11033 CORRFLATION R PACIUS(PC)= . ET PAAGES LOG10(P/PC) 1.43273 1.16941 .78700 .55502 .17488 .C7739 COPRELATION P RACIUS(PC)= . ET PAAGES LOG10(P/RC) 1.27349 .0327 .60278 .21024 .14270	COFFFICIENT= .983 913 HETFPS COFFFICIENT= .994 913 HETFRS

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	OF BURIA	2.5					
*****	PRI PRI	ESHOT FELL X/#C	LOGIO (X/PC)	POST) R	SHOT PELL R/RC	LOG18(P/RC)	
	NETERS			METERS			
	* 36 2	.3339		02.002	90,7709	1.39003	
	+381	.4174	5/949	21.190	23,2170	1.365/1	
	+457	12668	10031	12.143	13.3022	1.12392	
	. 533	•2843	23336	7.541	8.2604	.9170L	
	.618	.6678	17537	3.405	3.7295	.57166	
	• 68 6	.7513	12421	1.301	1.4257	.15403	
	.78?	18347	07845	1.073	1.1753	.07015	
-137-30 FIT T	0 10G-10G	EQUATION	(R/RC)=	.493*(X/RC)**	-4.701	CORRELATION C	OFFFICIENT=
DEVENS 160CT	7314L8,FU	LL AVRIENT	PED ACRALIC,	1 TACH	CRATE	R RADIUS(RC)=1.(13 NETERS
PELLET DEPTH	OF BURIA	L = 7.5 FSHQT Pfll	LPH ET RANGES	FOST	SHOT FELL	ET FANGES	
FIELD DATAL	¥	X/FC	LOG10(Y/PC)) R	R/RC	LOCID(P/PC)	
	NF TERS			METERS			
	.385	.3889	52153	59.954	50.4035	1.77227	
		.4514	- 34544	28.636	78 2726	1 4 7 7 6 6 7	
···· ·· · · ·		5265	27140	- 47 117	19 7976	1 187550	
	610	6010	- 22650	1 1 2 4	10.1034	1.10450	
				4	4.1100	+C1490	
	*000		15937	3+005	3.0454	.48367	
	•/62	./~~~	-+12 -59	1.676	1,6551	.2155*	
	• 878	.8276	08220	1.113	1.0984	.84076	
LST SU FIT T	0 1 0G-10G	EQUATION	-{P/9C]=	. =88* (Y/PC)**	-4.194	CORRELATION C	OEFFICIENT* .9
DEVENS 160CT	7314LR,FU	LL AURIENT	CRANGE ACRYL	IC+5 THCH	CPATE	R RADIUS(RC)=1.(13 HETERS
PELLET DEPTH	OF BURIA	L = 5,0 ESHCT FELL	RCH FT RANGES		SHOT PELL	FT RAKGES	
FIELD DATA:	x	XZRC	LOGIO (X/PC)	R R	R/RC	LOGIO(R/RC)	
	HETERS			METERS			
	. 195	. 3089	- 52157	22.868	21.7275	1.338.21	
 .	. 18.1	3762		14. 176	16.1224	1.2084+	
	+ 30 1	1.5166	71644	10. 174	10.1001	1.20001	
	4977	+4714	34744	9.077	8.9618	.97239	
	*223	5266	-,77849	4 + 05 3	7.9586		
	.610	.6019	·.22058	5.428	6.3467	.80255	
••	+686	.6771	16935	1.768	1.7454	.24198	
	.762	.7523	12359	1.192	1.1766	.07065	
	73161 8.5'"	EQUAT:	(R/RG)=	.737*(X/RG)**	-3.093	CORRELATION C	OEFFICIENT= .93
DEVENS 160CT PELLEY OFPTH	7314LB,FUL OF BURIAL	EQUAT:	(R/RD)= GPFEN GLASS	.737* (X/RG)**	-3.093 CRATE	CORRELATION C R 9ADIUS(RC)+1.0	DEFFICIENT= .93
DEVENS 160CT PELLEY OFPTH	7314LB,FUL OF BURIAL	EQUAT:	(R/RC)= COFEN GLASS ACH FT RANGES	.737* (X/RG)**	-3.093 CRATE	CORFLATION C R 9ADIUS(RC)=1.0	OEFFICIENT= .93
DEVENS 160CT PELLET OFFTH PIELD DATA:	7314LB,FUI OF BURIAN	EQUAT: LL BUPIFO: T 2.5 ESHCT PFLL	(R/RC)= CPFEN GLASS ACH FT RANGES LOG10(X/RC)	.737* (X/RG)**	-3+093 CRATE SHOT PFLL R/RC	CORRFLATION C R 9ADIUS(RC)=1+0 FT RANGES LCGIU(R/RC)	OEFFICIENT= .93
DEVENS 160CT PELLET OEPTH PIELO DATAT	7314LB,FUL OF BURIAL	EQUAT:	(R/RC)= CPFEN GLASS ACH FT RANGES LOS10(X/RC)	.737* (X/RG)**	-3+093 CRATE SHOT PELL R/RC	CORFLATION C R PADIUS(RC)=1.0 FT RANGES LCGIT(R7RC)	DEFFICIENT= .92
DEVENS 160CT PELLEY OFPTH PIELD DATA:	7314LB,FUI OF BURIAL PRE METERS -301	EQUAT: L BUPIFO: . * 2.5 SHCT PFLL ****** ******	(R/RG)= CPFEN GLASS ACH FT RANGES LOG10 (X/RC) 42462	-737* (X/RG)** 1 JHCH PQST PQST 	-3.093 CRATE SHOT PELL R/RC 43.4246	CORRELATION C R PADIUS(RC)=1.0 FT RANGES LCGIUT(R7RC) 1.63774	0EFFICIENT= .93
DEVENS 160CT PELLET DEPTH PIELD DATAT	7314LB,FU OF BURIAN PRE HETERS .301 .457	EQUAT: L BUPIFO: T 2.5 ESHCT PFLL 	(R/RG)= (PFEN GLASS) ACH FT RANGES LOS10 (X/RC) 42462 34544	.737*(X/RC)**	-3.093 CRATE SHOT PFLL R/RC 43.4246 26.6115	CORRFLATION C R PADJUS(RC)=1.0 FT RANGES LCGIT(R/RC) 1.63774 1.42507	0EFFICIENT= .93
DEWENS 160CT PELLEY DEPTH PIELO DATA:	7314LB,FUI OF BURIAL PRE 	EQUAT: LL BUPIFO: SHCT PFLL .3762 .4514 .5266	(R/RG)= CPFEN GLASS ACH FT RANGES LOG10 (X/RC) 42462 34544 77849	.737*(X/RC)** 1 INCH PUST # METEPS 43.983 26.953 13.777	-3.093 CRATE SHOT PFLL R/RC 41.4246 26.6115 13.6022	CORRFLATION C R PADIUS(RC)=1.0 FT RANGES LCGIUTR7RC) 1.63774 1.42507 1.13361	0EFFICIENT= .93
DEWENS 160CT PELLET DEPTH PIELO DATAT	7314LB,FUI OF BURIAN PRE PRE 	EQUAT: LL BU9IF0: 2.5 ESHCT PFLL 	(R/RG)= COFEN GLASS ACH FT RANGES LOG10 (X/RC) 42462 34544 77849 2050	.737*(X/RC)** 1 INCH 	-3.093 CRATE SHOT PFLL R/RC 43.4246 26.6115 13.6027 7.1110	CORRFLATION C R 9AD JUS (RC) =1.0 FT RANGES LCG10K-770 1.63774 1.42507 1.13361 .65193	OEFFICIENT 93
DEVENS 160CT PELLEY DEPTH PIELO DATAT	7314LB,FUI OF BURIA PRI HETERS .301 .457 .533 .610	EQUAT: 	(R/RG)= COFEN GLASS) ACH FT RANGES LOG10 (X/RC) 42462 34544 77849 22050 -16735	.737* (X/RC)** 1 JHCH PUST # METEPS 43.983 26.953 13.777 7.202 4.297	-3.093 CRATE SHOT PELL R/RC 43.4246 26.6115 13.6022 7.1110 4.3833	CORFLATION C R 940 IUS (RC) =1.0 FT RANGES LCG10TR7RC) 1.63774 1.42507 1.13361 .65193 .5384	DEFFICIENT
DEVENS 160CT PELLET DEPTH FIELG DATA:	7314LB,FUI OF BURIA PRI METERS .301 .457 .533 .610 .762	EQUAT: = 2.5 ESHCT PFLL .3762 .4514 .5266 .6019 .6771	(R/RG)= (CPFEN GLASS) ACM FT RANGES LOG10(X/RC) 42462 34544 27849 22050 15035 15035	.737* (X/RC)** 1 INCH 	-3.093 CRATE SHOT PFLL R/RC 43.4246 26.6115 13.6022 7.1110 4.3835	CORRFLATION C R 9AD JUS (RC) =1.0 FT RANGES LCG10(R7RC) 1.63774 1.42507 1.43361 .85193 .7386	0EFFICIENT= .93
DEWENS 160CT PELLEY OFFTH PIELO DATA:	7314LB,FUI OF BURIAI PRE PRE PRE 	EQUAT: . # 2.5 SHCT PFL . 3762 .4514 .5266 .6019 .6771 .7523	(R/RG)= (COFEN GLASS) ACH FT RANGES LOG10(X/PG) 42862 34544 27849 27849 22050 16733 12359	.737* (X/RC)** 1 THCH # # ETEPS 43.983 26.953 13.777 7.202 4.420 1.439 1.439	-3.093 GRATE SHOT PFLL R/RC 43.4246 26.6115 13.6022 7.1110 4.3635 1.4204	CORFLATION C R 940 IUS (RC) = 1.0 FT RANGES LCG10(R7RC) 1.63774 1.42507 1.13361 .65193 .7386 .5241	DEFFICIENT . 93
DEVENS 160CT PELLET OFPTH PIELO DATAT	7314LB,FUI OF BURIA PRI PRI PRI PRI 	EQUAT: + 8091F0: + 2.5 ESKCT PFLL - XFRC - 3762 - 4514 - 5266 - 6019 - 6771 - 7523 - 8276 - 9024	(R/RC) = COFEN GLASS 4CH FT RANGES LOSIO (X/RC) 42462 34544 27844 27844 22050 12359 08220 08220	.737* (X/RC)** 1 THCH # METEPS 43.983 26.953 13.777 7.202 4.420 1.439 1.073 1.179	-3.093 CRATE SHOT PFLL R/RC 47.4246 26.6115 13.6027 7.1110 4.3635 1.4204 1.0593 1.1556	CORRFLATION C R 94D JUS (RC) =1.0 FT RANGES LCG10TR7RC) 1.63774 1.42507 1.1351 .65193 .73984 .15241 .02501 .02501	0EFFTCIENT 9:
DEVENS 160CT PELLET OFPTH PIELO DATAT	7314LB,FUI OF GURIAL OF GURIAL HETERS 301 457 533 618 .762 .638 .914	EQUAT: 	(R/RC) = COFEN GLASS 4CH T RANGES LOG10(X/PC) 42652 34544 27844 27844 22050 -16735 12359 08220 04441 (D/PC) =	.737* (X/RC)** 1 THCH # METEPS 43.983 26.953 13.777 7.202 4.420 1.439 1.073 1.177	-3.093 CRATE SHOT PELL R/RC 43.4246 26.6115 13.6027 7.1110 4.3635 1.4204 1.0593 1.155 -4.645	CORRFLATION C R 940 IUS (RC) =1.0 FT RANGES LCG10TR7RC) 1.63774 1.42507 1.413361 .85193 .73984 .15241 .02501 .02780 COED.1117470	00 FFT 01 E NT
DEWENS 160CT PELLEY DEPTH PIELO DATAT	7314LB,FUI OF BURIAY PRI PRI PRI 	EQUAT: # 205 SHCT PFLL * 205 SHCT PFL * 205 *	(R/RC) = COTEN GLASS ACM FT RANGES LOGIO (X/RC) -42862 -42862 -275844 -27584 -275844 -27584 -27584 -27584 -27584 -275	.737*(X/RC)** 1 INCH ************************************	-3.093 CRATE SHOT PFLL R/RC 43.4246 26.6115 13.6022 7.1110 4.3635 1.42204 1.0593 1.1556 -4.685	CORRELATION C CORRELATION C R 94DIUS(RC)=1.0 FT RANGES LCGIUTRFRC) 1.63774 1.42507 1.43361 .65193 .65193 .65193 .65193 .65193 .65261 .05261 .06280 CORRELATION C	0EFFICIENT= .92
DEVENS 160CT PELLET OFFTH PIELO DATAT 	7314LB,FUI OF BURIAt PR NETERS R 	EQUAT: = 209 = 200 =	(R/RC) = COFEN GLASS ACM FT RANGES LOSIO (X/PC) 42862 34544 77844 77844 27844 -	.737* (X/RC)** 1 THCH # METEPS 43.983 26.963 13.777 7.202 4.420 1.439 1.073 1.177 .565* (X/NC)**	-3.093 CPATE SHOT PFLL R/RC 41.4246 26.6115 13.6027 7.1110 4.3635 1.4204 1.0593 1.1556 -4.685	CORRFLATION C R 940 JUS (RC) =1.0 FT RANGES LCG10TR7RC) 1.63774 1.42507 1.43561 .65193 .73984 .15241 .02501 .06780 COFRELATION C R RADIUS(RC) = .7	0EFFTCIENT= .92 13 WETERS 0E FFTCIENT= .94 03 METERS
DEWENS 160CT PELLET OFPTH PIELG DATAT	731 4LB, FUI OF BURTAN PRI 	EQUAT: # 205 SHCT PFLL * 205 SHCT PFLL * 205 *	(R/RC) = COFEN GLASS ACM FT RANGES LOGIO (X/RC) 42862 42862 27849 -	.737* (X/RG)** 1 JHCH METEPS 43,983 26,953 13,777 7,202 4,420 1,439 1,073 1,177 .565* (X/RG)**	-3.093 CRATE SHOT PFLL R/RC 43.4246 26.6115 13.6022 7.1110 4.3535 1.42593 1.1556 -4.685 UC) CRATE SHOT PFLL	CORRELATION C R 94D IUS (RC) =1.0 FT RANGES LCGIUTR7RC) 1.63774 1.42507 1.13361 .65193 .65193 .65594 .05780 CORRELATION C R RADIUS (RC) = .7 FT RANGES	0EFFTCIENT= .92
DEVENS 160CT PELLET OFPTH PIELE DATAT	7314LB, FUU OF BURIAI PRI PRI PRI 	EQUAT: = 205 = 205 = 5KcT PFLL = 2762 - 4514 - 5266 - 6019 - 7523 - 6776 - 9022 EOLATION LL SURIED: = 7.5 = 5KcT PFLL _ 7.5 = 5KcT PFL _ 7.5 = 5KcT	(R/RC) = COFEN GLASS ACM FT RANGES LOG10(X/PC) 42652 34544 27644 	.737* (X/RC)** 1 THCH METEPS 43.983 26.953 13.777 7.202 4.420 1.439 1.073 1.177 .565* (X/RC)**	-3.093 CRATE SHOT PFLL R/RC 41.4246 26.6115 13.4022 7.1110 4.3637 1.4204 1.4204 1.4593 1.4556 -4.685 UC) CRATE SNOT PFLL R/RC	CORRFLATION C R 940 JUS (RC) =1.0 FT RANGES LCG10T(R/RC) 1.63774 1.42507 1.43361 .85193 .65193 .73984 .02501 .05780 CORRELATION C R RAOIUS(RC) = .7 FT RANGES LOG10(R/PC)	0EFFICIENT= .93
DEWENS 160CT PELLET OEPTH PIELG DATAT LST SO FIT T DEVENS 160CT PELLET DEPTH PTELC DATAT	731 4LB, FUI OF BURTAN PRI 	EQUAT: * 2:5 SHCT PFLL * 2:5 SHCT PFL * 3762 * 5266 .6019 * 7523 .8276 .9028 EOLATION LL BURIED: * 7:5 SHCT PFLL */PF	(R/RC) = COFEN GLASS ACM FT RANGES LOGIO (X/RC) 42862 27849 -	.737* (X/RC)** 1 JHCH METEPS 43,983 26,953 13,777 7,202 4,439 1,073 1,177 .565* (X/NC)** 1 INCH (REPROD POST R METERS	-3.093 CRATE SHOT PFLL R/RC 41.4246 26.6115 13.6027 7.1110 4.3535 1.45593 1.1556 -4.685 UC) CRATE SHOT PFLL R/RC	CORRELATION C R 94DIUS(RC)=1.0 FT RANGES LCGIUTR7RC) 1.63774 1.42507 1.13361 .65193 .65193 .65594 .057501 .06780 COFRELATION C R RADIUS(RC)= .7 FT RANGES LGG10(R/PC)	0EFFTCIENT= .92
DEWENS 160CT PELLET OFFIH PIELO DATAT LST SQ FIT T DEVENS 160CT PELLET DEPTH PIELO DATAT	731 4LB, FUU OF BURIAI PRI KETERS PRI 	EQUAT: = 205 = 205 = 205 = 207 =	(R/RC) = COFEN GLASS ACM FT RANGES LOG10(X/PC) 42652 34544 27640 -27544 -27554 -27544 -27554 -27544 -27554 -27554 -27554 -27554 -27555 -27554 -27554 -27554 -27554 -275555 -27555 -27555 -27555 -2755555 -2755555 -275555 -275555 -2755555 -2755555 -2755555 -2755555 -2755555 -27555555 -2755555 -2755555 -2755555 -2755555 -2755555 -275555555 -27555555 -27555555 -275555555 -27555555 -275555555 -27555555555555 -27555555555555555555555555555555555555	.737* (X/RC)** 1 THCH METEPS 43.983 26.953 13.777 7.202 4.420 1.439 1.073 1.177 .565* (X/RC)** R METERS 3.13.77 .565* (X/RC)**	-3.093 CRATE SHOT PFLL R/RC 41.4246 26.6115 13.4022 7.1110 4.3637 1.4204 1.0593 1.1556 -4.685 UC) CRATE SHOT PFLL R/RC 47.4122	CORRFLATION C R 940 JUS (RC) =1.0 FT RANGES LCG10T(R/RC) 1.63774 1.42507 1.13361 .85193 .85193 .9386 .15241 .02501 .05780 CORRELATION C R RADIUS (RC) = .7 ET RANGES LOG10(R/PC) 1.67589	0EFFTCIENT= .93
DEWENS 160CT PELLET OEPTH PIELG DATAT LST SO FIT T DEVENS 160CT PELLET DEPTH PTELC DATAT	731 4LB, FUU OF BURTAN PRI 	EQUAT: # 205 SHCT PFLL * 205 SHCT PFL * 205 * 206 * 5266 * 6019 * 7523 * 8276 * 9028 EOLATION LL SURIED: * 205 SHCT PFLL * 2067 * 2067 * 205	(R/RC) = COFEN GLASS) ACM ACM FT RANGES LOG10 (X/RC) 42862 34544 27849 27849 27849 27849 27849 27849 28540 -08220 -04441 (R/RC) = FFD ACRYLIC, ACM FT RANGES LOG10 (X/RC) 56408	.737* (X/RC)** 1 THCH METEPS 43,983 26,953 13,777 7,202 4,420 1,439 1,073 1,177 .565* (X/NC)** A 1 INCH (REPROD POST R METERS 33,139 2A.072	-3.093 CRATE SHOT PFLL R/RC 41.4246 26.6115 13.6027 7.1110 4.3533 1.1556 -4.685 UC) CRATE SHOT PFLL Q/RC 47.4122 18.0220	CORRELATION C R 940 IUS (RC) =1.0 FT RANGES LCGIUTR7RC) 1.63774 1.42507 1.13361 .65193 .55241 .05261 .06280 COFRELATION C R RADIUS(RC) = .7 FT RANGES LGGIO(R/PC) 1.67589	0EFFTCTENT= .92
DEVENS 16 OCT PELLET OFFIH PIELE DATAT	7314LB,FUU OF BURIAI PRI KETERS PRI 	EQUAT: = 205 = 205 = 205 = 207 = 205 = 207 =	(R/RC) = COFEN GLASS, ACM FT RANGES LOG10(X/PC) 42652 34544 27654 27654 22650 16755 12359 08220 08421 (R/RC) = PFD ACRYLIC, 40749 4709 4709 4709 4709 4709 4709	.737* (X/RC)** 1 THCH METEPS 43.983 26.953 13.777 7.202 4.420 1.439 1.073 1.177 .565* (X/RC)** R METERS 3.1.37 .565* (X/RC)**	-3.093 CRATE SHOT PFLL R/RC 41.4246 26.6115 13.4022 7.1110 4.3637 1.4204 1.0593 1.1556 -4.685 UC) CRATE SHOT PFLL R/RC 47.4122 39.9220	CORRFLATION C R 940 JUS (RC) =1.0 FT RANGES LCG10T(R/RC) 1.63774 1.42507 1.13361 .85193 .85193 .9384 .15241 .02501 .06780 CORRELATION C R RADIUS (RC) = .7 FT RANGES LOG10(R/PC) 1.67589 1.60121	0EFFTCIENT= .93
DEWENS 160CT PELLET OEPTH PIELG DATAT LST SO FIT T DEVENS 160CT PELLET DEPTH PIELG DATAT	731 4LB, FUI OF BURTAN PRI 	EQUAT: # 205 SHCT PFLL * 205 SHCT PFL * 206 * 6019 * 726 * 6019 * 726 * 9028 EOLATION LL SURIED: * 75 SHCT PFL * 757 * 5266 * 9028 EOLATION LL SURIED: * 75 * 54 * 75 * 7	(R/RC) = (COFEN GLASS) ACM ACM T RANGES LOG10 (X/RC) 42862 34544 27849 27849 27849 27849 27849 27849 27849 27849 27849 27849 27849 285408 (R/RC) = FFD ACRYLIC, ACM 48769 48769 36408 48769 36407 56408 56407 56607 56407 56407 56607 56607 56607 56607 -	.737* (X/RC)** 1 THCH METEPS 43.983 26.953 1*.777 7.202 4.429 1.439 1.073 1.177 .565* (X/MC)** 1 INCH (REPROD POST R METERS X1, X39 28.072 12.893	-3.093 CRATE SHOT PFLL R/RC 43.4246 26.6115 13.6027 7.1110 4.3533 1.1556 -4.685 UC) CRATE SHOT PFLL R/RC 47.4122 39.9220 18.3355	CORRELATION C R 940 IUS (RC) =1.0 FT RANGES LCGIUTR7RC) 1.63774 1.42507 1.13361 .85193 .55241 .05261 .06280 COFRELATION C R RADIUS(RC) = .7 FT RANGES LGGI0(R/PC) 1.67589 1.67589	0EFF101ENT= .92
DEVENS 16 OCT PELLET OFFIH PIELE DATAT	7314LB,FUU OF BURIAI PRI KETERS PRI PRI 	EQUAT: = 205 = 205 = 205 = 207 =	(R/RC) = COFEN GLASS, 404 404 	.737* (X/RC)** 1 THCH METEPS 43.983 26.953 13.777 7.202 4.420 1.439 1.073 1.171 .565* (X/NC)** METERS THCH (REPROD R METERS 3.3.739 26.072 12.893 4.907	-3.093 CRATE SHOT PFLL R/RC 41.4246 26.6115 13.4027 7.1110 4.3637 1.4204 1.0593 1.1556 -4.685 UC) CRATE R/RC 47.4122 39.0220 18.3355 6.9788	CORRFLATION C R 940 JUS (RC) =1.0 FT RANGES LCG10T(R/RC) 1.63774 1.42507 1.413361 .85193 .85193 .9386 .15241 .02501 .06780 CORRELATION C R RADIUS (RC) = .7 FT RANGES LCG10(R/PC) 1.67589 1.60121 1.26329 .84378	0EFFTCIENT= .93
DEWENS 160CT PELLET OFFIH PIELO DATAT LST SQ FIT T DEVENS 160CT PELLET DEPTH PIELO DATAT	731 4 LB , FUI OF BURTAN FETERS 301 457 533 616 	EQUAT: # 2091F0: # 205 ESKCT PFL ************************************	(R/RC) = (CPFEN GLASS) 4CM FT RANGES LOS10(X/PC) 42862 34544 77844 77844 22050 12359 08220 04441 (R/RC) = FFO ACRYLIC, 4CM 56408 48769 26614	.737* (X/RC)** 1 JHCH # METEPS 43.983 26.953 13.777 7.202 4.420 1.439 1.073 1.177 .565* (X/NC)** A METERS 33.739 26.072 12.893 4.907 1.189 .222	-3.093 CPATE SHOT PFLL R/RC 41.4246 26.6115 13.6027 7.1110 4.3635 1.4533 1.1556 -4.685 UC) CRATE R/RC 47.4122 39.9220 1.7017	CORRFLATION C R 940 JUS (RC) =1.0 FT RANGES LCG10TR/RC) 1.63774 1.42507 1.42507 1.43513 .65193 .65295 .06780 COFRELATION C R PAOIUS(RC) = .7 FT RANGES LOG10(R/PG) 1.67589 1.67588 1.67589 1.67588 1.67588 1.	0EFFICIENT= .92
DEVENS 16 OCT PELLET OFFTH PIELD DATAT	7314LB,FUU OF BURIAI PRI KETERS PRI PRI 	EQUAT: = QUAT: = 2:5 ESKCT PELL = 2:5 =	(R/RC) = (R/RC) = (COFEN GLASS, ACM FT RANGES LOG10(X/PC) 42462 34544 27849 22050 12359 02441 (R/RC) = FFO ACRYLIC, 4079 56408 4799 365408 48796 185	.737* (X/RC)** 1 JNCH METERS 43.983 26.953 13.777 7.202 4.420 1.439 1.073 1.177 .565* (X/RC)** R METERS NCTERS	-3.093 CRATE SHOT PFLL R/RC 41.4246 25.6115 13.4022 7.1110 4.3637 1.4204 1.0593 1.1556 -4.685 UC) CRATE R/RC 47.4122 39.4226 1.6305 -1.7945 -2.980	CORRFLATION C R 940 IUS (RC) =1.0 FT RANGES LCG10TR7RC) 1.63774 1.42507 1.13361 .65193 .65193 .65193 .05780 COFRELATION C R RAOIUS(RC) = .7 ET RANGES LCG10TR7PC) 1.67589 1.60121 1.67589 1.60121 1.62507 .23195 CORRFLATION C	0EFFICIENT= .93
DEWENS 160CT PELLET OEPTH PIELG DATAT LST SO FIT T DEVENS 160CT PELLET DEPTH PIELG DATAT	731 4LB, FUU OF BURIAI PRI 	EQUAT: # 205 ESKCT PFLL * 205 ESKCT PFL * 200 * 200	(R/RC) = (R/RC) = 404 404 404 	.737* (X/RG)** 1 JNCH 	-3.093 CRATE SHOT PFLL R/RC 47.4246 26.6115 13.6022 7.1110 4.3635 1.1556 -4.685 UC) CRATE SHOT PFLL R/RC 47.4122 39.9220 1.6905 1.6905 1.7945 -2.980	CORRELATION C R 940 IUS (RC) =1.0 FT RANGES LCGIUTR7RC) 1.63774 1.42507 .413361 .65193 .55241 .05260 COFRELATION C R RAOIUS(RC) = ,7 FT RANGES LOGIO(R/PC) 1.67589 1.67589 1.67589 2.67589 CORRELATION C	DEFFICIENT= . 93
DE VENS 160CT PELLET OFPTH PIELG DATAT 	731 4 LB , FUI OF BURTAN FTERS PRI PRI PRI PRI 	EQUAT: EQUAT: EQUAT: EQUAT: EQUATION EQUA	(R/RC) = (CPFEN GLASS) ACM FT RANGES LOSIO(X/PC) 42862 34584 77844 77844 77844 22050 12359 08220 04441 (R/RC) = FT RANGES LOSIO(X/PC) 5640R 4779 36705 18496	.737* (X/RC)** 1 JHCH METEPS 43.983 26.953 13.777 7.202 4.420 1.439 1.073 1.177 .565* (X/NC)** A METERS 33.739 26.072 12.893 4.907 1.189 1.262 .872* (X/RC)**	-3.093 CPATE SHOT PFLL R/RC 41.4246 26.6115 13.6027 7.1110 4.3635 1.4533 1.1556 -4.685 UC) CRATE R/RC 47.4122 39.9220 1.6905 1.6905 1.7945 -2.980 ROD) CRATE	CORRFLATION C R 940 IUS (RC) =1.0 FT PANGES LCG10TR/RC) 1.63774 1.42507 1.42507 1.43513 .65193 .65281 .05281 .06280 CORRELATION C R PADIUS(RC) = .7 FT RANGES LCG10(RC) = .7 1.67589 1.67589 1.67589 CORRFLATION C R RADIUS(RC) = .7 R RADIUS(RC) = .7	0EFFICIENT= .93 13 METERS 0E FFICIENT= .94 03 METERS 05 METERS
DEVENS 160CT PELLE DEPTH PIELS DATAT LST SO FIT T DEVENS 160CT PELLET DEPTH FIELD DATAT CLST SQ FIT T DEVENS 160CT PELLET DEPTH	731 4LB, FUI OF BURIAI PRI PRI PRI PRI PRI PRI 	EQUAT: # 809 If0: # 2:5 ESKCT PFLL ***********************************	(R/RC) = (COFEN GLASS) ACM FT RANGES LOGIO (X/PC) 42462 34544 27050 042462 27050 042461 (R/RC) = PFD ACRYLIC, ACM 4709 56408 4709 365405 26614 (R/RC) = ORANGE ACPYL ACM	.737* (X/RG)** .1 JNCH	-3.093 CRATE SHOT PELL R/RC 41.4246 26.6115 13.4022 7.1110 4.5835 1.4206 1.4559 1.4559 1.4559 1.4556 .4.685 UC) CRATE SHOT PELL SHOT PELL	CORRELATION C R 940 IUS (RC) =1.0 FT RANGES LCGIUTR7RC) 1.63774 1.42507 1.43361 .85193 .65193 .65241 .02501 .02501 CORRELATION C R RADIUS (RC) = .7 FT RANGES LOG10 (R/PG) 1.67589 1.67589 1.67589 2.602 .25395 CORRELATION C R RADIUS (RC) = .7 ET PANGES	0EFFICIENT= .93 13 METERS 0E FFICIENT= .94 03 METERS 03 METERS
DEVENS 160CT PELLET OFPTH PJELG DATAT LST SQ FIT T DEVENS 160CT PELLET DEPTH FIELD DATAT LST SQ FIT T DEVENS 160CT PELLET DEPTH PIELD DATAT	731 4LB, FUI OF BURIAL OF BURIAL ACT BU	EQUAT: # 205 ESKCT PFLL ***********************************	(R/RC) = COFEN GLASS, 4CM 4CM 42462 34544 77844 22650 42359 08220 04461 (R/RC) = FFD ACRYLIC, 4CM 4A709 36408 4A709 36408 4A709 36408 4A709 .36705 12001 (R/RC) = CARAGES LOGIG (X/RF)	.737* (X/RC)** 1 THCH T THCH T THCH T T T T T T T T T T T T T T T T T T T	-3.093 CRATE SHOT PFLL R/RC 41.4246 26.6115 13.6027 7.110 4.3637 1.4204 1.0593 1.1556 -4.685 UC) CRATE UC) CRATE SNOT PFLL R/RC 47.4122 39.9220 1.6905 1.6905 1.7945 -2.980 ROD) CRATE SHOT PELL R/RC	CORRFLATION C R 940 JUS (RC) = 1.0 FT RANGES LCG10T(R/RC) 1.63774 1.42507 1.13361 .85193 .73984 .15241 .02501 .06780 CORRELATION C R RAOIUS(RC) = .7 FT RANGES LGG10(R/RC) .28378 .22602 .25395 CORRFLATION C R RAOIUS(PC) = .7 CORRFLATION C R RAOIUS(PC) = .7 ET PANGES LOG10(R/RC)	0EFFICIENT= .93 13 WETERS 0EFFICIENT= .94 03 HETERS 04 HETERS
DEVENS 160CT PELLE DEPTH PIELS DATAT LST SO FIT T DEVENS 160CT PELLET DEPTH FIELD DATAT LST SQ FIT T DEVENS 160CT PELLET DEPTH PELLET DEPTH PELLET DEPTH	731 4LB, FUI OF BURIAN PRI PRI 	EQUAT: # 809 I f0: # 2:5 SHCT PFLL S762 .5762 .5762 .5763 .5771 .7523 .6771 .7523 .6775 .8276 .9022 EOLATION LL 2UR IED: .4325 .5414 .5502 .7586 EOUATION LL BURIED: # 5.0 ESNOT PFLL SYRT	(R/RC) = (COFEN GLASS) 4CM 4CM 	.737* (X/RG)** .1 JNCH	-3.093 CRATE SHOT PFLL R/RC 41.4246 26.6115 13.4022 7.1110 4.5633 1.4204 1.0593 1.4204 1.0593 1.4204 1.0593 1.4204 1.0593 1.4204 1.0593 1.4204 4.685 UC) CRATE SHOT PFLL R/RC R/RC	CORRELATION C R 940 IUS (RC) =1.0 FT RANGES LCGIUTR7RC) 1.63774 1.42507 1.43361 .85193 .5241 .02501 .06780 CORRELATION C R PAOIUS (RC) = ,7 FT RANGES LOGIO (R/PG) 1.67589 1.67589 1.67589 1.67589 2.6729 CORPELATION C R RADIUS (RC) = ,7 ET PANGES LOGIO (R/RC)	0EFFICIENT= .93
DEVENS 160CT PELLET OFPTH PJELG DATAT 	731 4LB, FUI OF BURIAL OF BURIAL ACT BU	EQUAT: = QUAT: = 2:5 ESKCT PELL = 2:5 ESKCT PELL = 2:5 = 2	(R/RC) = COFEN GLASS, 4CM 4CM 	.737* (X/RC)** 1 THCH METEPS 4.983 26.963 26.963 1.777 7.202 4.420 1.439 1.073 1.171 .565* (X/NC)** METERS 3.1.179 .565* (X/NC)** .1.189 1.262 .872* (X/RC)** METERS .1.69	-3.093 CRATE SHOT PFLL R/RC 41.4246 26.6115 13.6027 7.110 4.35837 1.4204 1.0593 1.1556 -4.685 UC) CRATE UC) CRATE UC) CRATE 1.4204 1.	CORRFLATION C R 940 JUS (RC) = 1.0 FT RANGES LCG10TRF/RC) 1.63774 1.42507 1.13361 .85193 .73984 .15241 .02501 .06780 CORRELATION C R RAOIUS(RC) = .7 FT RANGES LOG10(R/PC) 1.67589 1.60521 .22602 .25395 CORPFLATION C R RAOIUS(RC) = .7 ET PANGES LOG10CR/RC) 1.22713	0EFFICIENT= . 93 13 WETERS 0EFFICIENT= . 94 03 HETERS 06FFICIENT= . 93 03 HETERS
DEVENS 160CT PELLE DEPTH PIELS DATAT LST SO FIT T DEVENS 160CT PELLET DEPTH PIELS DATAT - LST SO FIT T DEVENS 160CT PELLET DEPTH PIELS DATAT	731 4LB, FUI OF BURTAN PRI PRI PRI PRI 	EQUAT: # 200 ESKCT PFLL * 2:5 ESKCT PFLL * 2:5 * 2:5 * 37 62 * 5:266 .6019 .5762 .6771 .7523 .6276 .9022 EOLATION LL 2UR IE01 * 7:5 SHCT PFLL * 7:56 EOUATION LL BURIED1 * 5:0 ESHOT PFLL * 7:3251	(R/RC) = (COFEN GLASS) 4CM 4CM 	.737* (X/RG)** .1 JNCH	-3.093 CRATE SHOT PFLL R/RC 41.4246 26.6115 13.4022 7.1110 4.5633 1.1556 -4.685 UC) CRATE SHOT PFLL R/RC 47.4122 39.4220 1.7945 -2.980 ROD) CRATE SHOT PELL R/RC 16.6786 4.2876 4.2876	CORRELATION C R 940 IUS (RC) =1.0 FT RANGES LCGIUTR7RC) 1.63774 1.42507 1.43361 .85193 .55241 .02501 .05780 CORRELATION C R RAOIUS(RC) = .7 FT RANGES LOGIO(R/PG) 1.67589 1.67589 1.67589 2.607 .25395 CORRELATION C R RAOIUS(RC) = .7 ET PANGES LOGIO(R/RC) 1.2713	0EFFICIENT= .93
DEVENS 16 OCT PELLET OFFIH PIELO DATAT 	731 4LB, FUI OF BURIAL OF BURIAL METERS PRI PRI PRI PRI PRI PRI 	EQUAT: = QUAT: = 2:5 ESKCT PELL = 2:5 =	(R/RC) = (COFEN GLASS, 4CM 4CM 	.737* (X/RC)** 1 THCH METEPS 4 3,983 26,953 13,777 7,202 4,420 1,439 1,073 1,177 .565* (X/RC)** METERS 3,011 METERS M	-3.093 CRATE SHOT PFLL R/RC 41.4246 26.6115 13.4027 7.1110 4.3637 1.4204 1.0593 1.1556 -4.685 UC) CRATE R/RC 47.4122 39.0220 18.3355 6.9785 1.6905 1.6905 1.6905 1.6905 1.6905 1.6905 1.6905 1.6905 1.6905 1.6905 1.6905 1.6905 1.6905 1.6905 1.6905 1.6206 2.4980 RODI CRATE SHOT PELL R/RC 1.68784 4.2267 2.4326 2.4326 1.69745 2.4326 2.4326 1.69745 2.4326 2.4426 2.4426 2.4426 2.4426 2.4426 2.4426 2.4466	CORRFLATION C R 940 JUS (RC) = 1.0 FT RAMGES LCG10TR7RC) 1.63774 1.42507 1.13361 .85193 .65193 .05780 COFRELATION C R RAOIUS (RC) = .7 I.67589 1.60121 1.26329 .8378 .25395 CORRFLATION C R RAOIUS (RC) = .7 LCG10TR7RC) 1.67589 .60121 .25395 CORRFLATION C R RAOIUS (RC) = .7 .63176 .25195 CORRFLATION C R RAOIUS (RC) = .7 .63171 .63171 .53619	0EFFICIENT= . 93
DEVENS 160CT PILLET DEPTH PIELS DATAT 	731 4 LB, FUI OF BURTAN PRI 	EQUAT: # 200 ESKCT PFLL * 205 ESKCT PFL * 200 * 200	(R/RC) = (COFEN GLASS) 4CM 4CM 	.737* (X/RG)** 1 JNCH 	-3.093 CRATE SHOT PFLL R/RC 41.4246 26.6115 13.6022 7.1110 4.50593 1.4204 1.05593 1.4204 1.05593 1.4204 1.05593 1.4204 1.05593 1.4204 4.50593 1.45556 4.74526 1.7945 1.7945 1.7945 1.6204 4.5026 2.47734 2.0046 1.6204 4.5026 2.4734 2.0046 1.6204 1.6204 1.7555 1.7945 1.6204 1.7555 1.7945 1.6204 1.7555 1.7945 1.6204 1.7555 1.7945 1.7545 1.6204 1.7545 1.7545 1.7545 1.6204 1.7545 1.7545 1.6204 1.7545 1.6204 1.7545 1.7545 1.6204 1.7545 1.7545 1.6204 1.7545 1.6204 1.6204 1.7545 1.6204 1.7545 1.6204 1.6204 1.7545 1.6204 1.6204 1.7545 1.6204 1.6204 1.7545 1.6204 1.6204 1.6204 1.6204 1.7545 1.7545 1.7545 1.6204 1	CORRELATION C R 940 IUS (RC) =1.0 FT RANGES LCGIUTR7RC) 1.63774 1.42507 .413361 .85193 .55241 .05780 CORRELATION C R RADIUS (RC) = .7 FT RANGES LOG10 (R/PG) 1.67589 1.67589 1.67589 1.67589 1.67589 2.5375 CORRELATION C R RADIUS (PC) = .7 ET PANGES LOG10 (R/RC) 1.2713 .63171 .36612 .3253	DEFFICIENT= . 93
DEVENS 16 OCT PELLET OFFIH PIELD DATAT 	731 4LB, FUI OF BURIAI PRI PRI PRI PRI 	EQUAT: EQUAT: # 205 ESKCT PFLL ***********************************	(R/RC) = (COFEN GLASS) ACM FT RANGES LOG10(X/PC) 42462 34544 27844 27844 27844 27844 27844 27844 27844 27844 27844 27844 27844 27844 27844 28536 08220 04441 (R/RC) = FFO ACRYLIC, 4079 365408 26614 26540 365488 48799 365488 36548 26518 25518 255	.737*(X/RG)** 1 JNCH METEPS 43,983 26,953 13,777 7,202 4,420 1,439 1,073 1,177 .565*(X/RG)** METERS X3,739 24,072 1,893 1,262 .872*(X/RG)** METERS METERS X3,739 1,262 .872*(X/RG)** METERS 1,653 1,653 1,654 1,655 1,	-3.093 CRATE SHOT PFLL R/RC 43.4246 25.6115 13.4022 7.1110 4.3637 1.4204 1.6593 1.1556 -4.685 UC) CRATE Q/RC 47.4122 39.4226 1.7945 -2.980 ROD) CRATE SHOT PELL R/RC 16.8704 4.2826 2.3734 2.0069 1.0897	CORRELATION C R 940 IUS (RC) =1.0 FT RANGES LCGIUTR7RC) 1.63774 1.42507 1.43361 .65193 .65193 .65193 .05241 .02501 .06240 CORRELATION C R RAOIUS (RC) = .7 I.60126 I.67589 I.60121 1.67589 I.60121 1.67589 CORRELATION C R RAOIUS (RC) = .7 ET RANGES LOGIO (R/RC) I.22713 .63171 .36612 .30753 .8774	0EFFICIENT= . 93

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PELLES DEFIN		SHCT PFIIF	T RANGES	#057	SHOT PELLE	T RANGES	
FIELD DATAL	X	X/RC	LOS10(X/PC)	R	R/RC	LOGIG(R/RC)	
	HETERS		,	HETERS	LT 3506		
	•229	+ 3251	~.40/94 		4346790 19,8596	+- 29793	
	.361	-5418	26614	5+206	7.4036	. 86944	
	1457	.6582	18696	1.603	2.2000	.35794	•• •
191 s q fit t	0 L06-L06	EQUATION	{ #/ ¶C}=	•476*(X/RC)**	-4.179	COPRELATION	COEFFICIENT# . 9815
	174151 8151	108=0.20:RF	P ACRYLIC.	2 THCH	CRATE	PADTUS (RC)=1.	024 HETERS
FELLEY DEPTH	OF BURILL	2 ¥.6F	PH .				
	PRE	SHOT FFLU	T RANGES	POST	SHOT PELLE	T RANGES	
FIELD DATAL	METCOS	XIRC	LOGIU(X/PC)	WETERS	R/ RU	1001010/07	
	.305	.2976	- • 52634	40.310	39.3601	1.59506	
	.381	.3720	42943	17.983	17.5595	1.24451	
	.457		- 35075	9.095	8.8839	+94851 . 84601	
	-533	*7208	72531	5,502	5.3720	.73014	· · · · · · · · · · · · · · · · · · ·
	4686	. 669E	17416	1.539	1.5030	. 17695	
	.762	.7446	12848	1.204	1.1756	.07026	
LST SQ FIT 1	1 0 106-10 6	ENURTION	- (P./RC) =	.473*(X/BC)**	-3.725	CORPELATION	COEFFICIENT=
DEVENS SAPRI	1.7415L815	08=0.2011	LLOW GLASS	TINCH	CRATE	RADIUS(RC)=1	.024 METERS
PELLET DEPTH	CF SURIA	# 3.6	T RANGES		SHOT PELV	ET RANGES-+	
FIELD DATA:	X	/ Y/RC	LOGIOCX/PC	P	R/RC	LOGIO (R/PC)	
	METERS	.		METERS			•• •••••
	.381	.3720	4294*	20.955	20.4617	1.31093	
	1457	.4454 .520A	24330	10+982	4.9613	.69560	
		.5952		1.222	3.1458	. 49774	
	.686	.6696	17416	1.442	1.4077	.14852	
ET CO ETT 3		FOILATTON	10/001-	.2784 (1/0014)		COPPER ATTON	COEFFICIENT=
		F					
			•				
			LNGE ACOVI	IC. 3 INCH	CRATE	R RADIUS (PC) #1	.024 HETERS
DEVENS JAPRI	L7415LB1S	D08=0.2010	PANGE ACRYL	IC, 3 INCH	CRATE	R RADIUS(PC)=1	.024 HETERS
DEVENS JAPRI PELLET DEPTI	L74ISLBIS	ESHCT PELL	FANGE ACRYL	IC, 3 INCH	CRATE	R RADIUS(PC)=1	.024 METERS
DEVENS JAPRI PELLET DEPTH FIELD DATAT	L74;5L8tS 4 OF BURIA 	L = 3.61 L = 3.61 X/RC	FANGE ACRYL FCH TRANGES LOGIO (XEPC)	IC, 3 INCH R A1505	CRATE ISHOT PELLI R/RC	R RADIUS(PC)=1 ET RANGES Logio(R/PC)	.024 HETERS
DEVENS JAPRI PELLET DEPTI PIELO DATAT	IL74ISLBIS OF BURIA THEPS	LIGHT 101 L = 3.6 SHCT PFLLI X/RC 2976	CANGE ACRYL: FCM 1 RANGES LOG10 (XFPC) 57834	IC, 3 INCH R R R R R R R R R R R R R R R R R R R	CRATE SHOT PFLL R/RC 31.4782	R RADIUS(PC)=1 ET RANGES LOGIO(R/PC) 1:49790	.024 HETERS
DEVENS JAPRI PELLET DEPTH FIRLD DATA:	L7415L815 OF BURIA WFTEPS PP X HFTEPS 	008=0.2010 L = 3.6 ESHCT PFLLI X/RC 2976 .3720	ANGF ACRYL: FCM 1 RANGES LOG10 (XFPC) 57634 42943	IG, 3 INCH R di EPS Scotty 17.485	CRATE SHOT PFLL R/RC 31.9702 16.7798	R RADIUS(PC)=1 ET RANGES LOG10(R/RC) 1.49790 1.22479	.024 METERS
DEVENS JAPRI PELLET DEPTH PIRLO DATAT	117415LB1S 4 OF BURIA PP X HETEPS 	DOB=0.2010 L = 3.6 ESHCT PFLLI X/RC .3720 .4464	ANGF AGRYL: FCM 1 RANGES LOG10 (XFPC) 57654 42943 35025	IC, 3 INCH R rspns1 R r5 cps Jr. 85 L+159	CRATE SHOT PFLL Q/RC 31.4702 16.7798 8.3571	R RADJUS(PC)=1 ET RANGES LOGIO(P/PC) 1.22479 .92206	.024 METERS
DEVENS JAPRI PELLET DEPTH FIRLO DATAT	LL74;5LBtSi 4 OF BURIA PP: X MFTEPS PP: X MFTEPS 	D08=0.2010 D08=0.2010 L = 3.6 ESHCT PFLLI X/RC .3720 .4464 .5208 .8509	ANGF ACRYL: FCH LOGIO (XFPC) 57634 42943 35025 28330	IC, 3 INCH R R 5 EPS 325779 J7-85 14:59 3.465 7.45	CRATE: SHOT PFLL: Q/RC 31.6702 16.7798 8.3571 3.8720 3.1462	R RADJUS (PC) *1 ET RANGES LOGIOTP/RC) 1:49790 . 92265 .58794 .58794	.024 MEYERS
DEVENS JAPRI PELLET GEPTI FIELD DATA:	117415L815 4 OF BURIA 14 OF BU	008=0.2010 L = 3.6 ESHCT PFLLI X/RC .3720 .4464 .5202 .5952		IC, 3 INCH R R3 EPS 325733 J7-85 1453 3.445 3.445	CRATE: RSHOT PFLL: R/RC 31.4702 16.7798 8.3571 3.8720 3.1667	R RADJUS (PG) *1 ET RANGES LOGI0(P/PG) 1:49790 . 42206 . 58794 . 58060	.024 MEYERS
DEVENS JAPR PELLET DEPTH PIELD DATAT	LT415LB1SI 4 OF BURIA 	008=0.2 nto) L = 3.6 ESHCT PFLL X/FC .3720 .4464 .5202 .5202 .5357	CANGF ACRYL: FCH 1 RANGES LOGIO (X/PC) 5785% 42943 55025 28330 22531 (P/RG) =	IC. 3 INCH R RIEPS 32:1737 17:85 1.159 3.455 3.263 .459*(X/0C)*(CRATE SHOT PFLL Q/RC 31.6702 16.7798 8.3571 3.1667 9 -3.515	R RADJUS (PG) = 1 ET RANGES LOGIO(R/RG) 1.42790 .42206 .50794 .50766 COPPELATION	.024 METERS
DEVENS SAPRI PELLET DEPTH PIELD DATAT	LL74 5L8tS 4 OF 8URIA PP X WFTEPS PP 	008=0.2010 = %.6 ESHCT PFLLI X/RC 2976 .3720 .4464 .5262 .5952 FQUATION	CANGE ACRYL: FCM 1 RANGES LOGIO (X/PC 525% 35025 35025 22531 (P/RG)=	IC, 3 INCH R (1) CPS 32:1737 J7:85 (1:59 3:045 3:045 3:243 459*(1/0C)*(CRATE SHOT PFLL R/RC 31.6702 16.7798 8.3971 3.8720 3.1667 9 -3.514	R RADJUS(PC)=1 ET RANGES LOGIO(R/RC) 1.22479 .92206 .50060 COPPELATION	.024 MEYERS
DEVENS JAPRI PELLET DEPTH FIELD DATAT	LL74;5L8tS 4 OF BURIA PP .303 .305 .057	008=0.2010 = 3.6 ESHCT PFLLI X/RC 2976 .3720 .4464 .5202 .5957 .502 .5957 .502 .5957 .502 .5957 .502 .5057 .5057	CANGE ACRYLI FCM IT RANGES LOGIO (X/PC) 5753 26335 26355 26555 26555 265555 265555 265555 265555 265555 265555 265555 265555 265555 265555 265555 265555 265555 265555 265555 2655555 2655555 265555 265555 265555 2655555 2655555 2655555 265555 265555 265555 2655555 2655555 2655555 265555 2655555 2655555 2655555 2655555 265555 2655555 2655555 2655555 2655555 2655555 2655555 2655555 2655555 2655555 2655555 2655555 26555555 26555555 2655555 26555555 265555555 2655555 265555555555 2655555555555 265555555555555 2655555555555555555555555555555555555	IG, 3 INCH R (3 EPS 324759 J7-85 1459 3.845 3.243 .459*(X/PC)*4 2 TACH	CRATE SHOT PFLL R/RC 31.4702 16.779A 8.3571 3.1667 93.514 CRATE	R RADJUS(PG)=1 ET RANGES LOGIO(R/RC) 1.22479 .522479 .50060 COPPELATION R PADJUS(RC)=1	.024 METERS
DEVENS SAPRI PELLET DEPTI PIELO DATAT - LST SQ PIT 1 DEVENS SAPRI PELLET DEPTI	LL7415LB15 4 OF BURIA PP X WFTEPS PP 	008=0.2010 = %.6 ESHCT PFLLI X/RC 2976 .3720 .4464 .5202 POWATION D.4454 .5352 POWATION D.4454 .5255 POWATION D.4454 .5255 POWATION	CANGE ACRYL: FCM 1 RANGES LOGIO (X/PC) 575% 22933 22533 (P/RC) = FC ACOYLIC: OCH F1 DANGES	IC, 3 INCH R (1) CPS 32:1757 J7.85 (.159 3.955 3.955 3.955 459*(1/0C)*(2 TNCH	CRATE ISHOT PFLL Q/RC 31.6702 16.7798 8.3571 3.1667 9 -3.514 CRATE ISHOT PELL	R RADIUS(PC)=1 ET RANGES LOGIO(R/RC) 1.22479 .92206 .50060 COPPELATION R PADIUS(RC)=1 FT RANGES	.024 MEYERS
DEVENS JAPRI PELLET DEPTN FIELD DATAT - LSP SQ FIT 1 DEVENS JAPR PELLET DEPTN FIELD DATAT	117415L815 4 OF 8URIA 4 OF 8URIA 4 OF 8URIA 10 10 10 10 10 10 10 10 10 10	008=0.2010 L= 3.6 ESHCT PFLL X/RC 2976 .3720 .4464 .5262 .5957 #004t10H DOR=0.401P L = 4.3 ESHCT FFLL X/90	CANGE ACRYLI CM 1 RANGES LOGIO (X/PC) 52638 42943 52638 22330 22531 (P/RG) = FC ACOYLIC: CM COYLIC: COY	IC, 3 INCH R, 71 EPS JT. 785 (.159) 3.455 3.243 .459*(X/0C)*(2 TACH	CRATE RISHOT PFLLI R/RC 31.4702 16.7798 8.371 3.1667 93.514 CRATE CRATE R/RC	R RADIUS(PG)=1 ET RANGES Logid(R/RG) 1.22479 .52479 .5074 .5074 .5074 COSPELATION R PADIUS(RC)=1 FT RANGES LOGID(R/PC)	.024 HEYERS
DEVENS JAPRI PELLET DEPTH PIELO DATAT 	LL74;5L8;5 4 OF 8URIA PP: PP: PP: PP: 	008=0.2010) L= 3.6 ESHCT PFLL X/RC 2976 -3720 -4464 -5262 -5957 ROWATION DOR=0.4010 L= 4.7 ESHCT FFLL X/PC	CANGE ACRYLI FCM IT RAGES LOGIO (XFPC) 	(C, 3 INCH R, 73 EPS 32:4737 J7-85 1:459 3:459 4:459 2 TACH PETEPS 7x. 409	CRATE: R/RC 31.6703 16.7798 8.3571 3.1667 93.514 CRATE R/RC 64.5554	R RADJUS(PG)=1 ET RANGES LOGIO(R/RC) 1.22479 .5279 .5076 COPPELATION R PAOJUS(RC)=1 FT RANGES LOGIO(R/RC) 1.21020	.024 METERS
DEVENS SAPRI PELLET DEPTH FIELD DATAT LST SQ FIT T DEVENS SAPR PELLET DEPTH FIELD DATAS	LL74;5L8t5; 4 OF 8URIA PP: X WFTEPS 	008=0.2010 = %.6 ESHCT PFLLI X/RC 2976 .3720 .4464 .5262 .5257 TOVATION 008=0.4019 L= 4.3 ESHCT FFLL X/97 .2277 .2277	CANGE ACRYLI FRM 17 RANGES LOGIO (X/PC 52531 35025 22531 (P/RG) = FN ACOYLIC: OC FN ACOYLIC: COM FI DANGES LCGIO (X/PC) 58883 69102	IC, 3 INCH R (1) CPS 3'c+1'50 J7-85 1.4:59 3.455 3.459*(1/PC)*4 2 TNCH 	CRATE ISHOT PFLL Q/RC 31.4782 16.7798 8.3571 3.1667 9 -3.514 CRATE R/RC 64.5954 37.8505	R RADJUS(PG)=1 ET RANGES LOGIO(R/RC) 1.22479 .52267 .58060 COPPELATION R PADJUS(RC)=1 FT RANGES LOGIO(R/PC) 1.71020 1.71027	.024 MEYERS
DEVENS JAPRI PELLET DEPTN FIELD DATAT 	EL7415LB1S 4 OF BURIA 4 OF BURIA 4 OF BURIA 50 530 PP 	008=0.2010 L= 3.6 ESHCT PFLL X/RC 2976 .3720 .4664 .5262 .5952 PDUATION DOR=0.4019 L = 4.3 ESHCT FFLL X/90 .2=77 .3227 .3866	CANGE ACRYLI FCM 1 RANGES LOGIO (X/PC) ,57634 42943 42943 57635 22531 (P/RG) = FC ACPYLIC: ,58883 49102 ,5182	IC, 3 INCH R R R SC: 773 J'- 785 (.:59 3.243 .459*(X/0C)*(2 TACH PO(S) METEPS 76.397 44.763 278.215	CRATE: R/RC 371.4702 16.7798 8.3771 3.1667 93.51% CRATE R/RC 64.5954 37.8502 73.8502	R RADIUS(PG)=1 ET RANGES LOGIO(R/RC) 1.22479 .50794 .50774 .5077756 .507756	.024 HEYERS
DEVENS JAPRI PELLET DEPTH FIELD DATAT LST SQ FIT DEVENS JAPR PELLET DEPTI FIELD DATAT	LL74;SLBtS; 4 OF BURIA PP; PP; PP; 	008=0.2010 L= 3.6 ESHCT PFLL X/RC 2976 -3720 -4464 -5268 -5957 ROWATION DOS=0.4019 L= 4.7 ESHCT FFLL X/RC -2577 -2577 -2577 -2577 -2577	CANGE ACRYLI FCM I RANGES LOGIO (XFPC 	IC, 3 INCH R (1 EPS 32:1737 J. 185 1.159 3.1459 3.1459 4.459*(1/0C)*4 2 TNCH 2 TNCH 4.763 75.347 44.763 74.215 10.566	CRATE: R/RC 31.6702 16.7798 8.3571 3.1667 93.514 CRATE R/RC 64.5954 37.8505 23.8585 2.3.8585 8.6640	R RADJUS(PG)=1 LOGIO(R/RG) 1.22479 .52479 .5076 .5076 COPPELATION R PADJUS(RG)=1 FT PANGES LOGIO(R/RG) 1.47807 1.37764 .5861	.024 METERS
DEVENS SAPRI PELLET DEPTI PIELO DATAT LST SQ PIT DEVENS SAPRI PELLET DEPTI FIELO DATAT	LL74;5L8;5 4 OF BURIA PP 	008=0.2010) = 3.6 ESHCT PFLLI X/RC 2376 .3720 .4464 .5262 .5352 PGUATION DOR=0.4019 CUMATION DOR=0.4019 .5552 .3790 .2277 .2222 .3866 .5510 .5799	CANGE ACRYL1 FCM IT RANGES LOGIO (X/PC) 5253 35025 22531 (P/RC) = FC ACOYLIC: 	IG, 3 INCH R (1) CPS 32:1737 J7:85 L:59 3.243 .459*(X/PC)*4 2 TACH 	CRATE (SHOT PFLL) R/RC 31.4702 16.7798 6.3571 3.1667 93.514 CRATE (SHOT PELL R/RC 64.5954 37.8505 23.8505 23.8505 37.8505	R RADJUS(PG)=1 ET RANGES LOGIO(P/RC) 1.22479 .42266 .50764 .50766 COPPELATION R PADJUS(RC)=1 FT RANGES LOGIO(P/PC) 1.7166 .57807 1.7766 .57996	.024 MEYERS
DEVENS JAPRI PELLET DEPTN FIELD DATAT LST SQ FIT 1 DEVENS JAPR PELLET DEPTN FIELD DATAT	L17415L815 4 OF 8URIA WFTEPS 	008=0.2010 L= 3.6 ESHCT PFLL X/RC 2976 .3720 .4464 .5282 .5957 FOUATION DOS=0.4019 L= 4.3 F.SHCT FFLL X/97 .2277 .2277 .2277 .5222 .3466 .4510 .5799 .6443	CANGF ACRYLI FCM 1 RANGES LOGIO (XFPC) 5765% 42943 35025 28330 22531 (P/RG) = FC ACOYLIC: OCM 58883 49192 54883 49192 54855 19069 73665 19069	IC, 3 INCH R R R T Starts J Starts J Starts J Starts J Starts J Starts J Starts J Starts J Starts J Starts J Starts J Starts J Starts J Starts J Starts J Starts Starts J Starts	CRATE (SHOT PFLL) R/RC 31.4702 16.7798 8.371 7.8720 3.1667 93.51% CRATE (SHOT PELL R/RC 64.5954 37.8502 8.8640 0.38015 2.7088 1.649	R RADIUS(PC)=1 ET RANGES LOGIO(F/RC) 1.22479 .22479 .58794 .58794 .50868 COSPELATION R PADIUS(RC)=1 FT RANGES LOGIO(F/PC) 1.91020 1.91020 1.57807 .54861 .57956 .53277 .127	.024 HEYERS
DEVENS JAPRI PELLET DEPTH FIELD DATAT	LL7415LB15 4 OF BURIA ************************************	008=0.2010 L= 3.6 ESHCT PFLL X/RC .3720 .4464 .5268 .5957 TOVATION DOR=0.4010 ESHCT FFLL X/RC .2577 .3267 .3466 .4510 .4510 .4510 .4510 .5788 .7788 .7782	CANGF ACRYLI FCM 11 RAGES LOGIO (XFPC) 5763% 42943 5763% 22533 (P/RG) = FC ACOYLIC: OCH FT DANGFS LOGIO (XFPC) 58883 99102 458853 91025 34579 35655 -19069 -14950 -14950 -14950	IC, 3 INCH R (1695 Sci 737 J7.85 i.159 3.465 3.243 .459*(X/0C)*(2 TNCH 2 TNCH 0 NETEPS 76.397 44.763 24.763 78.247 10.506 4.496 3.703 1.664 1.433	CRATE: R/RC R/RC T1.4702 15.7798 8.3771 T.8702 3.1667 93.515 CRATE CRATE CRATE R/RC 64.5954 37.8502 8.0840 3.8015 9.7088 1.4072 1.2113	R RADIUS(PC)=1 LOGIO(R/RC) 1.22479 42205 50704 50704 50704 COPPELATION R PADIUS(RC)=1 FT PANGES LOGID(P/PC) 1.41020 1.47807 3.37764 .54861 .57995 .43277 .14835 .08327	.024 METERS
DEVENS JAPRI PELLET DEPTH FIELD DATAH LST SQ FIT DEVENS JAPR MELLET DEPTH FIELD DATAK	LL74;SLB;S 4 OF BURIA * WFTEPS PP PP 	008=0.2010 L= 3.6 ESHCT PFLL X/RC 2976 -3720 -4464 -5268 -5957 ROWATION DOR=0.4019 L= 4.7 ESHCT FFLL X/RC -5957 ROWATION 2976 -5957 ROWATION 2976 -5957 2977 -5957 2977 -5957 2977 -5957 2977 -5957 2977 -5957 2977 -5976 2977 -5976 2977 -5977 29777 2977 29777 2977 2977 29777 29	CANGF ACRYLI FCM I RANGES LOGIO (XFPC) 5763 5763 5763 5763 5763 5763 5763 2733 22531 (P/RG) = FC ACOYLIC: 54883 9192 54883 9192 54853 35659 14959 -14950 -11171 11974 11974 11974 11974 11974 11974 11974 11974 11974 11974 11974 11974 11975 -	IC, 3 INCH R (1 EPS 32:1737 J. 185 1.159 3.445 3.243 .459*(X/OC)*4 2 TNCH 2 TNCH 0 4.763 24.763 24.763 27.515 10.566 4.496 3.201 1.664 1.431	CRATE: R/RC 31.6702 15.7798 8.3571 3.1667 93.514 CRATE R/RC 64.5954 37.8502 8.6640 3.8015 2.7058 1.4072 1.2113 0.2121 0.212	R RADJUS(PG)=1 LOGIO(R/PG) 1.22479 42206 50794 50794 50794 50794 COPPELATION R PADJUS(RC)=1 FT PANGES LOGIO(R/PG) 1.71020 1.7706 .54861 .57995 .43277 .14836 .08327	.024 METERS
DEVENS SAPRI PELLET OEPTH FIELO DATAT 	LI7415LB15 4 OF BURIA ************************************	008=0.2010 L= 3.6 ESHCT PFLL X/RC 2976 .3720 .4464 .5262 .5952 TOVATION 008=0.4010 .5262 .5952 TOVATION 0.464 .7732 EAUTION	CANGE ACRYLI FCM I RANGES LOGIO (XFPC) 5763% 42943 5763% 28330 22531 (P/RG) = FC ACOYLIC: OCU 5888% 49102 518278 34579 34579 14950 14950 14950 14950 14950	IC, 3 INCH R R (1 EPS Sc 173 J - 85 (+59 3.243 ,459*(X/0C)*(2 TNCH PO(S) 0 HETEPS 76.397 44.763 78.215 10.506 4.966 3.203 1.664 1.633 .460*(X/0C)*(CRATE: QRC QRC T1.4702 16.7798 8.3771 T.8720 3.1667 93.515 CRATE CRATE R/RC 64.5954 37.8502 8.8640 3.8582 7.7088 1.4072 1.2133 93.821	R RADIUS(PG)=1 ET RANGES LOGIO(R/RC) 1.22479 • 2206 • 50794 • 50796 • 507	.024 HETERS
DEVENS JAPR PELLET DEPT FIELD DATAT 	LI74ISLBIS 4 OF BURIA * WFTEPS PP: 	008=0.2010 = 3.6 = 3.6 ESHCT PFLL X/RC 2976 .3720 .4664 .5268 .5957 2976 .5268 .5957 2976 .5268 .5957 2976 .5268 .5957 2976 .5268 .5957 2976 .5268 .5957 2976 .5268 .5957 2976 .5268 .5268 .5957 2976 .5268 .5277 .5277 .5275 .5268 .5277 .5275 .5268 .5778 .5778 .5778 .5778 .5778 .5778 .5778 .5778 .577888 .5778888 .577888 .577888 .577888 .577888 .5778888 .577888 .577888 .57788888 .5778888 .57788888 .5778888 .57788888 .5778888 .57788888 .5778888888888 .57788888888888888888888888888888888888	CANGF ACRYLI FCM 1 RANGES LOGIO (X/PC) 5763% 42943 5763% 28330 22531 (P/RG) = FC ACOYLIC: OCM FC ACOYLIC: OCM 58883 49102 41774 34576 34576 19089 11371 (R/RC) =	IC, 3 INCH R (1 EPS R (1 EPS J - 85 (.159 J - 85 (.159 (.159 J - 85 (.159)) (.159)) (.159 (.159)) (.159) (.159)) (.159)	CRATE (SHOT PFLL) R/RC 31.4702 16.7798 8.3711 7.8720 3.1667 -3.51% CRATE (CRATE R/RC 64.5954 37.8502 8.8640 3.8515 2.7088 1.4077 1.2113 -3.821	R RADIUS (PG) =1 ET RANGES LOGIOER/RC) 1.22479 •2246 •58794 •50060 COSPELATION R PADIUS (RC) =1 FT RANGES LOGIOER/PC) 1.91020 1.97807 1.37764 •64861 •57956 •3227 CORRELATION	.024 HETERS
DEVENS JAPRI PELLET DEPTH FIELD DATAT 	LL7415LB15 4 OF BURIA * WFTEPS PP: * WFTEPS PP: * * * * * * * * * * * * *	008=0.2010 L= 3.6 ESHCT PFLL X/RC 2976 .3720 .4664 .5262 .5957 TOVATION 008=0.4014 .708=0.4014 .7732 ENULTION	CANGE ACRYLI FCM 1 RANGES LOGIO (X/PC) 5763% 42943 5762% 28330 22531 (P/RG) = FC ACPYLIC: 58883 49192 41724 34579 14910 (R/RC) = ELLOM GLASS	IC, 3 INCH R (7) EPS Star77 J'85 (-159 3.465 3.243 .469*(X/0C)*(2 TACH D(S') METEPS 76.367 44.763 28.215 10.506 4.365 3.201 1.664 1.433 .460*(X/0C)*(CRATE (SHOT PFLL) R/RC 31.4702 16.7798 8.3711 7.8720 3.1667 93.51% CRATE (CRATE R/RC 64.5954 37.8502 8.8640 3.8582 8.8640 3.8582 8.8645 3.8582 8.8645 3.8582 8.8645 3.8582 1.4072 1.2113 93.821 CRATE	R RADIUS (PG) = 1 ET RANGES LOGIO(R/RG) 1.22479 .52479 .58794 .50860 COSPELATION R PAOIUS (RC) = 1 FT RANGES LOGIO(R/PC) 1.41020 1.47807 1.37764 .64861 .57956 .43277 .148365 .60327 CORRELATION R RADIUS (RC) = 1	.024 HETERS COFFFICIENT= .9923 .183 HETERS COEFFICIENT= .9933
DEVENS JAPR PELLET DEPT FIELD DATAT 	LL7415L815 4 OF 8URIA ************************************	008=0.2010 L= 3.6 ESHCT PFLL X/RC 2976 .3720 .4464 .5268 .5277 .2277 .2277 .2277 .2277 .2277 .2277 .2277 .2778 .2684 .2773 .27788 .27788 .27788	CANGE ACRYLI FM IT RAGES LOGIO (XFPC) 5763% 42943 5763% 28330 22531 (P/RG) = FM FM ACOYLIC: OCH 58883 99102 58883 99102 54863 19069 14950 14950 14950 -11171 (R/PC) = FM FM ACRSS 	IC, 3 INCH R R R R R R R R S S S S S S S S S S S S S	CRATE: R/RC 31.4702 15.7798 8.3771 7.8703 3.1667 93.515 CRATE (SHOT PELL R/RC 64.5954 37.8502 73.8502 8.8640 3.8015 9.7088 1.4072 1.2113 93.821 CRATE CRATE CRATE	R RADIUS (PC)=1 ET RANGES LOGIO(R/RC) 1.22479 • 2206 • 58794 • 58776 • 583277 • 14635 • 683277 • 14635 • 683277 • 14635 • 68327 • CORRELATION R RADIUS (RC) = 1 • 1 • 1 • 1 • 1 • 1 • 1 • 1 •	.024 METERS COFFFICIENT= .9923 .183 METERS .183 METERS
DEVENS JAPR PELLET DEPTH FIELD DATAT 	LL7415L815 4 OF BURIA PP PP 	008=0.2010) L = 3.6 ESHCT PFLL X/RC 2976 -3720 4464 -5957 TOWATION 009=0.4014 207 2976 	CANGE ACRYLI FCM I RANGES LOGIO (X/PC) ,57634 42943 42943 42943 52931 (P/RC) = FC ACPYLIC: OCM FI DANGES LOGIO (X/PC) 58883 49192 49192 41774 34579 35655 -119069 14950 11171 (R/RC) = ELLOW GLASS T RANGES LOGIO (X/PC)	IC, 3 INCH R (1 EPS 32:1737 J7:85 1:159 3:243 459*(1/0C)*4 2 TACH 2 TACH 2 TACH 4:459 4:4763 75.397 4:4763 78.715 10.566 3:763 1.566 1:433 4:400*(1/20)*1 5.664 1:433 4:400*(1/20)*1 5.701 1:564 1:433 4:400*(1/20)*1 5.701 1:564 1:433 4:400*(1/20)*1 5.701 1:564 1:433 4:400*(1/20)*1 5.701 1:564 1:433 4:400*(1/20)*1 5.701 1:564 1:433 4:400*(1/20)*1 5.701 1:564 1:433 4:400*(1/20)*1 5.701 1:564 1:433 1:564 1:455 1:564 1:455 1:564 1:564 1:565 1:564 1:565 1:5	CRATE: R/RC 31.6787 16.7798 8.3571 3.1667 93.514 CRATE R/RC 64.5954 37.8582 8.6640 3.8015 9.7088 1.4072 1.2113 93.821 CRATE CRATE CRATE CRATE CRATE 1.2113 1.2113 1.2113 CRATE CRATE	R RADJUS(PG)=1 LOGIO(R/PG) 1.22479 42266 58794 58794 58068 COPPELATION R PADJUS(RC)=1 1.71020 1.71020 1.71020 1.71020 1.71020 1.71020 1.71020 1.7104 .64861 .57999 .43277 .14836 .08327 CORRELATION R RADJUS(RC)=1 ET RANGES LOGIO(R/RC)	.024 METERS .024 METERS .000000000000000000000000000000000000
DEVENS JAPR PELLET DEPT FIELD DATAT 	IL7415L8tSI 4 OF 8URIA 4 OF 8URIA *<	008=0.2010 L= 3.6 ESHCT PFLL X/RC 2976 .3720 .4464 .5208 .5408 .5403 .2208 .5403 .54	CANGE ACRYLI FCM 1 RANGES LOGIO (X/PC) ,5763% 42943 328330 228331 (P/RC) = FC ACOYLIC: 58883 49192 41274 35655 19069 11975 (R/RC) = FT RANGES LOGIO (X/RC) ,51274	IC, 3 INCH R, 73 EPS JT. 785 (.159) 3.455 .2.59 3.243 .459*(X/PC)*4 PTCH .2 TNCH .2 TNCH	CRATE (SHOT PFLL) R/RC 31.4702 16.779A 8.371 3.1667 93.51% CRATE (SHOT PELL R/RC 64.5954 37.8502 8.0840 3.8562 8.0840 1.4072 1.2113 93.821 CRATE CRATE CRATE 3.821 CRATE 3.821 CRATE 3.821 CRATE 3.821 CRATE 3.821 CRATE 3.821 CRATE 3.821 CRATE 3.821 CRATE 3.821 CRATE 3.821 CRATE 3.8562 3.8	R RADIUS (PG) = 1 ET RANGES LOGIOER/RG) 1.22479 .52479 .58794 .50060 COPPELATION R PAOIUS (RC) = 1 ET RANGES LOGIOER/RC) 1.7764 .54861 .5799A .43277 .14836 .08327 CORRELATION R RADIUS (RC) = 1 ET RANGES LOGIOER/RC) 1.49420	.024 HETERS COFFFICIENT* .9925 .183 METERS COEFFICIENT* .9933 .183 METERS
DEVENS JAPR PELLET DEPT FIELD DATAT DEVENS JAPR PELLET DEPTI FIELD DATAT US VENS JAPR PELLET DEPTI PELLET DEPTI FIELD DATAT	LL7415LB15 4 OF BURIA ************************************	008=0.2010 = 3.6 ESHCT PFLL X/RC 2976 .3720 .4464 .5268 .5277 .5268 .5268 .5268 .5268 .5277 .5268 .5268 .5277 .5268 .5277 .5268 .5277 .5275 .5277 .5275 .5464 .5778 .5788 .5778 .5778 .57788 .57788 .5788 .5788 .5788 .57788 .57888 .57888 .57888 .57888 .57888 .57888 .57888 .57888 .57888 .57888 .57888 .57888 .57888 .57888 .57888 .578888 .578888 .578888 .5788888 .57888888888888 .57888888888888888888888888888888888888	CANGE ACRYLI FCM I RANGES LOGIO (XFPC) 5763% 42943 5762% 28330 22531 (P/RG) = FC ACOYLIC: OCU 58883 09102 41274 34579 149500 149500 149500	IC, 3 INCH R (1 EPS SC: 1737 J7. 85 (.159 3. 243 .459*(X/0C)*(2 TNCH 2 TNCH 2 TNCH 4. 763 76. 397 44. 763 78. 397 44. 763 78. 397 44. 763 3. 703 1.664 1.433 .460*(X/PC)*(2 TNCH POS 3. 690 .2 TNCH	CRATE: R/RC	R RADIUS (PG) = 1 ET RANGES LOGIO(R/RG) 1.22479 • 50794 • 50795 • 5075 •	.024 METERS
DEVENS JAPR PELLET DEPTH FIELD DATAT 	LL7415L815 4 OF BURIA ************************************	008=0.2010) = 3.6 ESHCT PFLL X/RC 	CANGE ACRYLI FFM I RANGES LOGIO (X/PC) 5763 42943 42943 57638 28330 22531 (P/RC) = FF DANGES LOGIO (X/PC) 58883 49192 41774 54579 35655 -119069 11975 (R/RC) = FF RANGES LIGGIA (X/RC) 41274 31579 31579 31579 31579 31579 31579 31579 31579 31579	IC, 3 INCH R R (1 EPS 32:1737 J7:85 1:1785 1:1785 1:159 3:445 4:459*(1/0C)*4 2 TACH 2 TACH 2 TACH 4:460*(1/0C)*4 4:4763 75.397 44.763 75.397 44.763 75.397 44.763 75.397 44.763 75.397 44.763 75.397 44.763 75.397 44.763 75.397 44.763 75.215 1.664 1.433 .460*(1/0C)*4 .2 TACH .2 TACH	CRATE: R/RC 31.6707 16.7798 8.3571 3.1667 93.514 CRATE R/RC 64.5954 37.8505 27.8505 27.8505 2.7058 1.4072 1.2113 93.821 CRATE CRATE CRATE 1.2135 2.7058 1.4072 1.2113 2.7058 2.7078 2.7078 2.7729 2.77	R RADJUS(PG)=1 LOGIO(R/PG) 1.22479 42206 50794 50794 50794 50794 50794 COPPELATION R PADJUS(RC)=1 1.71020 1.71020 1.71020 1.71020 1.71020 1.71020 1.7104 .24861 .083277 .14836 .08327 CORRELATION R RADJUS(RC)=1 ET RANGES LOGIO(R/RC) 1.49420 1.	.024 METERS COFFFICIENT= .9923 .183 METERS COEFFICIENT= .9933 .183 METERS
DEVENS JAPR PELLET DEPT FIELD DATAT DEVENS JAPR PELLET DEPT FIELD DATAT LST SQ FIT US VENS JAPR PELLET DEPT VIELD DATAT	IL7415L8tSI 4 OF 8URIA 4 OF 8URIA ************************************	008=0.2010 L= 3.6 ESHCT PFLL X/RC 2976 .3720 .4464 .5208 .520	CANGF ACRYLI FCM 1 RANGES LOGIO (X/PC) ,5763% 42943 35025 28330 22531 (P/RC) = FC ACOYLIC: 58883 49132 41274 34579 19069 11375 (R/RC) = FT RANGES LOGIO (X/PC) 54883 19069 11975 11975 34579 34	IC, 3 INCH R, 73 EPS R, 73 EPS L, 59 J, 785 L, 59 L,	CRATE (SHOT PFLL) R/RC 31.6702 16.7798 8.371 3.1667 -3.51% CRATE (SHOT PELL R/RC 64.5954 37.8502 8.0800 3.601 2.133 -3.621 CRATE CRATE 1.4072 1.2133 -3.621 CRATE S.153 -3.521 CRATE CRATE 1.2036	R RADIUS (PG) = 1 ET RANGES LOGIOER/RG) 1.22479 .52479 .58794 .50060 COPPELATION R PAOIUS (RC) = 1 ET PANGES LOGIOER/PC) 1.7164 .54861 .57954 .64851 .57954 .648527 CORRELATION R RADIUS (RC) = 1 ET RANGES LOGIOER/RC) 1.49420 1.29857 .65821 .54825 .54821 .54824 .54825 .54821 .54825 .548555 .548555 .548555 .5485555 .54855555555555555555555555	.024 HETERS COFFFICIENT* .9925 .183 METERS COEFFICIENT* .9933 .183 METERS
DEVENS JAPR PELLET DEPT FIELD DATAT 	LL7415LB15 4 OF BURIA ************************************	008=0.2010 L= 3.6 ESHCT PFLL X/RC 2976 .3720 .4464 .5262 .5952 TOVATION 008=0.4014 .708A .7732 ENUATION 008=0.4014 L= 4.3 .708A .7732 ENUATION 008=0.4014 L= 4.3 .7732 ENUATION	CANGE ACRYLI FCM I RANGES LOGIO (X/PC) 5763% 42943 5762% 5762% 22531 (P/RG) = FC ACOYLIT: OCU 58883 09102 49102 49102 49102 49102 58857 79665 19069 14950 -	IC, 3 INCH R (1 EPS R (1 EPS Star 737 J'- 85 (.159 3.243 .459*(X/0C)*(2 TNCH PO(S) 44.763 78.215 10.502 44.763 78.215 10.502 44.763 3.203 1.664 1.633 .469*(X/0C)*(PO(S) .2 TNCH PO(S) RETEPS 36.907 23.095 9.141 4.179 3.147 1.451	CRATE: R/RC 3:167798 3:167798 3:167798 3:1667 3:1667 -3:51% CRATE R/RC 64:5954 37.8502 8:0840 3:6015 2:3.8582 8:0840 3:6015 2:3.8582 3:6015 2:3.8582 3:6015 2:3.8582 3:6015 2:3.8582 3:6015 2:3.8582 3:6015 2:3.8582 3:6015 2:3.8582 3:5315 2:1.2036 19:5284 7:7298 3:5315 2:1.2036 19:5284 7:7298 3:5315 2:1.2036 19:5284 7:7298 3:5315 2:1.2036 19:5284 7:7298 3:5315 2:1.2036 19:5284 7:7298 3:5315 2:1.2036 3:5315 2:1.2036 3:5315 2:1.2036 3:5315 2:1.2036 3:5315 2:1.2036 3:5315 2:1.2036 3:5315 2:1.2036 3:5315 2:1.2036 3:5315 2:1.2036 3:5315 2:1.2036 3:5315 2:1.2036 3:5315 2:1.2036 3:5315 2:1.2036 3:5315 2:1.2036 3:5315 2:1.2036 3:	R RADIUS (PG) = 1 ET RANGES LOGIO(R/RC) 1.22479 • 52266 • 58794 • 50060 COSPELATION R PAOIUS (RC) = 1 FT RANGES LOGIO(R/PC) 1.71020 1.7164 • 64861 • 57976 • 64827 CORRELATION R RADIUS (RC) = 1 ET RANGES LOGIO(R/RC) 1.49420 1.29067 • 65814 • 56821 • 62443 • 27755	.024 METERS

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	PR	ESHCT FFLU	FT RANGES	P0\$1	SHOT PELL	FT RANGES		
PIELO DATAL			LOGIOTX/RC	**************************************	R/RC	LOGI STR/RC1		
	NETERS			METERS				
	****	.3866	41274	29.358	24.8247	1.39488	•	
	.533	.4510	-,34579	9.431	7.9742	.90169		
	.618	.5155	287#0	4.365	3.6907	.56711		
	• 686	.5799	23665	3.652	3.0876	.48963		
	A 1 AC-1 AC	FORATION	10 (00) -					
Cal av P10 0	0 0004000	COUNTION	(#/#6)=	+14U*(X/RL)**	2/9	CORRELATION COEF	FIGIENIE	• 4/1
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	** *****	5000-0 CA.		86 A THOM				
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	.610	.4762	- 32222	16.307	12.7381	1.10510		
	.685	:5357	77107	9,943	7.0643	.84907	• • • • • • • • •	
	.762	.5952	22531	6.757	5.2786	.72252		
••	. 83 6	*4548	18392	4.039	3.1548	. 49897		
	.914	.7143	14613	1.024	2.3619	.37376		
LST SQ FIT T	0 100-100	COUNTION	(R/QC) =	•737*(X/RC)*4	-3.626	CORRELATION COEF	FICIENT=	• 993
	71.1510 -	000-0 60-			c			
DEVENS OJUNE	1417LH1 5	0000=0.501	ттч дСКТЦ]С өсм	+ 7 JACH	GRAIF	* ##U1U5(#C]#1.259	HEIFRS	
CLLET UEPIN	UT NUNIA	L = 5.5	CUM CT D10/CCM -			T DANCES		
****		47EC	1001817700		D APP	1 0C1 7 / 0 / 00 1		
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	345	.2421		21.22#	18.401-	1.76697		
	.381	.3027	51984	17.111	17.7676	1.13886		
	. 457	3632	43986	12.503	9.9122	.99745		
	.533	4237	37291	11.421	9.0726	. 95773		
		4 843	- 31492	19.257	8.1677		·	
	.686	.5448	26377	8,632	6.8571	.83614		
	.762	.6953	71801	4.093	3.2518	-51213		
	. 838	.6659	17662	2.774	2.2034	.34309		
•	.914	.7264	13883	1.774	1.4092	.14697		
.31 34 PIT T	0 . 1 06-1 06	EQUATION	(R/RĈ) =	1+134*(X/RC)**	-2.164	COPRFLATION COEF	FICIENT	 931
.37 30 PIT P	0-106-106 741510, S	EQUATION	(R/RG) =	5 INCH 1+1244(X/8C)++	-2.164 CRATE	COPRFLATION COEF	FICTENT#"	. 931
IST SG PIT T - Devens Gjune Pellet Depth	0 1.05-1.05 74 1510, S OF BURIA	- EQUATION DOB=0.501 (L = 5.61 FSH01- PFLL	(R/RC)= PLUF SLASS, SCH FT RANGES==	2 INCH	-2.164 CRATE:	COPRFLATION COEF	FICTENT#	
ST SO FIT P DEVENS 6JUNE PELLET DEPTH FIELD DATAI	0 106+106 74 1518, S OF BURIA 	EQUATION 008=0.501 (L = 5.01 FSHOT-PFLL X/RC	(R/RG) = PLUE GLASS, 5CH FT RANGES LIGE10 (X/PC	1 - 134*(X/RC) ++	-2.164 CRATE: SHOT PELLI R/RC	COPRFLATION COEF R RADIUS(PC)=1.259 ET RANGES-Ja-	FICTENT#	. 931
ST SO PIT P NEVENS 6JUNE PELLET DEPTH	0 106+106 74 1518, S OF BURIA 	EQUATION DOB=0.501 (L = 5.01 FSHOT FFLL X/RC	(R/RC) ± PLUF SLASS, 5CH FT RANGES LOG10(X/PC	MEIE68 	-2.164 CRATE SHOT PELLI R/RC	COPRFLATION COEF R #01US(PC)=1+259 ET RANGES-JL- LOGIO (P/PC)	FICTENT#	. 931
EST SO PIT T REVENS 6JUNE VELLET DEPTH	0 106-106 741518, S 0F BURIA 	EQUATION 008=0.501 (L = 5.01 25NOT PFLL1 X/RC .2421	(R/RC) ± PLUF SLASS, 5CH FT RANGES LOG10(X/PC -,51595	1.134*(X/RC)** 2 INCH POST NEIERS 17.054	-2.164 CRATF SHOT PFLLT R/RC 13.5472	COPRFLATION COEF R RADIUS(PC)=1.759 ET RANGES-UL- LOGIO(P/PC) 1.13185	FICIENT#" MFTERS	
EST SO PIT T REVENS 6JUNE VELLET DEPTH	0 1.06-1.06 74 1518; S 0F 8081A 	EQUATION 008=0.5010 L = 5.00 7907 Pfll X/90 .2421 .3627	(R/RC) = PLUF SLASS, 5CH FT RANGES LOG10 (X/PC 61595 51904	1.134*(X/RC)** 2 INCH 	-2.154 CRATFI SHOT PFLLI R/RC 13.5472 10.5738	COPRFLATION COER R RADIUS(PC)=1.259 ET RANGES-Ja. LOGIO (P/PC) 1.13185 1.02423	FICIENT#" NFTERS	. 931
ST SO PIT P NEVENS 6JUNE PELLET DEPTH TIELD DATAS	0 106-106 74 1510, S 0F BURIA 	EQUATION DOB=0.5010 L = 5.01 X/90 .2421 .3027 .3632	(R/RC) ± PLUF GLASS, 5CM FT RANGES LOG10(X/PC -,61595 -,51904 -,43966	2 INCH 2 INCH 1 + 134 + (X/RC) ++ 2 INCH 1 R MEIFRS 17,054 13,311 10,333	-2.164 CRATF: SHOT PFLL: R/RC 13.5472 10.5738 8.2082	COPRFLATION COER R RADIUS(PC)=1.259 ET RANGES-Ja LOGIO(P/PC) 1.13185 1.02423 .91425	FICTENT#	. 931
ST SO PIT T DEVENS 6JUNE PELLET DEPTH TIELD DATAT	0 106-106 74 1518; S 0F BURIA 	EQUATION DOB=0.5010 L = 5.01 ESHOT PELL X/90 .2421 .3627 .3632 .4237	(R/RC) = PLUF GLASS, 5CM FT RANGES LOG10(X/PC -,51908 -,51908 -,51908 -,37291	2 INCH 2 INCH 1 + 134* (X/RC) ** 2 INCH 1 R 4 EIERS 17,054 13,311 10,333 7,778	-2.164 CRATE SHOT PELL R/RC 13.5472 10.5738 8.2082 6.1792	COPRFLATION COER R RADIUS(PC)=1.259 ET RANGFS-JL- LOGIO(PPC) 1.13185 1.02423 .01425 .73093	FICIENT#	. 931
IST SO PIT T NEVENS GJUNE VELLET DEPTH FIELD DATA:	0 106-106 741518, S 0F BURIA X HETERS .305 .381 .457 .933 .610	EQUATION DOB=0.501 (L = 5,11 ESHOT = FL1 X/RC .2421 .3632 .4237 .4643	(R/RC) = PLUF GLASS, 60 FT RANGES=- LGG10(X/PC -,51595 -,51904 -,43967 -,37294 -,31497	2 INCH 	-2.164 CRATF SHOT PELL R/RC 13.5472 10.5738 8.22082 5.1792 4.0557	COPRFLATION COER R RADIUS(PC)=1.259 ET RANGES-JA- LOGIO(P/PC) 1.13185 1.02423 .01425 .79093 .67806	FICIENT#	. 931
IN THE PARTY OF THE PELLET DEPTH	0 1.06+106 74 1518, S 0F 8URIA 	EQUATION DOB=0.5010 L = 5.01 SHOT PFLL X/R .2421 .3632 .4643 .5448	(R/RC) = PLUF GLASS, 5CH FT RANGES LOGIO(X/PC 51505 51504 43966 31492 31497 35377	2 INCH 2 INCH 4 EIRCR 17,054 13,311 10,333 7,778 5,105 3,14?	-2.164 CRATF: SHOT PFLL: R/RC 13.5472 10.5738 8.2082 6.1792 4.0557 2.4964	COPRFLATION COER RADIUS(PC)=1.259 ET RANGEC-Ja- LOGIO(P/PC) 1.13185 1.02423 .41425 .79093 .61806 .79731	FICTENT#	. 93
ST 30 PIT P	0 1.06+106 741518; S 0F BUPIA 	EQUATION D08=0.5010 L = 5,01 25NOT PFLU X/90 .2421 .3027 .3632 .4237 .4853 .5456 .6053	(R/RC) = PLUF GLASS, 6CH T RANGES LOG10(X/PC 61595 61996 41906 37291 31497 2637 21081	2 INCH 2 INCH R HEIERS 17,054 10,331 10,331 7,778 5,105 3,142 2,042	-2.164 CRATF SHOT PELL R/RC 13.5472 10.5738 8.2082 8.1792 4.0557 2.4964 1.6223	COPRFLATION COER R RADIUS(PC)=1.259 FT RAMEFS-JL- LOGIO(P/PC) 1.13185 1.02423 .41425 .73093 .67806 .4731 .2112	FICIENT#	. 93
ST SO PIT T REVENS GJUNE VELLET DEPTH FIELD DATA:	0 1.06+1.06 74 15LB, S 0F BURIA * #FTERS .305 .381 .457 .933 .610 .686 .752 .836	EQUATION DOB=0.5010 L = 5.01 FSH07-PFLU X/90 -2421 -3632 -4251 -6483 -6483 -6653 -6659	(R/RC) = PLUF GLASS, 5CM FT PANGES LOGID(X/PC -,51595 -,51996 -,41986 -,31997 -,21807 -,21	2 INCH 2 INCH 4 EIGS 17.054 13.311 10.333 7.778 5.105 3.142 2.042 1.512	-2.164 CPATFI SHOT PFLL 8/RC 13.5472 10.5738 8.2082 6.1792 4.0557 2.4964 1.6223 1.2010	COPRFLATION COER R RADIUS(PC)=1.759 ET RANGES-UL- LOGIO(P/PC) 1.13185 1.02423 .91425 .73093 .67806 .4731 .21812 .27153	FICIENT#	. 93
ST 30 FIT F	0 106-106 741518, S 0F 80814 	EQUATION DOB=0.5010 L = 5.01 SNOT PFLL X/R .2421 .3627 .4237 .4843 .5448 .6053 .7264	(R/RC) = PLUF GLASS, 5CH FT PANGFS+ LOG10(X/PC 51595 51908 43986 37291 31499 25477 -221801 -17662 13883	2 INCH 2 INCH 4 EIFES 17,054 13,311 10,333 7,778 5,105 3,142 2,042 1,512 1,295	-2.164 CPATF SHOT PFLL: R/RC 13.5472 10.5738 8.2082 6.1792 4.0557 2.4964 1.6223 1.2010 1.0291	COPRFLATION COER R RADIUS(PC)=1.259 ET RANGFS-JL- LOGIO(P/PC) 1.13185 1.02423 .01425 .73093 .67806 .9731 .21812 .7315 .21812 .7353 .01744	FIGIENT	
ST SO FIT T	0 106-106 7415LB, S 0F BURIA MFTERS .305 .305 .457 .533 .610 .686 .752 .610 .752 .914	EQUATION DOB=0.5010 L = 5,01 ESNOT PFLL X/90 -2421 -3632 -4237 -4643 -5448 -6053 -6659 -6659 -7264 EDIATON	(R/RG) = PLUF GLASS, 500 FT PANGES LOGIO(X/PG -,51595 -,5175 -	2 INCH 	-2.164 CRATF: SHOT PFLL: R/RC 13.5472 10.5778 4.2082 6.1792 4.0557 2.4964 1.6223 1.2010 1.0291	COPRFLATION COER R RADIUS(PC)=1.259 ET RANGFS-Ja- LOGIO (P/PC) 1.3185 1.02423 .41425 .79093 .67806 .71731 .21812 .07353 .01244	FICIENT#	
ST SO FIT T	0 106-106 74 1518, S 0F 80811A 9 0F 80812A 305 305 305 457 457 457 610 686 686 457 457 457 457 457 457 457 457 457 457	EQUATION DOB=0.5010 L = 5.0 25007 PFLU 2421 .3632 .4843 .5448 .6659 .7264 FOLATTON	(R/RC) = PLUF GLASS, 5CM T PANGES LOGID(X/PC ,51995 ,51994 ,31497 ,31497 ,21401 ,13883 (R/PC)=	2 INCH 2 INCH 1 + 134 + (X/RC) ++ 2 INCH 1 R MEIFRS 17.054 13.311 10.333 7.778 5.105 3.142 2.042 1.512 1.295 .51F + (X/RC) ++	-2.164 CPATF SHOT PFLL R/RC 13.5472 10.5737 8.2082 8.1797 4.0557 2.4964 1.6223 1.2010 1.20291 -2.534	COPRFLATION COER R RADIUS(PC)=1.759 ET RANGEC-JA- LOGIO(P/PC) 1.13185 1.02423 .01425 .73093 .67806 .79731 .21812 .01744 CCRRELATION COER	FICTENTE NFTERS 	.93
ST SQ FIT T REVENS 6JUNE TELLET DEPTH TIELD DATAI	0 L06-L06 74 15L8, S 0F BURIA 50F BURIA 105 1381 1457 1457 1457 1457 1457 1457 1457 145	EQUATION DOB=0.5010 L = 5.01 25NOT PELL X/97 .2421 .3632 .4237 .4683 .6053 .7264 FOUATTON	(R/RG) = PLUF GLASS, 50M FT RANGES LOGIO(FS 151595 -51595 -51595 -51595 -37291 -37291 -37492 -37491 -37492 -	2 INCH 2 INCH 4 EIFOS 17.054 13.311 10.333 7.778 5.105 3.142 2.042 1.512 .51F*(X/RC)**	-2.164 CRATF SHOT PFLL R/RC 13.5.572 10.5773 8.2082 6.1792 4.0557 2.4964 1.6223 1.2010 1.0291 -2.534	COPRFLATION COER R RADIUS(PC)=1.259 ET RANGFS-UL- LOGIO(PC) 1.13185 1.02423 .41425 .73093 .61806 .9731 .21812 .01244 CCRRELATION COEF	FICIENT:	.97
ST SO FIT T	0 L06-L06 74 15LB, S 0F BURIA 305 BURIA 457 457 457 457 457 457 457 457 457 457	EQUATION DOB=0.5010 L = 5.01 FSHOT PFLL X/97 .2421 .3632 .4237 .4843 .4443 .4653 .6659 .6659 .7264 FOUATTON	(R/RG) = PLUF GLASS, 50 FT RANGES LOGIO(X/PG - 51595 - 51904 - 43986 - 37291 - 37491 - 37491 - 37491 - 37497 - 21001 - 17662 - 13883 (R/PG)=	2 INCH 2 INCH 4 HEIERS 17,054 10,331 10,331 10,331 7,778 5,105 3,142 1,512 1,295 .51F+(X/RC)++	-2.164 CPATF: SHOT PFLL: R/RC 13.5472 10.5773 8.2082 6.1797 2.4964 1.6223 1.2010 1.0291 -2.534	COPRFLATION COER R RADIUS(PC)=1.259 FT RANGFS-Ja. LOGIO (P/PC) 1.13185 1.02423 .91425 .73903 .67806 .74731 .21812 .C7153 .01244 CORRELATION COER	FICTENTS	.975
ST SO FIT T REVENS GJUNE RELLET DEPTH RELD DATA:	0 L06-L06 74 15L8, S 0F BURIA X MFTERS 305 381 457 575 610 686 6752 914 C L06-L06 74: SL8, 1	EQUATION DOB=0.5010 L = 5,01 F3H0T PFLU 2421 .3627 .3632 .4843 .5448 .6053 .6653 .7264 FOLATTON SD09=0.201	(R/RC) = PLUF GLASS, 6CM PT PANGES LOGID(X/PC 61595 51996 43986 31997 2180 13883 (R/PC) = BROWN GLAS	2 INCH 2 INCH MEIERS 17,054 10,331 10,331 10,331 7,778 5,105 1,142 2,042 1,512 1,512 1,512 5,7 ,NCH	-2.164 CPATF: SHOT PFLL: Q/RC 13.5472 10.5738 8.2082 5.1797 2.40557 2.40557 2.4054 1.2010 1.0291 -2.534 CQATE:	COPRFLATION COER R RADIUS(PC)=1.259 ET RANGES-JA- LOGIO(P/PC) 1.13185 1.02423 .91425 .73093 .67806 .91425 .73093 .6783 .01244 CCRRELATION COER R RADIUS(RC)=1.000	FICTENT HFTERS FICTENT HETERS	.93
ST SQ FIT T PELET DEPTH FILLET DEPTH FILLD DATAI	0 L06-L06 74 15LB, S 0F BURIA 50F BURIA 105 105 105 105 105 105 105 105 105 105	EQUATION DOB=0.5010 L = 5.01 Short Pflu X/97 .2421 .3627 .4237 .4237 .4237 .4237 .4653 .5458 .6053 .724 FOUATION SD09=0.201 L = 5.01	(R/RG) = PLUF GLASS, 50M FT BANGES LGG10(X/PG -,51595 -,51904 -,37291 -,37291 -,37491 -,27491 -,27	2 INCH 2 INCH 4 HEIEPS 17.054 10.331 10.331 7.778 5.105 3.142 2.042 1.512 1.295 .51F*(X/RC)**	-2.164 CPATF 13.5477 13.5477 10.5737 8.2082 6.1792 2.4964 1.6223 1.2010 1.0291 -2.534	COPRFLATION COER R RADIUS(PC)=1.259 ET RANGFS-UL- LOGIO(P/PC) 1.13185 1.02423 .41425 .73093 .67806 .9731 .21312 .01244 CCRRELATION COEF RADIUS(RC)=1.000	FICIENT HETERS FICIENT METERS	. 931
ST SO FIT T REVENS GJUNE RELLET DEPTH RELD DATAI	0 L06-L06 0 L06-L06 0 RURIA 0 RURIA	EQUATION DOB=0.5010 L = 5,01 FNOT-PFLL 2421 .3632 .4237 .4643 .6053 .6659 .7264 FOLATION SON9=0.2011 L = 5,01 FSHCT FFLL	(R/RG) = PLUF GLASS, 5CM FT PANGES LGG10(X/PG -, 61595 -, 51904 -, 43984 -, 43984 -, 72931 -, 17662 -, 13883 (R/PC) = REQUIN GLASS CH T PANGES	2 INCH 2 INCH MEIERS 17,054 13,311 10,333 7,778 5,105 3,505 3,5	-2.164 CPATF: SHOT PFLL: <i>Q/RC</i> 13.55472 10.5738 8.2082 5.1797 2.40545 1.2010 1.2010 1.2010 1.2019 .2.534 CRATE: SHOT LLI	COPRFLATION COER R RADIUS(PC)=1.259 ET RANGFS-JL- LOGIO (P/PC) 1.3185 1.02423 .41425 .41425 .79093 .67856 .7153 .01244 CORRELATION COER E RADIUS(RC)=1.000 T PANGES	FICTENT HFTERS FICTENT HETERS	.93
ST SQ FIT T PELET DEPTH FIELD DATAI LIST SQ FIT T FIELET OC PTH FIELET OC PTH	0 106-106 74 1518, S 0F 8UR1A 	EQUATION DOB=0.5010 L = 5.01 FSHOT PFLU 2421 .3632 .4683 .6483 .6659 .7264 FOLATTON SDO9=0.201 L = 5.01 FSHCT FLU X/RC	(R/RC) = PLUF GLASS, 6CM FT PANGES LOGID(X/PC 61595 61996 31997 31977 31997 31977 31977 31997 31977 31997 31977 31997 31977 	2 INCH 2 INCH MEIERS 17.054 10.333 7.778 5.105 3.142 2.042 1.512 1.295 .51F*(X/RC)**	-2.164 CPATFI SHOT PFLL: Q/RC 13.5472 10.57735 8.2082 4.0557 2.4964 1.6223 1.2010 1.0291 -2.534 CRATEI SHOT LI 0/RC	COPRFLATION COER R RADIUS(PC)=1.759 ET RANGES-JL- LOGID(P/PC) 1.13185 1.02423 .91425 .73093 .67806 .74731 .21812 .C7153 .01244 CCRRELATION COER R RADIUS(RC)=1.000 T PANGES LOGID(R/PC)	FICTENT HFTERS FICTENT= HETERS	.93
ST SO FIT T VEVENS GJUNE VELLET DEPTH FIELD DATA1 ST SO FIT T VEVENS GJUNF WELET OC PTH VIELD DATA1	0 LOG-LOG 74 15LB, S 0F BURIA 305 BURIA 457 457 457 457 457 457 457 457 457 457	EQUATION DOB=0.5010 L = 5.01 FSNOT-PFLU X/97 .2421 .3632 .4237 .4843 .6653 .6653 .6653 .6653 .7264 FOUATTON SDO9=0.201 L = 5.01 FSNCT FFLUE X/97	(R/RG) = PLUF GLASS, 50 FT PANGES LOGIO (X/PG - 51595 - 51904 - 37261 - 37261 - 37497 - 21401 - 17662 - 13883 (R/PG)= RPOWN GLAS - PANGES LOGIO (X/PG	2 INCH 2 INCH 4 HEIERS 17,054 10,331 10,331 10,331 10,331 10,335 5,105 3,105 3,105 3,105 1,295 .51F*(X/RC)**	-2.164 CPATF: SHOT PFLL: R/RC 13.5472 10.5734 8.2082 6.1797 2.4964 1.6223 1.2010 1.0291 -2.534 CRATE: SHOT LL 9/RC	COPRFLATION COER R RADIUS(PC)=1.259 FT RANGFS-UL- LOGIO (P/PC) 1.13185 1.02423 .91425 .73903 .67806 .74731 .21812 .C7353 .01244 CCRRELATION COER RADIUS(RC)=1.000 T PAN(FS LOGID(R/PC)	FICTENT NETERS FICTENT METERS	.93
ST SO FIT T NEVENS GJUNE FIELD DATA: FIELD DATA: LST SO FIT T NEVENS GJUNF FELET DE PTH 'YELD DATA:	0 L0G-L0G 74 15LB, S 0F BURIA SOF BURIA FTERS 305 3381 457 5381 457 5383 457 5383 457 5383 457 5383 457 5383 457 5383 457 5383 457 5383 457 5383 457 5383 457 5385	EQUATION DOB=0.5010 L = 5,01 FSHOT PFLU X/90 .2421 .3027 .3632 .4237 .4237 .4243 .5488 .6053 .7264 FOLATION SDO9=0.201 L = 5,01 SHCT FFLLF X/90 .3611 C.221 .4251 .4551 .4551 .4551 .4551 .4551 .4551 .4551 .4551	(R/RC) = PLUF GLASS, 5CM FY PANGES LOG10(X/PC 51595 51996 43986 43986 43986 43986 13883 (R/RC) = RPOWN GLAS CCH 41896 41866 	2 INCH 2 INCH 3 INCH 4 NEIFRS 17,054 13,311 10,333 7,778 5,105 1,142 2,042 1,512 1,512 1,512 1,512 1,515 5,7 .NCH P HFIEDS 31,641	-2.164 CPATF: SHOT PFLL: <i>Q/RC</i> 13.5472 10.5738 8.2082 5.1797 2.4964 1.2010 1.0291 -2.534 CRATE: SHOT LLI 31.5694	COPRFLATION COER R RADIUS(PC)=1.259 ET RANGES-JA- LOGIO(P/PC) 1.13185 1.02423 .4425 .79093 .6785 .01744 CORRELATION COER R RADIUS(RC)=1.900 T RANGES LOGIO(R/PC) 1.50037	FICIENT: HFTERS FICIENT: METERS	.931
ST SQ FIT T PEVENS 6JUNE PELLET DEPTH FIELD DATAI	0 L06-L06 74 15L8, S 0F BURIA 305 331 457 457 457 457 457 457 457 457 457 457	EQUATION DOB=0.5014 L = 5.01 Short Pfli X/97 .2421 .3827 .3632 .4237 .4237 .4237 .4237 .4237 .4237 .4653 .5458 .6053 .724 FOLATTON SDOB=0.201 L = 5.01 FSHCT FFLLF X/97 .3811 .4573 .577	(R/RG) = PLUF GLASS, 50M FT BANGES LnG10(X/PG 51595 51904 37291 37291 37491 37491 37491 37491 37491 37491 13883 (R/PG)= RPOWN GLAS 	2 INCH 2 INCH R MEIERS 17,054 13,311 10,333 7,778 5,105 3,142 2,042 1,512 1,512 5,2,NC4 S, 2,NC4 P METERS 31,641 13,640	-2.164 CPATF: SHOT PFLL: 9/RC 13.5472 10.5733 8.2082 6.1792 4.0557 2.4964 1.6223 1.2010 1.0291 -2.534 CRATE: SHOT LL: 9/RC 31.6434 13.6433	COPRFLATION COEN R RADIUS(PC)=1.259 FT RAMGFS-JL- LOGIO(P/PC) 1.13185 1.02423 .41425 .73093 .61806 .9731 .21812 .C7153 .01244 CCRRELATION COEN R RADIUS(RC)=1.000 T RANGFS LOGIO(R/PC) 1.50037 1.13492	FICIENT HETERS FICIENT= METERS	.931
IST SO FIT T DEVENS GJUNE FIELD DATAI	0 L0G-L0G 74 15LB, S 0F BURIA * * * * * * * * * * * * * * * * * * *	EQUATION DOB=0.5010 L = 5.01 FSNOT-PFLL 2421 .3632 .4237 .4643 .5648 .6053 .6659 .7264 FOUATTON SDO9=0.201 L = 5.04 FSNCT FFLLF X/RC .3811 .4573 .5336	(R/RG) = PLUF GLASS, 500 FT PANGES LOGIO(X/PG 51595 51994 37291 31497 21801 17662 13883 (R/AC)= RPOWN GLAC 41896 T PANGES LOGIO(X/PC 41896 3397A 2784 2784 2784 2784 2784	2 INCH 2 INCH 4 EERS 17,054 13,311 10,333 7,778 5,105 3,142 2,042 1,512 1,295 .51F+(X/RC)++ 5, 2,NC4 	-2.164 CPATF: SHOT PFLL: <i>Q/RC</i> 13.5472 10.573A <i>d</i> .2082 <i>b</i> .1797 <i>2</i> .4964 1.6223 1.2010 1.0291 -2.534 CRATES SHOT LL1 <i>g/RC</i> 13.5433 13.5433 13.5433	COPRFLATION COEN R RADIUS(PC)=1.259 ET PANGFS-Ja- LOGIO (P/PC) 1.13185 1.02423 .91425 .97903 .67806 .79731 .21812 .07753 .01244 CORRELATION COEN E RADIUS(RC)=1.000 T PANGFS LOGIO(R/PC) 1.50037 1.13492 .63180 .6797	FICTENT NETERS	.97!
ST SU FIT T PELET DEPTH FIELD DATAI	0 L06-L06 74 15LB, S 0F 8URIA 305 331 473 610 6886 752 4933 610 6886 752 4933 610 6886 752 4933 610 6886 752 493 4914 C L06-L06 C L06-L06 C L06-L06 C L06-L06 74: SLB, 1 8 75 75 75 75 75 75 75 75 75 75 75 75 75	EQUATION DOB=0.5014 L = 5.01 2307 PFLU X/97 .2421 .3627 .4237 .4245 .6653 .7264 FOLATTON SDO9=0.201 L = 5.01 X/87 .3611 .4573 .5316 .6038 .6740	(R/RC) = PLUF GLASS, 6CM FT PANGES LOGID(X/PC 61595 61996 31996 31997 21843 (R/PC)= RPOWN GLAS 41885 21844 21844 21844 21844 21844 21844 21844	2 INCH 2 INCH 4 EIRCS 17.054 13.311 10.333 7.778 5.105 3.142 2.042 1.512 1.245 .51F*(X/RC)** 5, 2.NCH POST 31.641 13.640 4.287 3.191 .5151	-2.164 CPATF: SHOT PFLL: Q/RC 13.5472 10.5732 4.0557 2.4964 1.62391 1.0291 -2.534 CQATE: SHOT LL: 31.6433 4.2835 3.921 	COPRFLATION COER R RADIUS(PC)=1.259 FT RANGFS-JL- LOGIO(P/PC) 1.13185 1.2423 .41425 .73093 .67805 .7371 .21812 .7783 .01744 CORRELATION COEF RADIUS(RC)=1.000 T PANGFS LOGIO(R/PC) 1.50037 1.13497 .63180 .5407 .555	FICTENT HFTERS FICTENT= HETERS	.931
EST SO FIT T DEVENS GJUNE FIELD DATA1 FIELD DATA1 ST SO FIT T DEVENS GJUNF FILET DE PTH	0 L0G-L0G 74 15LB, S 0F BURIA 305 381 457 533 610 686 762 876 914 - C L0G-L0G C L0G-L0G C R0TERS 301 457 533 457 533 457 533 561 686	EQUATION DOB=0.5010 L = 5.01 FSNOT PFLU 2421 .3027 .3632 .4237 .4843 .6459 .7264 FOUATTON SDO9=0.201 L = 5.01 FSNCT FFLU X/RC .3811 .4573 .5316 .6008 .6760	(R/RG) = PLUF GLASS, 50 FT PANGES LOGIO (X/PG - 651595 - 51904 - 37281 - 37281 - 37491 - 37491 - 37491 - 37491 - 17662 - 13883 (R/AG)= RPOWN GLAC PCM T PANGES LDGIO (X/PG - 41896 - 3397A - 27284 - 21484 - 15769	2 INCH 2 INCH 4 HEIERS 17,054 17,054 13,311 10,333 7,778 5,105 3,162 1,512 1,295 .51F*(X/RC)** 5, 2,NC4 	-2.164 CPATF: SHOT PFLL: Q/RC 13.5472 10.5734 8.2082 6.1797 2.4964 1.6223 1.2010 1.0291 -2.534 CRATES SHOT L1 0/RC 31.56494 13.649	COPRFLATION COEN R RADIUS(PC)=1.259 FT RANGFS-UL- LOGIO (P/PC) 1.13185 1.02423 .91425 .79093 .67806 .79731 .21812 .C7353 .01244 CGRELATION COEN RADIUS(RC)=1.000 T RANGFS LOGIO(R/PC) 1.50037 1.53180 .50407 .5758	FICTENTS NETERS	.931
IST SQ FIT T DEVENS GJUNE FIELD DATAI	0 L0G-L0G 74 15LB, S 0F BURIA S 0F BURIA Y 457 457 457 457 457 457 457 457	EQUATION DOB=0.5010 L = 5,01 FINOT-PFLL 2421 .3632 .4843 .6053 .6653 .7264 FOLATON SONG=0.201 L = 5.01 FSHCT FFLL X/RC .3811 .4573 .5334 .6038 .6700 FOLATION	(R/RC) = PLUF GLASS, 6CM FT PANGFS LGG10(X/PC -,61595 -,51595 -,51595 -,51595 -,43986 -,43986 -,43986 -,47291 -,17662 -,13883 (R/PC)= RPOWN GLAC -,41896 -,33978 -,21644 -	2 INCH 2 INCH ME F POST 1,134*(X/RC)** 2 INCH ME F POST 17,054 13,311 10,333 7,778 5,105 3,105 3,105 1,512 1,512 1,512 1,512 5,7 ,NC4 	-2.164 CPATF: SHOT PFLL: <i>Q/RC</i> 13.5472 10.5738 <i>k</i> .2082 <i>b</i> .1797 <i>2</i> .4964 1.2010 1.0291 -2.534 CQATEF SHOT LLI <i>g/HC</i> 31.6433 <i>k</i> .2835 <i>x</i> .1921 1.1921 1.1921	COPRFLATION COER R RADIUS(PC)=1.259 ET RANGFS-JL- LOGIO (P/PC) 1.13185 1.02423 .41425 .79093 .67806 .71812 .01744 CORRELATION COER I.50037 1.13492 .63180 .50407 .12758 CORRELATION COER	FICTENT FICTENT FICTENT METERS	.931
ST SQ FIT T PELET DEPTH FIELD DATAI LIST SQ FIT T FIELD DATAI	0 L06-L06 74 15L8, S 0F 8UR1A 305 331 4933 610 6886 752 4933 610 6886 752 4933 610 6886 752 4933 610 6886 752 4933 610 6886 752 4933 610 6886 752 4933 610 457 457 457 457 457 457 457 610 457 610 457 610 6866 0 L06-L06	EQUATION DOB=0.5014 L = 5.01 23007 PFLU -2421 .3627 .3632 .4237 .4843 .6453 .6653 .7264 FOLATION SDOG=0.201 L = 5.04 FNLT FFLLF X/AC .3811 .4573 .6038 .6760 SOULATION	(R/RG) = PLUF GLASS, 5CM FT BANGES LOGIO (S-1505 -,51505 -,51505 -,51505 -,51505 -,51505 -,51505 -,51505 -,51505 -,51505 -,51505 -,51505 -,51505 -,51505 -,51505 -,51505 -,51505 -,51505 -,51505 -,21485 -,21484 -,15559 (R/QC) =	2 INCH 2 INCH METERS 17,054 13,311 10,333 7,778 3,105 3,115 2,042 1,512 1,295 .51F*(X/RC)** 5, 2,NCH P METERS 31,641 13,640 4,287 3,191 1,341 .191*(X/RC)**	-2.164 CPATF: SHOT PFLL: Q/RC 13.5472 10.5732 2.4964 1.62391 1.0291 -2.534 CQATE: SHOT LL: 31.6433 4.2835 3.1921 1.3415 -5.315	COPRFLATION COER R RADIUS(PC)=1.259 FT RANGFS-JL- LOGIO(P/PC) 1.13185 1.02423 .41425 .73093 .61806 .74731 .21812 .01244 CORRELATION COER RADIUS(RC)=1.000 T PANGFS LOGIO(R/PC) 1.50037 1.13492 .5180 .5087 .2758 CORRELATION COER	FICIENT= FICIENT=	. 931
LST SQ FIT T DEVENS 6JUNE FELLET DEPTH FIELD DATAI LST SQ FIT T FELET DE PTH FIELD DATAI ST SQ FIT T(0 L06-L06 74 15L8, S 0F BURIA 305 331 457 457 457 457 457 457 457 457 457 457	EQUATION DOB=0.5010 L = 5.01 FNOT PFLL X/97 .3632 .4237 .4237 .4843 .6453	(R/RG) = PLUF GLASS, 50M FT BANGES LOGIO (X/PG 51595 51904 37291 37291 37491 37491 37491 37491 37491 37491 37491 37491 31497 21484 31978 21484 	2 INCH 2 INCH 	-2.164 CPATF: SHOT PFLL' Q/RC 13.5472 10.5738 4.0557 2.4964 1.6223 1.2010 1.2010 -2.534 CQATE: SHOT LL 31.6494 31.6494 31.6494 1.415 -5.315	COPRFLATION COER R RADIUS(PC)=1.259 FT RANGFS-JL- LOGIO(PC) 1.13185 1.02423 .4425 .79093 .67806 .9731 .21812 .C7153 .01244 CCRRELATION COER RADIUS(RC)=1.000 T RANGFS LOGIO(R/PC) 1.5017 .5407 .5180 .50407 .12758 CORRELATION COER	FICIENT= FICIENT= FICIENT=	. 975
ST SQ FIT T VEVENS GJUNE VELLET DEPTH VIELD DATA1 ST SQ FIT T VEVENS GJUNE VELET DEPTH VIELD DATA1 ST SQ FIT TO EVENS 19JULT	0 LOG-LOG 74 15LB, S 0F BURIA 50F BURIA 150 150 150 150 150 150 150 150 150 150	EQUATION DOB=0.5010 L = 5.01 FSNOT-PFLU 2421 .3632 .4237 .4843 .6653 .6653 .6653 .6659 .7264 FOUATION SDOG=0.201 L = 5.01 FSNCT FFLU X/RC .3611 .4573 .6460 .6460 FOUATION SCOS=0.00 T	(R/RG) = PLUF GLASS, 50 FT PANGES LOGIO (X/PG - 61595 - 51904 - 37261 - 37497 - 17662 - 17662 - 17662 - 17662 - 41865 - 3397A - 27284 - 15769 (R/9C) = D1 RED AGRY(2 INCH 2 INCH 4 ELERS 17,054 10,331 10,333 7,778 5,105 3,142 1,341 10,337 7,778 5,105 3,142 1,512 1,295 .51F*(X/RC)** 9 METERS 31,641 13,640 4,287 3,191 1,341 ,191*(X/RC)**	-2.164 CPATF: SHOT PFLL: Q/RC 13.5472 10.5773 8.2082 6.1797 2.4964 1.6223 1.2010 1.0291 -2.534 CRATES SHOT L1 0/RC 31.56494 13.6543 4.2835 -5.315 CRATES	COPRFLATION COER R RADIUS(PC)=1.259 FT PANGFS-UL- LOGIO (P/PC) 1.13185 1.02423 .91425 .9731 .21812 .C7353 .01244 CCARELATICN COER RADIUS(RC)=1.000 T PAN(FS LOGIO(R/PC) 1.53180 .50407 .53180 .5047 .12758 CORRELATION FOFF RADIUS(PC)= .527	FICIENT= HETERS FICIENT= HETERS	.931
ST SQ FIT T PELET DEPTH TIELD DATAI ST SQ FIT T PELET DEPTH TIELD DATAI ST SQ FIT TO TIELD DATAI	0 L06-L06 74 15L8, S 0 P SURIA X HFTERS .305 .331 .616 .686 .752 .616 .686 .914 C L06-L06 74: SL8, 1 GF SUBJA .573 .611 .535 .533 .611 .655 .535 .611 .655 .535 .611 .656 .657 .535 .611 .656 .657 .535 .611 .656 .657 .535 .611 .656 .657 .535 .615 .656 .557 .535 .535 .557 .535 .610 .557 .535 .557 .577	EQUATION DOB=0.5010 L = 5.01 FINOT-PFLL 2421 .3632 .3632 .3632 .3632 .3648 .6653 .6653 .7264 FOLATTON SDOR=0.2011 L = 5.01 SNCT FLLF .403 .6760 .5735 .603 .6760 .5735 .603 .6760 .5715 .5735 .603 .6760 .5715 .5735 .5735 .5715 .57	(R/RC) = PLUF GLASS, 6CM FT PANGES LOGID(X/PC 61595 51906 43986 43986 31909 21883 (R/PC)= RPOUN GLAC 41896 33978 21684 21685 	<pre>1.134*(X/RC)** 2 INCH 2 INCH 3 R 4 EFRS 17.054 13.311 10.333 7.778 5.105 1.142 2.042 1.512 1.245 .51F*(X/RC)** 5, 7 .NC4 5, 7 .NC4</pre>	-2.164 CRATF: SHOT PFLL: R/RC 13.5472 10.5738 8.2082 5.1797 2.4964 1.2010 1.0291 -2.534 CRATF: SHOT LL: 31.56494 13.65433 4.2835 3.1921 1.7415 -5.315 CRATF:	COPRFLATION COER R RADIUS(PC)=1.259 ET RANGFS-JL- LOGIO (P/PC) 1.13185 1.02423 .91425 .9093 .6786 .01244 CORRELATION COEF 1.50037 1.13492 .63180 .50407 .12758 CORRELATION COEF RADIUS(PC)=.527 7 DAWGES	FICIENT= FICIENT= FICIENT= HETERS	.931
ST SQ FIT T VEVENS 6JUNE TELLET DEPTH TIELD DATAI LST SQ FIT T VEVENS 6JUNF TELET DE PTH ST SQ FIT T(EVENS 19JULT TELET DEPTH TELET DEPTH TELET DEPTH	0 L0G-L0G 74 15LB, S 0F BURIA 50 F BURIA 105 1351 457 1353 1457 1573 1573 1573 1575	EQUATION DOB=0.5010 L = 5.01 FSNOT-PFLL X/97 .2421 .3632 .4237 .4843 .6456 .64566 .64566 .64566 .6456	(R/RG) = PLUF GLASS, 6CM FT PANGES LGG10 (X/PG - 51595 - 51904 - 37291 - 37291 - 37491 - 37491 - 37491 - 37491 - 37491 - 37491 - 37491 - 37491 - 41865 - 3397A - 277A4 - 277A4 - 15369 (R/9C)= DI RED AGRY(LOGUS(X/PC) -	2 INCH 2 INCH 4 ELEPS 17,054 10,331 10,333 7,778 5,105 3,105 3,105 3,105 1,205 .51F*(X/RC)** 5, 2,NCH POST 31,640 4,287 31,91 1,341 .91*(X/RC)**	-2.164 CPATF: SHOT PFLL: Q/RC 13.5472 10.5738 4.2082 6.	COPRFLATION COER R RADIUS(PC)=1.259 FT RAMEFS-JL- LOGIO(P/PC) 1.13185 1.02423 .91425 .79093 .67806 .9731 .21812 .C7153 .01244 CORRELATION COER RADIUS(RC)=1.000 T RANGES LOGIO(R/PC) 1.50037 1.13497 .5180 .50407 .12758 CORRELATION COER RADIUS(RC)= .527 T PANGES ICOCOREPC	FICIENT= HETERS FICIENT= HETERS	.931
IST SQ FIT T DEVENS GJUNE FIELD DATAI FIELD DATAI IST SQ FIT T IEVENS GJUNE FELET DEPTH IELD DATAI ST SQ FIT TO EVENS 19JUL ELET DEPTH TELD DATAI	0 LOG-LOG 74 15LB, S 0F BURIA 305 3381 457 4533 610 5381 457 4533 610 586 586 586 586 586 586 586 586 586 587 457 457 457 457 533 610 535 533 610 533 610 533 610 535 533 610 535 533 610 535 533 610 535 535 535 610 535 535 535 537 610 535 535 535 535 535 535 535 535 535 53	EQUATION DOB=0.5010 L = 5.01 FSNOT-PFLL 2421 .3632 .4237 .4643 .5448 .6053 .6659 .7264 FOUATTON SDOB=0.201 L = 5.04 FSNCT FFLLF X/RC .3611 .4573 .5336 .6058 .60788 .6078 .60788 .60788 .60788 .60788 .60788 .60788	(R/RG) = PLUF GLASS, 50 FT PANGES LOGIO (X/PG - 651595 - 51904 - 37291 - 77291 - 77291 - 77291 - 17662 - 13883 (R/AC) = RPOWN GLAC - 41896 - 3397A - 27784 - 2784 - 3397A - 2784 - 15159 (R/AC) = I RED AGRYL T RANGES LOGID (X/PC)	<pre>1.134*(X/RC)** 2 INCH 3.134*(X/RC)** 4.13311 10.333 7.778 5.105 7.142 2.042 1.512 1.295 .515*(X/RC)** 5.2.NC4 5.2.NC4 5.2.NC4 5.2.NC4 5.2.NC4 5.2.NC4 5.113.640 13.640 13.640 13.641 13.640 13.641 13.641 13.640 13.641 13.641 13.640 13.641 13.641 13.640 13.641 13.640 13.641 13.640 13.641 13.640 13.641 13.640 13.640 13.641 13.640 13.640 13.641 13.640 14.64 15.640</pre>	-2.164 CPATF: SHOT PFLL: <i>Q/RC</i> 13.5472 10.5738 <i>d</i> .2082 <i>b</i> .1797 <i>2</i> .4964 1.6223 1.2010 1.0291 -2.534 CRATES SHOT <i>GRATES</i> 5.1921 1.7415 -5.315 CRATES SHOT PFLLE <i>Q/RC</i>	COPRFLATION COER R RADIUS(PC) =1.259 ET PANGFS-UL- LOGIO (P/PC) 1.13185 1.02423 .41425 .41425 .7993 .67806 .71731 .21812 .C7153 .01244 CORRELATION COER E RADIUS(RC) =1.000 T PANGFS LOGIO(R/PC) 1.50407 .13756 CORRELATION COEF P RADIUS(PC) = .527 T PANGES LOGIO(R/PC)	FICIENT FICIENT FICIENT NETERS	.931
EST SQ FIT T DEVENS GJUNE FELET DEPTH FIELD DATAI IST SQ FIT T FUET DE TH TELD DATAI ST SQ FIT TO EVENS ISJUL ELET DE FTT TELD DATAI	0 L06-L06 74 15L8, S 0F 8URIA 305 331 4573 4573 4573 4573 4573 4573 4574 4574	EQUATION DOB=0.5014 L = 5.01 ESHOT-PFLL X/42 .3827 .3632 .4237 .4843 .6053 .6053 .6053 .6053 .6053 .6054 FOLATION SOOR=0.201 L = 5.01 FOLATTON SOOR=0.201 L = 5.01 FOLATTON SOOR=0.201 X/4573 .5335 .6098 .6760 .6760 .6760 .6760 .6760 .6760 .6776 .6098 .6776 .5316 .6980 .6776 .5316 .6980 .6776 .5316 .6980 .6776 .5316 .5481 .5481 .5481 .5482 .5481 .5482 .5481 .5482 .5482 .5482 .5482 .5482 .5482 .5482 .54855 .5485 .54855 .54855 .54855 .54855 .54855 .5485	(R/RG) = PLUF GLASS, 50M FT BANGES LOGIO (X/PG) 51505 51505 51505 51505 51704 37291 37291 31497 26477 26477 26477 26477 26477 26477 26477 26477 21483 (R/PG)= 41896 33978 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 15189 (R/PG)= 21644 -	<pre>1.134*(X/RC)** 2 INCH 2 INCH 3 HEIFRS 17.054 13.311 10.333 7.778 5.105 3.142 2.042 1.512 1.245 5.51#*(X/RC)** 5, 2.NC4 5, 3.191 1.341 5,640 5,191 5,641</pre>	-2.164 CPATF: I3.5477 I3.5477 I3.5477 I3.5477 I3.5477 I.5737 4.0573 1.6273 1.6273 1.6273 1.6273 1.6273 1.6273 1.6273 1.6283 4.6494 I3.6433 4.2835 7.1921 1.1415 -5.315 CRATEF SHOT PFLLE SHOT PFLLE	COPRFLATION COER R RADIUS(PC)=1.259 FT RANGFS-JL- LOGIO(PC) 1.13185 1.02423 .4425 .79093 .61806 .79731 .21812 .01244 CORRELATION COER R RADIUS(RC)=1.000 T RANGFS LOGIO(R/RC) .5427 PANGES LOGIO(R/RC) .5471	FICIENT= HETERS FICIENT= HETERS	.931
ST SQ FIT T SEVENS 6JUNE FIELD DATA1 FIELD DATA1 IST SQ FIT T HEVENS 6JUNE WELET DEPTH TELD DATA1 ST SQ FIT TO EVENS 19JULT ELET DEPTH TELD DATA1	0 LOG-LOG 74 15LB, S 0F BURIA 305 3381 4557 5331 6886 752 875 610 6886 752 875 875 875 875 875 875 875 875 875 875	EQUATION DOB=0.5010 L = 5.01 FSNOT-PFLU 2421 .3632 .4237 .4843 .4843 .6659 .7264 FOUATTON SDOG=0.201 L = 5.01 FSNCT FFLU X/RC .3611 .4573 .5316 .6060 FOUATION SCOB=0.00 FOUATION SCOB=0.00 .2.7764	(R/RG) = PLUF GLASS, 50M FT PANGES LOG10 (X/PG - 51595 - 51904 - 37697 - 37697 - 37497 - 41895 (R/GC) = - 41895 (R/GC) = 01 RED AGR YL - 15759 (R/GC) = 01 RED AGR YL - 1610 (X/PC) - 51638 - 23776 - 21688 - 23776	<pre>1.134*(X/RC)** 2 INCH 2 INCH 3 MEIERS 17.054 13.311 10.333 7.778 5.105 3.142 1.512 1.295 .51F*(X/RC)** 5, 2 .NC4 5, 2 .NC4 5, 2 .NC4 5, 2 .NC4 5, 3 .191 13.640 4.287 3.191 13.641 4.287 3.191 13.44 .191*(X/RC)** .IG, 1 INCH 5, 796 5, 796</pre>	-2.164 CPATF: SHOT PFLL: Q/RC 13.5472 10.5734 4.0557 2.4964 1.6223 1.2010 1.0291 -2.534 CRATE: SHOT L1 0/RC 31.56494 13.6543 4.2835 7.1925 CRATE: SHOT PFLLE Q/RC Q/	COPRFLATION COER R RADIUS(PC)=1.259 FT PANGFS-UL- LOGIO(P/PC) 1.13185 1.02423 .91425 .9731 .21812 .C7353 .01244 CGRELATICN COER RADIUS(RC)=1.000 T PAN(FS LOGIO(R/PC) 1.53180 .50487 .53180 .50487 .5276 CORRELATION FOFF RADIUS(PC)= .527 T PANGES LOGIO(R/RC) .54871 .17859	FICIENT= HETERS FICIENT= HETERS	.931

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		ESHCT PELL	ET PANGES	POST	SHOT PELL	ET PANGES		
PIELO DATAT	X	X/RC	LOGID (X/PC)) <u>R</u>	R/RC	LOGIC(R/RC)		
	METERS			METERS	1.8.420	*****		
	.305	.5784	23776	.860	1.6301	.21220		
	****		 ■iff6176 	.549	1.0409-	.01723		
137-30 FIT TO	LOG-LOG	EQUATION	{R/RC}=	.735*(X/RC) **	-1,907	COPRELATION	COEFFICIENT=-	
. .								
DEVENS 19JULY	74 13/810	j 5008≠8.8	T ALY 1 THE	H	CRATE	R RADIUS(RC)=	1927 HETERS	
		ESHOT PELL	ET RANGES	POST	SHOT PELL	ET RANGES		•• •••
FIELO DATAL	X	X /RC	LOGIO (X/PC)) R HETCOC	R/ SC	LCG10(R/RC)		
	.254	.4821	31688	1.789	3.3931	,53059		
			+.2377K	.576	1.0925	.03842		
	+320	10140	1/005	• 7/ 1	1.40.00/	•03011		
LST SQ FIT TO	L06-L06	FOUATION	(P/PC)=	+230*(X/ RC) **	- 1.472	COFRELATION	COEFFICIENT=	, .89
							-	
		····	• •					
	7613/81 R	. \$506=0.2	ST OPANGE AC		CRATE	-	.6.22 HETEDE	
PELLET DEPTH	OF AURIA	L = 2.5	4 (H		04615		•••••	
	PP	ESHOT PELL	FT RANGES	Post	SHOT PELL	ET PANGES		
	HFTERS	~/ ~\		HETERS	47 PU	C001018/90/	-	
	+152	.2451	61766	8.916	14.3235	1,15605		
	• Z29 • 3A 1	.3676	43457	3.609	5.8039 1.54cn	.76372		
			**. 4 5 * 6	1 30 3	10 24 10			
LST SQ FIT TO	L0G-L0G	EQUATION	(R/RC) =	.481*(*/PC)**	-2.434	COFRFLATICN	COEFFICIENT=	•999
	7613/818	. 50.08=0.2	51 AL. 1 TH	- 4	COATE	- 1001201040	600 NETCES	•••
PELLET DEPTH	OF AUPIA	L= 2.5	604 604		074151		NUCE TELERS	
	PP(SHOT PELL	T RANGES	POST	SHOT PELL	T RANGES		
LTEFR OWINL	NETERS	. *****	CU111(17FC)	HETERS	H/RC	LUG10(#/9C)		
	.229	.3676	-+43457	4.173	6.7108	. 82677		••
	• 305	.4902	30963	1.454	2.3382	.36889		-
	.457	.7353	13354	.738	1+1863	.07419		
	1.05-1.05	EQUATION	(P/9C) =	. 49 64/ 9/061 44	- 2. 465	CORPELATION	CORFETETENT	.071
	LOGATOR	/ 13					W W & 1 1 A W A L D I *	4261
	200-200				(1111)			
	200-200				(0.40)			
DEVENS 31JULY	7413/818	, SCOR=0.2	51 BLUE GLAS	55, 1 INCH	CRATE	RACIUS(RC) =	.622 HETERS	
DEVENS SIJULY	7413/8L8	• SCOR=0.2 = 2.5	51 BLUE GLAS	55, 1 INCH		RACIUS(RC) =	.622 HETERS	
DEVENS SIJULY: PELLET DEPTH (7413/8L8 57 508141 PRI	• SCOR= 0.2 L = 2.5 ESHCT PELL X/RC	51 BLUE GLAS NCM ET RANGES LOG10(X/RG)	55, 1 INCH	CRATE SHOT PFLLT R/RC	RACIUS(RC) = T RANGES LOG10(R/RC)	.622 HETERS	
GEVENS 31JULY PELLET DEPTH (FIELO DATA)	2413/8L8 DF SURIA PRI X	• SCOR= 0. 2 L = 2.5 ESHCT PELL X/RC	51 BLUE GLAS CM ET RANGES LOG10(X/RG)	SS, 1 INCH	CRATE SHOT PFLLT R/RC	RACIUS(RC) = T RANGES LOG18(R/RC)	.622 HETERS	
GEVENS 31JULY PELLET DEPTH (FIELO DATA)	2413/8L8 7413/8L8 7413/8L8 57 507141 PRI 1 1 1 1 1 1 1 1 1 1 1 1 1	, SCOR= 0, 2 = 2,5 ESHCT PELL X/RC .3676 .4902	51 BLUE GLAS 64 ET RANGES LOG10 (X/RG) 43457 -,30963	55, 1 INCH P METERS 4,377 1.606	CRATE SHOT PFLL1 R/RC 7.0392 2.5833	RACIUS(RC) = ET RANGES LOG10(R/RC) .84757	.622 METERS	
GEVENS SIJULY	74;3/8L8 57 808181 PR 1 4 TERS .229 .305 .305	• SCOR= 0.2 L = 2.5 ESHCT PELL X/RC .3676 .4902 :6127	51 BLUE GLAS NCM ET RANGES LOG10 (X/RC) 43457 30963 21272	SS, 1 INCH P HETERS 4,377 1.606 ,777	CRATE SHOT PFLLI R/RC 7.0392 2.5833 1.2500	R RACIUS(RC) = ET RANGES LoS18(R/RC) .64757 .41218 .09991	.622 METERS	
GEVENS 31JULY PELLET DEPTH (FIELD DATA:	74;3/8L8 DF 8081A1 PR 1 XFTERS .229 .305 .305 .305	<pre>> SCOR= 0.2' L = 2.5' ESHCT PELL X/RC .3676 .4902 .6127 EQUATION</pre>	51 BLUE GLAS http: ET RANGES LOG10(X/PC) 43457 30963 21272 (R/RC)*	SS, 1 INCH P HETERS 4,377 1.606 .777 .235+(Y/RC)++	CRATE SHOT PFLLI R/RC 7.0392 2.5833 1.2500 -3.385	RACIUS(RC) = ET RANGES LOSIS(R/RC) .84757 .41218 .09591 COBPLATION	.622 HETERS	
GEVENS 31JULY PELLET DEPTH (FIELD DATA:	2433/8L8 57 8URIA PRI X WFTERS .229 .305 .305 .305 .301 LOG-LOG	, SCOR= 0.2 L = 2.5 ESHCT PELL X/RC .3676 .4902 .6127 EQUATION	51 BLUE GLAS KCH ET RANGES LOG10(X/RG) 43457 30963 21272 (R/RG)*	<pre>S5, 1 INCH</pre>	CRATE SHOT PFLLI R/RS 7.0392 2.5833 1.2500 -3.388	RACIUS(RC) = ET RANGES LOG18(R/RC) .84752 .41218 .09691 CORRELATION	.622 METERS COEFFICIENT=	
GEVENS SIJULY PELLET DEPTH I FIELD DATA:	2433/8L8 DF SURIA PRI X WFTERS .229 .305 .761 LOG-LOG	, SCOR= 0.2 L = 2.5 ESHCT PELL X/RC .3676 .4902 .6127 EQUATION	51 BLUE GLAS 64 ET RANGES Logid (X/RC) 43457 21272 (R/RC)x	SS, 1 INCH P HETERS 4,377 1.606 .777 .235*(X/RC)**	CRATE SHOT PFLLI R/RC 7.0392 2.5833 1.2500 -3.388	RACIUS(RC) = ET RANGES LOG10(R/RC) .84757 .41218 .09691 CORRFLATION	.622 HETERS COEFFICIENT=	
GEVENS 31JULY PELLET DEPTH (FIELD DATA: LST SG FIT TO DEVENS 31JULY DEVENS 31JULY	74:3/8L8 DF SURIAL PRI X WFTERS .229 .305 .361 LOG-LOG /4 13/ALP;	, SCOR=0.2 L= 2.5 ESACT PELL X/RC .3676 .4902 .6127 EOUATICN , SCOR=0.2 .5.0	51 BLUF GLAS htm FT RANGES LOG10 (X/PG) 43457 30563 21272 (R/QC) x 51 RPONN GLA	SS, 1 INCH POST: POST	CRATE SHOT PFLLI R/RC 7.0392 2.5833 1.2500 -3.388 CRATE	RACIUS(RC) = T RANGES LOGI0(R/RC) .64757 .41218 .09891 CORRFLATION R RADIUS(RC) =	.622 METERS COFFFICIENT= .622 METERS	
GEVENS 31JULY	74:3/8L8 DF 80#IA1 x #TERS .229 .305 LOG-LOG PRI x .229 .305 .375 LOG-LOG PRI F BUPIAI	, SCOR=0.2 L= 2.5 ESHCT PELL X/RC .3676 .4902 .6127 EQUATION , SCOR=0.2 L= 5.0 SHOT PELLI	51 BLUE GLAS MM FT RANGES LOG10 (X/RG) 43457 30565 21272 (R/RC) R 51 RPOWN GLA CM T PANGES	SS, 1 INCH POST: METERS 4.377 1.606 .777 .235*(X/RC)**	CRATE SHOT PFLLI R/RC 7.0392 2.5833 1.2500 -3.388 CRATE SHOT FELLI	R RACIUS(RC) = ET RANGES LOGIS(R/RC) .84757 .41218 .09891 CORRFLATION R RADIUS(RC)= ET RANGES	.622 METERS COEFFICIENT= .622 METERS	•991
GEVENS 31JULY PELLET DEPTH (FIELD DATA: LAT 30 FIT TO DEVENS 31JULY PELLET DEPTH (FIELD DATA:	74:3/8L8 57 804E1A1 PRI X 47TERS .229 .305 .229 .305 .305 .305 .305 .305 .305 .229 .229 .305 .305 .305 .305 .305 .229 .305 .305 .305 .305 .305 .305 .229 .305 .305 .305 .305 .305 .305 .305 .305 .229 .229 .305 .305 .305 .305 .229 .305 .305 .305 	, SCOR=0.2 L = 2.5 ESHCT PELL X/RC .3676 .4902 .6127 EQUATION , SCOR=0.24 L = 5.11 SHOT PELL X/RC	51 BLUE GLAS ACM ET RANGES LOG10 (X/PC) ,43457 ,30457 21272 (R/QC) * 51 BPOWN GLA SCM D SANGES LOG10 (X/PC)	SS, 1 INCH P METERS 4.377 1.606 .777 .235*(¥/RC)** NSC, 2 INCH POST: 	CRATE SHOT PFLLI R/RC 7.0392 2.5833 1.2500 -3.388 CRATE SHOT PELLI R/RC	RACIUS(RC) = ET RANGES LOGIS(R/RC) .84757 .1218 .09991 CORRFLATION R RADIUS(RC) = ET RANGES LOGID(R/RC)	.622 METERS COEFFICIENT= .622 METERS	
GEVENS 31JULY PELLET DEPTH (FIELO DATA: LAT SO FIT TO DEVENS 31JULY) PELLET DEPTH (FIELD DATA:	74:3/8L8 57 8041A1 PRI -229 .305	, SCOR=0.2 L = 2.5 ESHCT PELL X/RC .3E7E .4902 .6127 EOUATICN , SCOR=0.2 ⁴ L = 5.1 ESHOT PELL X/RC .2451	51 BLUE GLAS EM ET RANGES LOG10 (X/RC) 43457 10365 -21272 (R/RC) * 51 BPOWN GLA PDW T PANGES LOG10 (X/PC) 51066	SS, 1 INCH P HETERS 4.377 1.606 .777 .235*(V/RC)** INCH P HETERS 1.235 .235*(2)/RCH	CRATE SHOT PFLL R/RC 7.0392 2.5833 1.2500 -3.388 CRATE SHOT FFLL R/RC 5.1569	RACIUS(RC) = ET RANGES LOGI8(R/RC) .84757 .41218 .09491 CORRFLATION R RADIUS(RC) = ET RANGFS LOGI8(R/RC) .71239	.622 METERS COEFFICIENT= .622 METERS	.999
GEVENS SIJULY PELLET DEPTH (FIELD DATA: LAT SO FIT TO DEVENS SIJULY) PELLET DEPTH (FIELD DATA:	74:3/8L8 67 808141 1 29 PR 229 .305 .305 .305 .305 .305 .305 .06-L0G PPI 4 4FIERS .529 .229	, SCOR=0.2 L = 2.5 ESNCT PELL X/RC .3676 .4902 .6127 EOUATICN , SCOR=0.2 E. 5.11 SHOT PELL X/RC .2451 .3676	51 BLUE GLAS MTM ET RANGES LOGIO (X/RE) 43457 31052 -21272 (R/RC) * 51 BPOWN GLA 51 BPOWN GLA 51 BPOWN GLA 51 BPOWN GLA 51 AG CM T PANGES LOGIO (X/PG) 61066 63457	S5, 1 INCH P HETERS 4,377 1.606 .777 .735*(¥/RC)** NCTFOR 3.276 2.403	CRATE R/RC 7.0392 2.5833 1.2500 -3.388 CRATE R/RC 5.1569 3.8725	R RACIUS(RC) = T PANGES LOG10(P/RC) .64757 .41218 .09891 CORRFLATION R RAD IUS(RC) = T RANGES LOG10(P/RC) .71239 .58400	.622 METERS COEFFICIENT= .622 METERS	• 991
GEVENS 31JULY PELLET DEPTH (FIELD DATA: LST SG FIT TO DEVENS 31JULY PELLET DEPTH (FIELD DATA: FIELD CATA:	74:3/8L8 74:3/8L8 74:3/8L8 47:000 47:000	, SCOR=0.2 L = 2.5 ESHCT PELL X/RC .3676 .4902 .6127 EQUATION , SCOR=0.2 .5.01 SHOT PELL X/RC .7451 .3676 .4902 .6127	51 8LUF GLAS 644 51 RANGES LOGIO (X/RG) 43457 3055 21272 (R/QC) x 51 RPOWN GLA 51 RPOWN GLA 51 RPOWN GLA 51 RAGES LOGIO (X/RG) 61056 43457 30453 .21323	SS, 1 INCH POST: POST: POST: POST: A .377 1.606 .777 .235* (¥/RC)** SC, 2 INCH POST: POST: POST: 2.403 1.161 2.403	CRATE CRATE R/RC 7.0392 2.5833 1.2500 -3.388 CRATE SHOT FELLI R/RC 5.1569 3.8725 1.4675 1.4675	RACIUS(RC) = T PANGES LOGI0(R/RC) .64752 .41218 .09891 CORRFLATION RADIUS(RC) = T RANGFS LOGI0(R/RC) .71239 .58800 .27129	.622 METERS COEFFICIENT=	•991
GEVENS 31JULY PELLET DEPTH (FIELD DATA) LOT SO FIT TO DEVENS 31JULY PELLET DEPTH (FIELD DATA)	74;3/8L8 PR1 #TERS .229 .305 .361 LOG-LOG PR1 Y 47105 .152 .152 .152 .152 .152 .152 .152 .152	, SCOR=0.2 L = 2.5 ESHCT PELL X/RC .3676 .4902 .6127 EQUATION , SCOR=0.2 L = 2 SHOT PELL X/RC .2451 .3676 .4902 .6127	51 BLUE GLAS MM FT RANGES LOG10 (X/RG) 43457 30363 21272 (R/QC) x 51 RPOWN GLA CH T PANGES LGG10 (X/PG) 61865 30563 21272	SS, 1 INCH POST: METERS 4.377 1.606 .777 .735*(¥/RC)** ISS, 2 INCH POST: P HETERS 3.296 2.404 1.161 .744	CRATE SHOT PFLLI R/RC 2.5833 1.2500 -3.388 CRATE R/RC 5.1569 3.8755 1.8675 1.8675	R RACIUS(RC) = ET RANGES LOGIO(R/RC) .84757 .41218 .09691 CORRELATION R RADIUS(RC) = ET RANGES LOGID(R/RC) .71239 .58000 .27129 .07776	.622 METERS COEFFICIENT= .622 METERS	• 991
GEVENS 31JULY PELLET DEPTH (FIELD DATA) LST SQ FIT TO LST SQ FIT TO	74:3/8L8 PRI # TERS .229 .305 .305 .305 .305 .305 .305 .305 .305 .305 .305 .305 .152 .279 .152 .279 .162 .152 .279 .162 .1	, SOOR=0.2 L= 2.5 ESHCT PELL X/RC .3676 .4902 .6127 EQUATION SCOR=0.2 .5 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7	51 BLUE GLAS MM FT RANGES LOG10 (X/RG) 43457 (R/QC) R 51 RPOWN GLA CM T PANGES LOG10 (X/PG) 61866 -43457 -30353 21272 (P/RG)=	SS, 1 INCH P METERS 4.377 1.606 .777 .735*(X/RC)** NCC, 2 INCH 	CRATE SHOT PFLLI R/RC 2.5837 2.5833 1.2500 -3.388 CRATE SHOT FFLLI R/RC 5.1569 3.8725 1.8675 1.8676 1.8634	RACIUS(RC) = ET RANGES LOGIO(R/RC) .84757 .41218 .09991 CORRFLATION R RAD IUS(RC) = T RANGES LOGID(R/RC) .71239 .71239 .71239 .71239 .71239 .7776 CORRELATION	.622 METERS COEFFICIENT= .622 METERS COEFFICIENT=	• 99
GEVENS 31JULY PELLET DEPTH (FIELD DATA: LAT 30 FIT TO DEVENS 31JULY) PELLET DEPTH (FIELD DATA: FIELD DATA:	7413/8LR 97413/8LR 97 8048141 107 8048141 108 108 108 108 108 108 108 108 108 108 108 108 108 108 108 108 108 108 108	, SOOR=0.2 L= 2.5 ESHCT PELL X/RC .3676 .4902 .6127 EOUATICN SCOR=0.24 ESHOT PELL X/RC .4902 .6127 EOUATICN	51 8LUE GLAS MM FT RANGES LOG10 (X/PG) ,43457 ,21272 (R/QG) * 51 RPOWN GLA CM T PANGES LOG10 (X/PG) ,61066 -43457 -30953 21272 (P/RG)=	SS, 1 INCH P MCTERS 4.377 1.606 .777 .735* (¥/RC)** NCC, 2 INCH POST: P NCTFOC 3.276 2.403 1.151 .744 .592* (X/RC)**	CRATE SHOT PFLL R/RC 2.5837 2.5837 -3.388 CRATE R/RC 5.1569 3.8725 1.6576 1.6576 1.4674	RACIUS(RC) = ET RANGES LOGID(R/RC) .84757 .1218 .09991 CORRELATION R RADIUS(RC) = ET RANGES LOGID(R/RC) .71239 .58800 .27129 .07776 COFRELATION	.622 METERS COEFFICIENT= .622 METERS COEFFICIENT=	• 947
GEVENS 31JULY PELLET DEPTH (FIELD DATA: LAT SO FIT TO DEVENS 31JULY) PELLET DEPTH (FIELD DATA: FIELD DATA:	7413/8LR 57 8047341 PR X X *TERS .229 .305 .305 LOG-LOG PR X .229 .305 .305 .305 .005-LOG .152 .229 .152 .229 .152 .152 .152 .151 LOG-LOG	, SCOR=0.2 L = 2.5 ESNCT PELL X/RC .3676 .4902 .6127 EQUATION SCOR=0.2 .7451 .3676 .4902 .7451 .3676 .4902 EQUATION	51 BLUE GLAS RM FT RANGES LOGIO (X/RG) 43457 -30953 -21272 (R/RG)x T PANGES LOGIO (X/RG) 61666 43457 -30953 (P/RG)=	S5, 1 INCH P HETERS 4,377 1.606 .777 .735*(V/RC)** NCC, 2 INCH POST: P NETFOC 3.276 2.403 1.161 .744 .592*(X/OC)**	CRATE R/RC 2.5831 2.5831 1.2500 -3.388 CRATE R/RC 5.1569 3.8725 1.8675 1.3675 1.3675	R RACIUS(RC) = ET RANGES LOG10(R/RC) .84757 .41218 .09891 CORRELATION R RADIUS(RC) = ET RANGES LOG10(R/RC) .71239 .58400 .27129 .07776 CORRELATION	.622 HETERS COEFFICIENT= .622 HETERS COEFFICIENT=	• 947
GEVENS 31JULY PELLET DEPTH (FIELD DATA: LAT SO FIT TO DEVENS 31JULY) PELLET DEPTH (FIELD DATA: LST SQ FIT TO DEVENS 31JULY)	74:3/8L8 74:3/8L8 74:3/8L8 WFTERS .229 .305 .305 .305 LOG-LOG F SUDJAL .729 .152 .279 .152 .279 .152 .279 .155 .105 .105 .205 .105 .279 .152 .279 .152 .275 .152 .275 .152 .275 .152 .275 .152 .275 .152 .275 .152 .275 .152 .275 .155 .152 .275 .155	, SOOR=0.2 L = 2.5 ESNCT PELL X/RC .34902 :6127 EQUATION SCOR=0.2 = 5.01 SYAF .4902 :6127 EQUATION .2451 .3457 .4902 .6127 EQUATION SOOB=0.2 * 5.0	51 BLUE GLAS MTM ET RANGES LOGIO (X/PG) 	SS, 1 INCH P HETERS 4.377 1.606 .777 .735+(¥/RC)++ NCTFRC 3.206 2.403 1.141 .744 .592*(X/RC)++	CRATE SHOT PFLLI R/RC 7.0392 2.5833 1.2500 -3.388 CRATE R/RC 5.1564 3.8725 1.8675 1.3755 1.37555 1.37555 1.37555 1.37555 1.37555 1.37555 1.37555 1.37555 1.37555 1.375555 1.375555 1.375555 1.375555 1.3755555 1.3755555 1.375555555 1.37555555555555555555555555555555555555	R RACIUS(RC) = T PANGES LOG10(R/RC) .84757 .41218 .09891 CORRFLATION R RADIUS(RC) = T RANGES LOG10(P/RC) .71239 .58800 .27129 .07776 COFRFLATION R RADIUS(RC) =	.622 HETERS COEFFICIENT= .622 HETERS COEFFICIENT=	• 997
GEVENS 31JULY PELLET DEPTH (FIELD DATA) LST SQ FIT TO DEVENS 31JULY PELLET DEPTH (FIELD DATA) CLST SQ FIT TO DEVENS 31JULY	74:3/8L8 74:3/8L8 9 80#14: PRI WFTERS .229 .229 .205 .361 LOG-LOG PRI 4:13/AL8: 0F 800F141 PRI 152 .152	, SCOR=0.2 = 2.5 ESHCT PELL X/RC .3676 .4902 .6127 EQUATION SCOR=0.2 = 5.01 SAF .4902 .5.1 SAF .4902 .5.1 EQUATION .3676 .4902 .5.1 EQUATION .3676 .4902 .5.1 EQUATION .3676 .4902 .5.1 EQUATION .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .3676 .4902 .5.1 .5.5	51 BLUE GLAS MTM ET RANGES LOGIO (X/RG) 43457 3055 21272 (R/QC) x 51 RPOWN GLA 51 RPOWN GLA 51 RPOWN GLA 	SS, 1 INCH POST: POST: 	CRATE CRATE R/RC 7.0392 2.5833 1.2500 -3.388 CRATE R/RC 5.1569 3.8725 1.8675 1.8675 1.4951 -1.634 CRATES	R RACIUS(RC) = ET RANGES LOGIO(R/RC) .64757 .41218 .09691 CORRELATION R RADIUS(RC) = ET RANGES LOGID (R/RC) .71239 .58400 .27129 .07776 CORRELATION R RADIUS(RC) = ET RANGES	.622 HETERS COEFFICIENT= .622 HETERS COEFFICIENT=	• 991
GEVENS 31JULY PELLET DEPTH (FIELD DATA) LST SQ FIT TO DEVENS 31JULY PILLET DEPTH (FIELD DATA) DEVENS 31JULY PILLET DEPTH (PILLET D	74:3/8L8 PRI #TERS .229 .305 .305 .305 .305 .305 .305 .152 .525 .152 .152 .152 .155 .105	, SOOR=0.2 L= 2.5 ESHCT PELL X/RC .3676 .4902 .6127 EQUATION SCOR=0.2 .7451 .3676 .4902 .6127 EQUATION .5008=0.2 .4902 .6127 EQUATION .5008=0.2008=0.2008=0.2008=0.2008=0.2008=0.2008=0.2008=0.	51 BLUE GLAS TM FT RANGES LOG10 (X/PG) 43457 30363 21272 (R/QC) x 51 RPOWN GLA FCH T PANGES LG610 (X/PG) 61655 30563 21772 (P/RG)= 51 RANGES LG610 (X/PG)	SS, 1 INCH POST: METERS 4,377 1.606 .777 .235*(X/RC)** ISS, 2 INCH POST: PHETERS 2.401 1.161 .744 .592*(X/RC)**	CRATE CRATE R/RC 7.0392 2.5833 1.2500 -3.388 CRATE R/RC 5.1569 3.8756 1.3675 1.36575 1.36575 1.36575 1.36575 1.36575 1.36575 1.36575 1.36575 1.36575 1.36575 1.36575 1.36575 1.36575 1.36575 1.36575 1.36775 1.3777575 1.37775 1.37775 1.3777575 1.3777575 1.37775757	R RACIUS(RC) = ET RANGES LOGIO(R/RC) .84757 .41218 .09591 CORRELATION R RADIUS(RC) = ET RANGES LOGID(R/RC) .27129 .07776 COFRELATION R RADIUS(RC) = T RANGES LOGIO(R/RC)	.622 METERS COEFFICIENT= .622 METERS COEFFICIENT=	• 991
GEVENS 31JULY PELLET DEPTH (FIELD DATA) LST SQ FIT TO DEVENS 31JULY PELLET DEPTH (FIELD OATA) DEVENS 31JULY) PELLET DEPTH (PELLET DEPTH (PIELD DATA)	74:3/8L8 JF 8000000 229 .229 .305 .229 .305 .229 .305 .229 .305 .005-L0G .005-L0G .152	, SOOR=0.2 L= 2.5 ESHCT PELL X/RC .3676 .4902 .6127 EQUATION SCOR=0.2 = 5.0 X/RC .7451 .3676 .4972 .6127 EQUATION STOBE0.2 EQUATION STOBE0.2 .4972 .6127 EQUATION .4972 .6127 EQUATION .4972 10 .4972 .4972 .4972 .4972 .4972 .4972 .4972 .4972 .4972 .4972 .4972 .4972 .4	51 BLUE GLAS MM FT RANGES LOGIO (X/RG) 43457 (R/QC) R 51 RPOWN GLA PCH T PANGES LOGIO (X/PC) 61066 43457 (P/RG)= 51 AL, 2 INC SCM 61066	SS, 1 INCH P METERS 4.377 1.606 .777 .735*(X/RC)** INCH POST: P METERS S, 230 .744 .744 .592*(X/RC)** R R FTERS 3, 531	CRATE SHOT PFLLI R/RC 7.0392 2.5833 1.2500 -3.388 CRATE SHOT FELLI 1.8675 1.1961 -1.634 CRATE SHOT PELLI R/RC 5.6755	RACIUS(RC) = ET RANGES LOGIS(R/RC) .84757 .41218 .09891 CORRELATION R RADIUS(RC) = T RANGES LOGIS(R/RC) .71239 .71239 .71239 .07776 CORRELATION R RADIUS(RC) = T RANGES LOGIS(R/RC) .75508	.622 METERS COEFFICIENT= .622 METERS COEFFICIENT=	.967
GEVENS 31JULY PELLET DEPTH (FIELD DATA: LST SQ FIT TO DEVENS 31JULY) PELLET DEPTH (FIELD DATA: PELLET OPTH (PIELD DATA:	7413/8LR 07 8000181 107 8000181 107 8000181 107 8000181 105 800181 105 800180000000000000000000000000000000	, SCOR=0.2 L = 2.5 ESNCT PELL X/RC .3676 .4902 .6127 EOUATICN , SCOR=0.2 - 5.10 X/RC .7451 .3676 .4917 .7451 .3676 .4917 EOUATICN STOB=0.2 = 5.10 X/RC .2451 .3676 .4917 EOUATICN .7451 .3676 .4917 .7451 .3676 .4917 .7451 .3676 .7451 .3676 .7451 .3676 .7451 .3676 .7451 .3676 .3767 .3676 .3676 .3676 .3676 .3676 .3676 .3676 .3676 .3676 .3676 .3676 .3676 .3676 .3767 .3777 .3767 .3777 .3777 .37777 .37777 .377777777 .37777777777	51 BLUE GLAS ATM ET RANGES LOGIO (X/RC) 43457 -30953 -21272 (R/RC)x T PANGES LOGIO (X/RC) 61666 43457 -30953 (P/RC)= T RANGES LOGIO (X/PC) 61066 43457 51066 43457	S5, 1 INCH P HETERS 4,377 1.606 .777 .735*(V/RC)** NCC, 2 INCH POST: P NCFC0C 3.276 2.404 I.161 .744 .592*(X/0C)** R HFTERS 3.539 2.033 2.033	CRATE CRATE R/RC 7.0392 2.5831 1.2500 -3.388 CRATE S.1569 3.8725 1.8675 1.3675 1.961 -1.634 CRATE R/RC S.6755 5.6755 5.2695	R RACIUS(RC) = ET PANGES LOG10(P/RC) .84757 .41218 .09891 CORRFLATION R RADIUS(RC) = ET RANGES LOG10(R/RC) .7129 .07776 CORRFLATION R RADIUS(RC) = ET RANGES LOG10(R/RC) .71898 .51855	.622 HETERS COEFFICIENT= .622 HETERS COEFFICIENT=	.967

	77413/818		ST RED ACRYLI	¢*.5 INCH	CRĂTE	R RADIUS(RG)=	.822 HETERS	
FIELD DATAS	PRE	SHOT PELL	T RANGES	POST R	SHOT PELL R/RC	ET RANGES	· · · · - ·	
	HETERS		•••••	HETERS				
	.152	.2451	61066	3,719	5.9804	.77673		
	+229	.3676	43457	2.371	3.813/	+ 76137 976 47		
	+305 +381	.4952	10963	1.173	1.1029	• 27583 • 84299	. –	
			- /#/#^>+ **.			-		.9828
231 38 P11 1	0 100-100	EQUALICA		431- (#7 #61 **	- 14 931	COPREER TO		
•							••••••	
BEVENS 18SEP	T741 1 LB	C4, 5708=	0.00, AL 1 IN 464	ICH .	CRATE	R RACIUS(RC) =	.658 HETERS	
		eshet felt	ET RANGES	* ·POST	SHOT PELL	FT RANGES		
FIELD DATAL		x7*C	COUTO (X/ + 1.1	METERC	47.80	C0010(#/K0/		
	120	2672		13 602	20.2063	1.11700		
	1223	4618	- 33665	4.697	7.1363	. 85335		• • • • • • • • •
	. 36 1	. 5787	. 23754	2.476	3.7593	. 575 1 0		
		.8594	158**	.941	1:9046			
137 50 FIT T	C LOG-LOG	EQUATION	(P.R.C)= .	433* (X/PC)**	-3.679	CORRELATIO	COEFFICIENT=	; 99 55 -
							· • •	
GEVENS 10SEP PELLET DEPTH	T741 1 LB OF MURIAL	C4, SACR=	0.25. AL 1 IN 47#	ГH	CRATE	R RADIUS (RC) =	+713 HETSHS	
	PR{	ESHOT PELL	FT RANGES	POST	SHOT PELL	ET PANGES		
FIELD DATA:	X	*/#C	LUG10(X/FC)	P	R/RC	FOCIA(6/6C)		
	METERS			METERS				-
	• 22 •	.3215	4 94 1 5	35.616	49.9359	1.69841		•
	.305	.4274	-,36922	13.262	18.5940	1.26937		
	,381	.5342	27231	5,273	7.3932	. 86883		
	.457	.6410 .7479	+.19317	2.245	3.1496	.49825		
LST SQ FIT T	0 L0G+L0G	ECUATION	(R/NC)= .	445*(X/Pr)**	-4.265	COPRELATIO	COEFFICIENT*	.9952
	•							
DEVENS 105EP	1741 1 LR	C4 , SCOF=1	.25, AL 3 INC	н	CRATE	R RADIUS(RC)=	.713 HETERS	·
		SHOT PELL	TT PANGES	+Post	SHOT PELL	ET RANGES		
FIELO DATA:	x	X/RC	LOG10(X/PC)	R	R/RC	LOG10(R/RC)		
	HETERS			METERS				
	.152	.7137	67025	5.014	2.8291	.45164		
• •	•224	.3265	49415	3.667	5.1410	.71105		-
	.305	.4274	36922	1.143	1.6026	• 50 + 85		
'	+381	.5342	27231	1.189	1.1410	·21850		
LST SQ FIT T	0 106+106	EQUATION	(R/RG) - •	.842*(X/PC)**	-1.004	CORRELATIO	N GOFFFIGIERI#	
		CL 5000-			CD4 71		BLI METEDE	•
PELLET DEPTH	OF BURTA	t * ?.						
	¥ ++	⊑3RUI PELI X/RC	LOGIOITAPCI	PUST	R/PC	LOG1012/#C)		
	NETERS	- * * *		METERS				
-	.279	. 2717		32.444	38.0904	1.588.87		
	.305	3623	- 44191	29.276	36.8007	4.44460		
				11.00	16.8484	1.21768		
		54 15	26482	6. EEQ	7.7074	10101		
	. 671			1.944	3.0464	. 50 17 1		
		. 7344		1.727	2.0134	. 31114		
	.585	.8152	+-98873	.974	1.1630	. 06560		
LST 50 717 T	0 LOG-LOG	EQUATION	(#/#G)= .	797* (X/PC)**	-3.374	CORRELATIO	N COEFFICIENT=	.9682
DEVENS 105FP	1741 1 LB	G4. 5008	0.50, AL 3 IN	ifH	CRAT	R RACIUS(RC)=	A41 HETERS	
PELLET DEPTH	OF WIRTA	L + 7.F	764	_				
	PR	ESHOT FELL	ET RANGES	POST	SHOT PFLI	FT RANGES		
	HETERS	- / - 1	······································	HETERS	-/	CODIC(#140)		
	.729	.7717	56585	17.509	14.8696	1.17230		
	. 10 5	. 1621	44091	1.784	11.6304	1.06560		
	.381	. 6529		4.445	5.5717	.74208		•• •• •• •• ••
	+ 457	. 54 15	26482	1.921	7.2826	. 3584.3		
	. 533	.6341	19787	1.317	1.5652	.19457		
-137 30 FIT 1	0 LOG-LOG	EQUATION	(P/RC)+ .	4724(1/80)**	-2.847	CORRELATIO	N COFFFICIENT=	

+ 18 × 4

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فيحتقدهم والمعتقفين الالماني والمتعالمة فالالأ ووستعار

		ESHCT PELL	ET RANGES	•~+ " +POST	SHOT PELL	ET RANGES++ " "	
FIELD DATA:	X	X/RC	LOGIO (X/RC)	R	R/RC'	LOG18(R/RC)	
	HETERS	. 1611	44691	2.481	2.05.07	16073	
·		4529	34100	1.524	1.8110	25806	····
	.457	.5435	26482	1.244	1.4783	.16975	
LST SO FIT T	0 106-106	EQUATION	(R/RC) =	.498*(X/RC)++	-1.721	CORRELATION COFFETCIENTS	. 98.6
DEVENS 18SEP	T741 1 LB	C4, 5008=	0.375, AL 1	INCH	GRATE	P RADIUS(RC)= .799 NETERS	
-PELLET DEPTH	OF BURIA	L = 2.5	4CH 61 0ANGES				
	¥	ESHUT PELL	10610127901	P	SHUT PELL	I CONTRACT	
	HETERS			NETERS		20010(8780)	
	.229	.2863	54324	25.771	37.2710	1 + 49881	• •
	.305	.3817	41830	51662	10.8473	1.03532	
	457	.5725	24221	2.350	2.9427	+/UU37 .46875	
	.933	+8879		1.375	1:7214		
137 50 FIT T	0 LOG -LO G	COUAT ION	(R/RC)=	.421+(X/RG)++	-3.429	CORFLATION COEFFICIENT=	- , 999
				-			
PELLET DEPTH	OF BURIA	CN; SUOR= L = 7.6	0.375, AL T 20H	тисн	CRATE	R RADIUS (RG) = .799 HETERS	
ETELA MATLA	PR	ESHCT FELL	t I RANGES	Post	SHOT PELL	ET PANGES	
TALLO DATAT	HETERS	****	LUGIU(X/PC)	WFTFRS	KY KU	LOG10(K/RC)	
	.229	.2863	54324	2.871	3,5954	.55575	
		.3817	41830	5. 204	3.0000	.47712	
	.381	.4771	32139	1.753	2.1947	.34137	
	4471			1.299	1.5/63	. 19765	
LST SQ FIT TO	0 LOS-LOG	EQUATION	(9/º() =	.875* (x/9C) ++	-1.182	CORRELATION COEFFICIENT=	.974
DEVENS 255EP	741500 GI	N C41 STOR	=0.00, AL 1	INCH	CRATE	R RADIUS (PC) = .652 HETERS	
	PR	FSHOT FELL	T PANGE		SHOT PFLL	FT PANGES	
FILLO DATAL	×	X/RC	LOG10(X/PC)	R	R/RC	L0610 (P /PC)	
	NETERS			METERS			
	. 385			7.666	11.7523	1.07012	
	.381	.5841	23150	1.881	2.8832	.45987	
	.457	.7009	15432	. 759	1.1636	.06579	
LST SQ FIT T	0 LOG-LOG	EQUATION	(#/RG)#	* #5a+(X/8C) **	-3.267	COFRELATION COEFFICIENT=	.9861
DEVENS 255EP	741 508 (OF BURTAU	GH C41 SDC0 L # 548	3±0.00, AL 2 804	3NLH	GRATER	RACIUS(RC) = +052 METERS	
	PR	ESHCT PFLL	T RANGES	Prsts	SHOT PELLE	T PANGES	
FIELD DATAL	X	¥/RC	FU0 (2 (X/60)	P	4/PC	L0G10(P/PS)	
	. 224			NETERS			
	.305	.4673	-,13041	1.317	2.0187	• EV 74 3 • 30507	
	. 181	.5A41	23150	.861	1.3318	. 12463	
	1.00-100		(B.00) -	01 14 / 1 400			
				1703-11 1 413++	••••33	CONSTANTON CONDUCTION	.0013
	741 588 0	GM CAT 5001	Pt0.25, AL 1	INCH	CRATES	RACIUS(RG) = .759 METERS	
PELLET DEPTH	OF BURTAL	L # 2,50	NON DINCTO-				
FIFID DATA+	P	X/DC	106101100	büll.	1991 PFLL9 8/80	LAGTA (RADC)	
	HETERS			NETERS		*************	
	. 305	.4016	19620	11.655	17.9920	1.25508	
	. 381	.5820	29929	9.080	11.9639	1.07767	
	.447		72011	7.441	1.7430 1.8765	, 57322 , 3234 <i>3</i>	
					1	• FF 31C	
Pat. 24. h144(FAARIIK	(*/***)1	+#04*(<u>\$</u> \$¥Ç} * *	-4.287	CONNELSER COCANICISAIA	-, 4740
0EVENS 253EPT	741 500 (GH CN1 500	40.74, AL 2	INCH	CRATER	RADIUSIACI	
PELLET DEPTH	OF BURTAL		сн				
		TSHOT PFLLF	T BANGES	POST	SHOT PELLE	T #84625	
ATER DELET	WETERS	17PG	FOOTAGEANC)	WFTFDQ	H1HC	CODIC(#/MG)	
	.224	.3012	-,57114	9.261	12,2048	1.00651	
-	.365		39620	7.144	9.4659	. 47616	
	.381	.5820	78979	3.045	4.0120	.60337	
		10454		1.487	2.0184	* 418#4	

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	PELLET DEPTH	OF BURT	IL = 7.4	2CN	a anti-	URAT	CA ANDINO LACIE 1/24 HEIEKS	
FIELD DATA: X Y/FC LOGIDIY/PC) R R/FC LOGIDIY/PC) R HTERS .229 .3012 5714 1.786 2.3582 .3345 .305 .4015 19420 1.786 2.3585 .3745 .305 .4016 19420 1.781 2.3585 .3747 .4057 .6024 29024 1.781 .653 COEMFLATICK COEFFICIENT= .8413 .537 .657 .6024 22011 .8644 1.124 .0652 UEVENS 235EPT741 .500 FBLUT RANGES POSTSHOT PELLET PANGE Co .466 M*TERS PTELD DATA X X/PC LOGINY/PC) R R/RC LOGINY/PC) RETERS		PF	FSHOT PFL	T RANGES		SHAT PEL	IFT PANGES	
HFTERS HTTERS HTTERS HTTERS .229 .3012 57114 1.796 2.5145 .37465 .305 .4016 39420 1.798 2.3645 .37465 .457 .6024 22011 .844 1.1124 .4662A LST SQ FIT TC LOG-LOG EQLATICN (P/RC)= .A04*.C/RC)** -1.663 COEKFLATICN COEFFICIENT* .8413 DEVENS 25SEPT741 500 GM C4*, SDOT=0.59, AL * THC. CPATER DADIUS (DC)* .466 HFTERS PELLET DEFINIT PELLT ANGES DESTSMOT PELLT PANGES DESTSMOT PELLT PANGES	FIELO DATAS	X	X/RC	LOGIDIX/PC) p	P/BC	1061818/801	
		HETERS			HETERS			
	•	.229	.3012	57114	1.926	2.5382	. 484.67	
		.305	.4015	39620	1.795	2.3695	. 17465	
		187.	5020	29929	1.501	2.8966	39467	
LST SQ FIT TO LOG-LOG EQLATION (P/RC)= .A04* .K/RC)** -1.863 COENFLATION COEFFICIENT* .8412 DEVENS 255EPT741 500 GM C4. SDOT=0.59, AL * TNC.' CPATER PADIUS (PC): .466 MFTERS MELLET DEPTH OF MURIAL =ARCM MELLET DEPTH OF MURIAL =ARCM POSTSMOT PELLET PANGES PTELO DATA: X X/PC LOGIN(Y/Pr) R R/RF LOGID(P/PC) METERS METERS POSTSMOT PELLET PANGES POSTSMOT PELLET PANGES PIELD DEPTH OF AURIAL = 7.67CH POSTSMOT PELLET PANGES PIELD DEPTH OF AURIAL = 7.67CH 		.457	.6024	22011	.844	1.1124	.0462 A	
DEVENS 2555PT741 500 GM C4, SDOFED,50, AL * TNC ' CPATER PADIUS(PC)= .466 M*TERS PELLET DEPTM OF MURIAL =	LST SQ FIT TO	LOG-LOG	EGLATICN	(P/9C)=	+804*.X/RC)**	-1.063	CORRELATION GOEFFICIENT	* .8412
PELLET DEPTH OF MURIAL = 5,000 C,0000 CD FULLET PARCE SALLS PRESMOT PELLET RANGE S POSTSMOT PELLET PARCE S R PRC LOGIDS/DECJO PTELO DATA: X X KCC LOGIN(V/PY) R PRC LOGIDS/DECJO	DEVENS 255FPT	763 580	GW 64. 504			604 7		
PTELO DATA: X YAPC LOGIN(YAPC) R RAPC LOGIN(YAPC) METERS HETERS HETERS HETERS HETERS .303 .521 65172 14.966 1.27887 1.27776 .301 .461 35641 .177887 1.27776 .4773 .457 .5247 .27772 5.455 7.0711 .4601 .451 .5167 .21728 2.655 7.0711 .4601 .451 .5247 .27772 5.455 7.0711 .4601 .451 .5247 .27772 5.453 CORFELATION CONFECTOR .451 .5477 .2772 1.280 1.6789 .15993 LST SU FIT TO LOG-LOG EMUATION (P/RC1= .578*(1/RC)** -3.653 CORFELATION CONFFICIENT* .9829 PEVENS 25SEPT7A1 580 GM CAL SOOD+0.50, AL, 1 INCM CRAIFD RADIUS(RC)** .866 METERS .229 .2641 57876 17.160 19.4279 .29719 .301 .4401 .3541 5.002 .7782 .7517 .301 .4401 .3541 <td>PELLET DEPTH</td> <td>OF BURIA</td> <td></td> <td>18 CM</td> <td>INC.</td> <td>CPAI</td> <td>NE PROTOSTACIS *400 MALENS</td> <td></td>	PELLET DEPTH	OF BURIA		18 CM	INC.	CPAI	NE PROTOSTACIS *400 MALENS	
FIELD UNINT X XYPC LOGIN(Y/P) R R/RC LOGIN(Y/P) METERS HETERS HETERS HETERS HETERS .305 .1521 65372 14.966 17.7887 1.27776 .305 .521 65372 14.966 17.7887 1.27776 .357 .5217 21727 5.455 6.2782 .79783 .533 .6167 21028 2.615 7.0211 .46017 .618 .7042 15720 1.260 1.4789 15593 .537 .513 .6167 21028 1.6789 15993 .537 .528 .57074 .7047 .3853 COFRELATION COFFICIENT .3829 VELLED 0.005 .007 RC RATER .46017 .3837 VELD 0.1414 Y/RC LOGIN(R/PC) R RATE LOGIN(R/PC) .229 .2641 57826 17.160 19.4239 1.29719 .229 .2641 57826 17.160 19.4239 1.29719 .331 <td< td=""><td></td><td></td><td>IL SHOT PELL</td><td>FT RANGES</td><td> POST</td><td>SHOT PELI</td><td>LET PANGES</td><td></td></td<>			IL SHOT PELL	FT RANGES	POST	SHOT PELI	LET PANGES	
	FIELU URTAT	X NETERS	X/PC	1061014760) R HETEOS	R/R广	LOG10(P/9C)	
.381 .440135641 4.150 4.2251 .07533 .457 .7242 .21727 5.455 7.0211 .46017 .533 .616221728 5.455 7.0211 .46017 .618 .704715724 1.280 1.4784 .1593 .537 SU FIT TO LOG-LOG EPULATION (D/PC): .578*(I/PC)** -3.653 COFRELATICK CREFFICIENTE .9829 MEVENS 255EPT761 580 GM C41 SNOP10.50, AL, Y INCM CRAIFP RADUUS(PC): .A66 METERS METERS METERS .229 .264157826 17.160 19.4239 1.29719 .301 .440135641 5.002 5.7782 .75179 .229 .264157826 17.160 19.4239 1.29719 .301 .440135641 5.002 5.7782 .75179 .533 .616721028 1.2617		.385	- 3521	45732	14.965	17.2887	1.23776	
		. 38 1	.4401	35641	9.159	9.4761	.97433	
.533 .616221028 2.615 1.0211 .6017 .610 .706215720 1.280 1.4789 .15993 .37 30 FIT TO LOG-LOG EMULATION (P/RG)= .578*(1/RG)** -3.653 COFRELATION GREFFICIENTS .3829 EVENS 295EPT761 500 GM GAI SONDED.50, AL, T INCH CRAIFP RADIUS(RG)* .866 METERS PELLET DEPTH OF AURIAL = 2.6704 PRESMOT PELLIT RANGESDOSTSMOT PFLLFT PANGES METERS .229 .264157826 17.160 19.4239 1.29719 .301 .440135641 5.002 5.7782 .76179 .371 .440135641 5.002 5.7782 .76179 .533 .616721028 1.637 1.6908 .27664 ST SO FIT TO LOG-LOG EQUATION (R/PC)* .660*(1/OF)** -2.507 CORDELATION COEFFICIENT* .9761 EVENS 255EPT761 500 GM CAI SONDED.50, AL, 4 INCH CPATER DADIUS(RG)* .466 METERS EVENS 255EPT761 500 GM CAI SONDED.50, AL, 4 INCH CPATER DADIUS(RG)* .466 METERS EVENS 255EPT761 500 GM CAI SONDED.50, AL, 4 INCH CPATER DADIUS(RG)* .466 METERS PRESHOT PELLIT PANGES TELO GATA* X X/RC LOGIB(1/PC)* R V/RC LOGID(P/RG) METERS 		3457	.5292	- ,2772*	5.475	6.2782	.79783	
		.531	+6167	21928	2,615	1.0211	. 46017	
ST S0 PIT TO LOG-LOG EPGATION (P/9C):: .5TE*(I/PC)** -3.653 COFRELATION CREFFICIENT: .9829 EVENS 255EPT761 580 GM CA1 SDDP:0.50, AL, I INCM CRAFFP 9ADJUS(PC)* .A66 METERS FELLET DEPTH OF RURIAL : 7.670M CRAFFP 9ADJUS(PC)* .A66 METERS FELLET DEPTH OF RURIAL : 7.670M RVRC LOGID(R/PC) R RVRC LOGID(R/PC) METERS		.618	.7942	15729	1.280	1.4789	. 15993	
EVENS 25SEPT761 580 GM CA1 SOOP=0.58, AL, T INCM CRATFO RADIUS(PC)= .866 METERS TELLET DEPTH OF RURIAL = 7.67CM PRESMOT PELLIT RANGES POSTSMOT PFLLFT PANGES TIELD DATA1 X X/AC LOG10(A/DC) R HETERS PRESMOT PELLIT RANGES POSTSMOT PFLLFT PANGES 10ELD DATA1 X X/AC LOG10(A/DC) HETERS PRESMOT PELLIT RANGES POSTSMOT PFLLFT PANGES		1 LOG-LOG	EPUATION	(P/9C) =	.538*(X/RC)**	- 3. 453	COFRELATION COFFEETETEK	s: .9829-
Image: State of the state	PELLET DEPTH	OF BURIA	L = 7.6	2CH	•••••	0.1011	- AND TO THE OF A MORE AND TO A	
YIELD MATAI x x/AC LDG14(X/PC) R 9/AC LnG10(A/PC) HETERS .229 .2641 57826 17.160 19.4239 1.29719 .303 .3321 45332 C.989 A.66444 .82745 .303 .3321 45332 C.989 A.66444 .82745 .303 .3321 45332 C.989 A.66444 .82745 .301 .4401 35461 S.002 S.7782 .76179 .497 .7787 27773 T.257 T.7577 .57648 .497 .7787 27773 T.257 T.7577 .57648 .497 .6167 .40630 .27664 .97648 .533 .6167 .2.9507 COBDELATION COEFFICIENT= .9761 .537 .6167 .640*(X/07)** -2.557 COBDELATION COEFFICIENT= .9761 .537 .6167 .640*(X/07)** -2.557 COBDELATION COEFFICIENT= .9761 .537 .6167 .640*(X/07)** -2.557 COBDELATION COEFFICIENT= .9761 .537 .6161 .9767		PR	ESHOT PELL	IT RANGES	POSTS	SHOT PELL	FT PANGES	
METERS METERS .203 .2641 57876 17.1601 19.4239 1.29719 .303 .3821 45332 5.787 4.6444 .82745 .331 .4401 35441 5.002 5.7727 .76179 .331 .4401 35441 5.002 5.7727 .76179 .331 .4401 35441 5.002 5.7727 .76179 .331 .4401 35441 5.002 5.7727 .76179 .331 .4401 35441 5.002 5.7727 .76179 .533 .6162 21028 1.637 1.4908 .27684 .533 .6162 21028 1.637 1.4908 .27684 .533 .6162 21028 1.637 1.4908 .27684 .541 .640******	FIELD PATAL	×	X/8C	L0G14(X/9C	9 P	979C	LOG10(R/PC)	
		HETERS			METERS			
		•558	.7641	57876	17.160	19.4239	1.29719	
		.305	+3521	45332	5,757	5.5444	.82745	
		+381	.4401	35641	5.002	5.7782	.76179	
-533 .616221028 1.637 1.8908 .27664 ST SO FIT TO LOG-LOG EOUATICH (R/RC)= .660*(X/RC)+* -2.507 CORPELATION COEFFICIENT= .9P61 EVENS 255EPT761 500 GH C61 SNAD=0.50, 4L, 4 INCH (PATER DADIUS(RG)= .486 METERS EELET DEPTH OF BURIAL = 10.1670 TO 5 0.767 LOG 10(X/PC) WTTRS PRESHCT FFLLIT PANGES 105 0.35214532 6.668 5.3697 .72995 .361 .46013541 2.472 3.6331 .*1489 .537 .616721026 .699 1.02807 .8504 7 .537 .616721026 .699 1.02807 .81206				27723	3, 25?	3,7579	. 57485	+ <u>-</u>
.37 S0 FIT TC LOG-LOG EQUATION (R/PC): .64.0*(X/PC):* -2.507 COMPPLATION COEFFICIENT: .9761 EVENS 255EPT761 500 GH C41 SNORT0.50, 4L, 4 INCH CPATER DADIUS(RG):: .466 METERS EVENS 255EPT761 500 GH C41 SNORT0.50, 4L, 4 INCH CPATER DADIUS(RG):: .466 METERS EVENS 255EPT761 500 GH C41 SNORT0.50, 4L, 4 INCH CPATER DADIUS(RG):: .466 METERS EVENS 255EPT761 500 GH C41 SNORT0.50, 4L, 4 INCH CPATER DADIUS(RG):: .466 METERS EVENS 255EPT761 500 GH C41 SNORT0.50, 4L, 4 INCH CPATER DADIUS(RG):: .466 METERS EVENS 255EPT761 500 GH C41 SNORT0.50, 4L, 4 INCH CPATER DADIUS(RG):: .466 METERS EVENS 255EPT761 500 GH C41 SNORT0.50, 4L, 4 INCH CPATER DADIUS(RG):: .466 METERS EVENS 255EPT761 500 GH C41 SNORT0.50, 4L, 4 INCH CPATER DADIUS(RG):: .466 METERS METTRS METERS .105 .3521		.533	.6162	-+51058	1.637	1.8908	.276FE	
EVENS 255EPTAL 600 GH CAL SUNDED, 60, 4L, 4 INCH (PATER DADIUS(RG)= .466 METERS ELLET DEPTH OF BURIAL = 10.14CM PRESHCT FFLLT PANGES POSTSHOT PFLLFT PANGES IELD DATA X X/MC LOG10(X/P/C) R V/RC LOG10(P/RC) METERS .229 .241 9782P 4.648 .3694 .72995 .105 .3521 46332 4.648 .3697 .72995 .567 .6287 27777 3.4331 .4864 .657 .6287 .27878 .4643 .657 .6287 .24803 .4594 .6337 .6167 7182P .404 1.0282	ST SQ FIT TO	L 0G-L 0G	EQUATION	(R/PC)=	.648+12/963++	-2.507	CORPELATION COEFFICIENT	9761
Sector depine of Borrial # 10.1F(M PORESACT FELLIT PAGES PORTSHOT PELLET PARGES Sector depine of Borrial # X/BC LOG10(X/PC) PORESACT FELLIT PAGES PORTSHOT PELLET PARGES Sector depine of Borrial # X/BC LOG10(X/PC)								
IELO DATAt X /#C LOG10(1///C) R Y/#C LOG10(1//C) WFTRC	EVENS 255EPT	761 500	GH C41 500	0 ≈0.50, 4L,	4 INCH	CPATE	R PADIUS(RC)= .466 METERS	
HFTFRS 	EVENS 255EPT ELLET DEPTH	751 500 OF BURIA PR	GH CAR SNA L = 10.1 ESHCT FFLL	0=0.50, 4L, 4CM LT RANGES	4 INCH	CPATE	R PADIUS (RC)= .466 METERS	
.229 .261 +.97826 8.626 9.9688 .98857 .107 .352145332 4.688 4.3697 .22995 .361 .486115641 2.972 3.6331 .9186 .457 .528727727 2.403 .45041 .937 .618721828 .894 1.4282 .81286	EVENS 255EPT HELLET DEPTH	761 500 OF BURIA PR X	GH CAT SDO L = 10.1 ESHCT FFLL X/#C	Р¤0.50, 4L, Асн [T PANGES LOG18(X/PΩ)	4 INCH POSTS	CPATE HOT PFLL	R PADIUS (RC)= .466 HETERS	
. 105 . 3521 - 45332 4,648 4,3697 .72995 .381 4401 - 15641 2,477 3,4331 44489 .457 4727 - 7777 7,477 3,4331 4594 .537 46167 - 71676 ,699 1.0287 61286	EVENS 255EPT ELLET DEPTH	761 500 OF BURIA PR X NFTFRS	GH CAT SDO L = 10.1 ESHCT FFLL X/RC	РтО.50, 4L, Асм LT PANGES LOG10(¥/№:1	4 INCH POSTS R HETERS	CPATE HOT PFLL H/RC	R DADIUS (RG)= .466 METERS FT PANGES Log10(P/RC)	-
.381 .440115661 2.477 3.4331 .4469 4657 .52877777 3.497 2.4803 .4594 .937 .616771678 .849 1.4787 .8186	EVENS 25SEP T ELLET DEPTH	761 500 OF BURIA PR X WFTFRS .229	GH CAT SNO L = 10.1 ESHCT FFLL X/RC .7693	RT0.50, 4L, ACM LT PANGES LOG10(X/P::)	4 INCH POSTS NETFDS ALAPA	CPATE HOT PFLL H/RC	R PADIUS(RG)= .466 HETERS FT PANGES Log10(P/RC)	
.457 .52872777 7.607 2.4803 .4504 .537 .616721626 .804 1.6282 .81266	EVENS 25SEP T HELLST DEPTH	741 500 OF BURIA PR X HFTFRS .229 .105	GH C41 SNA L = 10.1 ESHCT FFLL X/RC .7641 .3521	RT0.50; 4L; ACH LT PANGES LOG10(X/P(2) +.5782A 45332	4 INCH POSTS NETFDS 8.826 5.844	CPATE CPATE CHOT PFLL V/RC 9.4648 5.3697	R PADIUS (RG)= .466 METERS FT PANGES Logio(P/PC) .98857 .22005	
.537 .616721020 .899 1.0202 .8105	EVENS 25SEP T ELLET DEPTH	741 500 OF BURIA PR X HFTFRS .229 .105 .361	GH C47 SNA L = 10.1 ESHCT FFLL X/RC .76%1 .3521 .4%01	BTO.50; 4L; ACM LT PANGES LOG10(X/P/2) +.9782A 65332 15641	4 INCH POSTS NETFDS 8.625 5.648 2.927	CPATE HOT PFLL 4/RC 9.4648 5.3697 7.511	R PADIUS(RG)= .466 MEYERS FT PANGES Logio(P/PG) .98857 .72995 .72995	
	EVENS 255EPT ELLST DEPTH	761 500 OF BURIA PR X WFTFRS .229 .305 .381 .557	GH CAT SIN L = 10.1 ESHCT FFLL X/RC .7041 .3521 .4401 .5227	0=0.50, 4L, f(H LT PANGES LOG10(X/V::) 57824 45332 75441 7723	4 INCH POSTS NETFDS 8.626 6.648 2.972 2.901	CPATE SHOT PFLL 4/RG 9.464A 5.3697 3.4331	R PADTUS (RG)= .466 METERS FT PANGES Logio(P/RG) .99857 .7295 .89867 .001	
	EVENS 255EPT ELLET DEPTH	761 500 1 OF BURIAL NETERS .229 .305 .381 .657 .537	GH C41 SDD L = 10.1 ESHCT FFLL X/RC .7041 .3521 .4401 .5287 .6162	RTD.50, 4L, ACM LT PANGES LOG10(X/V00) 57824 45332 15641 77727 71828	4 INCH POSTS 8.826 6.648 2.972 3.697 .697	CPATE CHOT PFLL V/RC 9.4648 5.3697 3.4331 2.4803 1.0382	R DADIUS (RG)= .466 METERS FT DANGES LOG10(P/PC) .99857 .72995 .01082	

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