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ARMY COMBAT CAPABILITIES ANALYSIS COMCAP 85.(U)

JUN 79 J B CAMPBELL, L J DONDERO

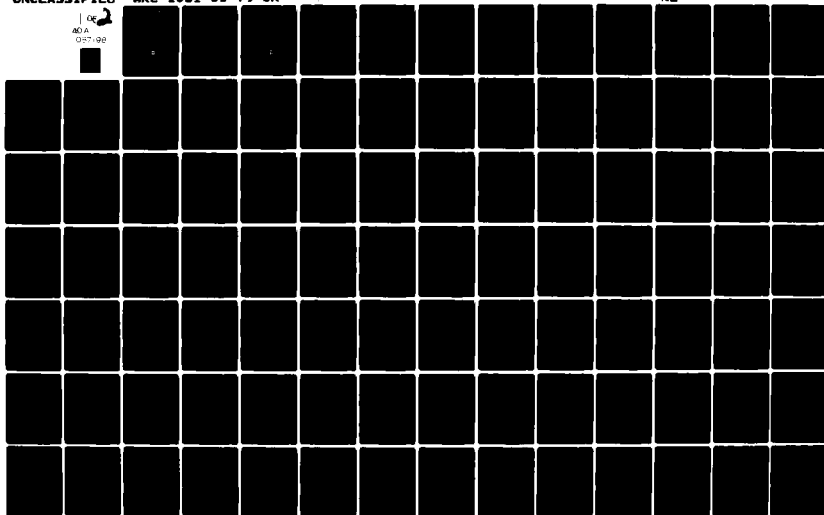
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Army Combat Capabilities Analysis COMCAP 85

Final Report

By

J.B. Campbell
L.J. Dondero
R.E. Forrester

June 1979

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OPERATIONS ANALYSIS GROUP

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER GRC-1051-01-79-CR	2. GOVT ACCESSION NO. AD-A087 198	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) ARMY COMBAT CAPABILITIES ANALYSIS COMCAP 85.	5. TYPE OF REPORT & PERIOD COVERED Final Rept.	6. PERFORMING ORG. REPORT NUMBER 1051-01-79-CR
7. AUTHOR(s) J. B. Campbell L. J. Dondero R. E. Forrester	8. CONTRACT OR GRANT NUMBER(s) DAAG39-78-C-0053	9. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
10. PERFORMING ORGANIZATION NAME AND ADDRESS General Research Corporation, TWO 7655 Old Springhouse Road McLean, VA 22102	11. CONTROLLING OFFICE NAME AND ADDRESS USA Materiel Development & Readiness Command Battlefield Systems Integration Directorate Alexandria, VA 22333 ATTN: DRCBSI	12. REPORT DATE June 1979
13. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) 12/15/11	14. NUMBER OF PAGES 134	15. SECURITY CLASS. (of this report) Unclassified
15a. DECLASSIFICATION/DOWNGRADING SCHEDULE		
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; unlimited distribution.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Combat Simulation Weapons and Unit Effectiveness Values		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report is an analysis of the combat value of US and USSR ground combat weapons projected for 1985. The method of analysis was the use of the GRC COMCAP II methodology of 1974 to update killer-victim scoreboards and generate new WEV values.		

CONTENTS

<u>SECTION</u>		<u>PAGE</u>
1	INTRODUCTION	1-1
	1.1 Background for this Study	1-1
	1.2 Purpose of this Study	1-5
	1.3 Methodology from COMCAP II, III	1-5
	1.4 Format of this Report	1-6
2	SCENARIO, FORCE STRUCTURES, AND WEAPONS CHARACTERISTICS	2-1
	2.1 Purpose	2-1
	2.2 Scenario	2-1
	2.3 Force Composition and Organization	2-1
	2.4 Terrain and Line-of-Sight (LOS) Analysis	2-7
	2.5 1985 Weapons Characteristics	2-7
3	SEQUENCE OF SIMULATION TREATMENTS	3-1
4	CARMONETTE TREATMENT RESULTS AND WEV ESTIMATES	4-1

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1 INTRODUCTION

1.1 BACKGROUND FOR THIS STUDY

In 1974, in an OSD/Army-sponsored study, "NATO Combat Capabilities Analysis,"¹ General Research Corporation (GRC) developed an experimental set of close-combat weapons values derived from measurement of the contribution of each weapon to the outcome of a simulated maneuver unit engagement. These weapons effectiveness values (WEV) were calculated from the so-called "killer-victim" attrition results that are the principal data outputs of the GRC CARMONETTE² simulation.

The sets of weapons values published in 1974, although limited in scope, attracted considerable attention as one interesting alternative means of "scoring" or "weighting" weapons systems in a combined arms context. Their particular appeal was that, unlike other extant systems, they reflected the nuances of the simulated dynamics of close combat (i.e., each sides' movements, search-and-acquisition, engagements and attrition were influenced in tempo and scope by the other side's actions and reactions). Also, they revealed (sometimes unanticipated) synergistic effects among the weapons of one side as numbers of weapons and tactical dispositions were varied.

Given these attributes, the WEVs of 1974 have been explicitly employed in ongoing force structure analysis by at least one major Army studies and analysis agency: USA DARCOM Battlefield Systems Integration Division (BSID).

¹G. W. Bolling, et al., NATO Combat Capabilities Analysis II (COMCAP II) (U), General Research Corporation OAD CR-8, August 1974 (SECRET).

²CARMONETTE, 1974, General Research Corporation, AD A007843, 007844, 007845, 5 August 1974 (UNCLASSIFIED). (This version of CARMONETTE, unofficially known as "CARMONETTE 7," was prepared by GRC as instructional documentation in the adoption of the model by the USA Concepts and Analysis Agency.)

In early 1977, the Director of BSID gave his staff the task of finding an analytic measure of the worth of one weapons system relative to another. The purpose of this task was to assess the merit of various alternative real or conceptual materiel developments. Since the Battlefield Systems Integration Directorate of DARCOM is an extremely small group with limited resources, the decision was made by the director that BSI would not attempt to create or use large combat models to study weapon systems performance. Rather, to the extent possible, it would use completed off-the-shelf studies such as COEA's to understand the worth of various developmental opportunities. To this end, the director wanted to be able to view weapon system performance over wide ranges of conditions as reflected by different models, run for different purposes (e.g., the tank in the AAH COEA versus the tank in the XM1 COEA), all with the same measure of worth. Furthermore, the analytic tool chosen had to be capable of quick response.

The methodology finally selected was based on the well-known eigenvalue technique of Dare and James (July 1971), Thrall (1972), and Holter (1973). The Holter interpretation of the eigenvalue technique in the GRC COMCAP II and III studies of 1974 and 1975 was considered by BSI to be the most ambitious and carefully executed example of this analytic tool. Therefore, it constituted the basic building block for subsequent work by BSI.

BSI constructed programs for a within-the-directorate mini-computer that took as input the killer-victim scoreboards of completed, off-the-shelf Army combat modeling efforts and, in a matter of minutes, produced weapon system values using the Holter/GRC approach. This methodology was refined by the director of BSI with suggestions from the MITRE and Vector Research Corporations. The final product of these efforts yielded the Central Duel charts of Fig. 1.1. These charts exhibit the so-called Spudich-values (after J. Spudich of Booz-Allen) rather than the usual eigenvalue derived weapons values. A Spudich value is simply the usual weapon's value times the number of such weapons in the Blue (or Red) force initially, divided by the force strength (the sum of all such

FORCE ON FORCE ANALYSIS

BLUE '77 VS. RED '77

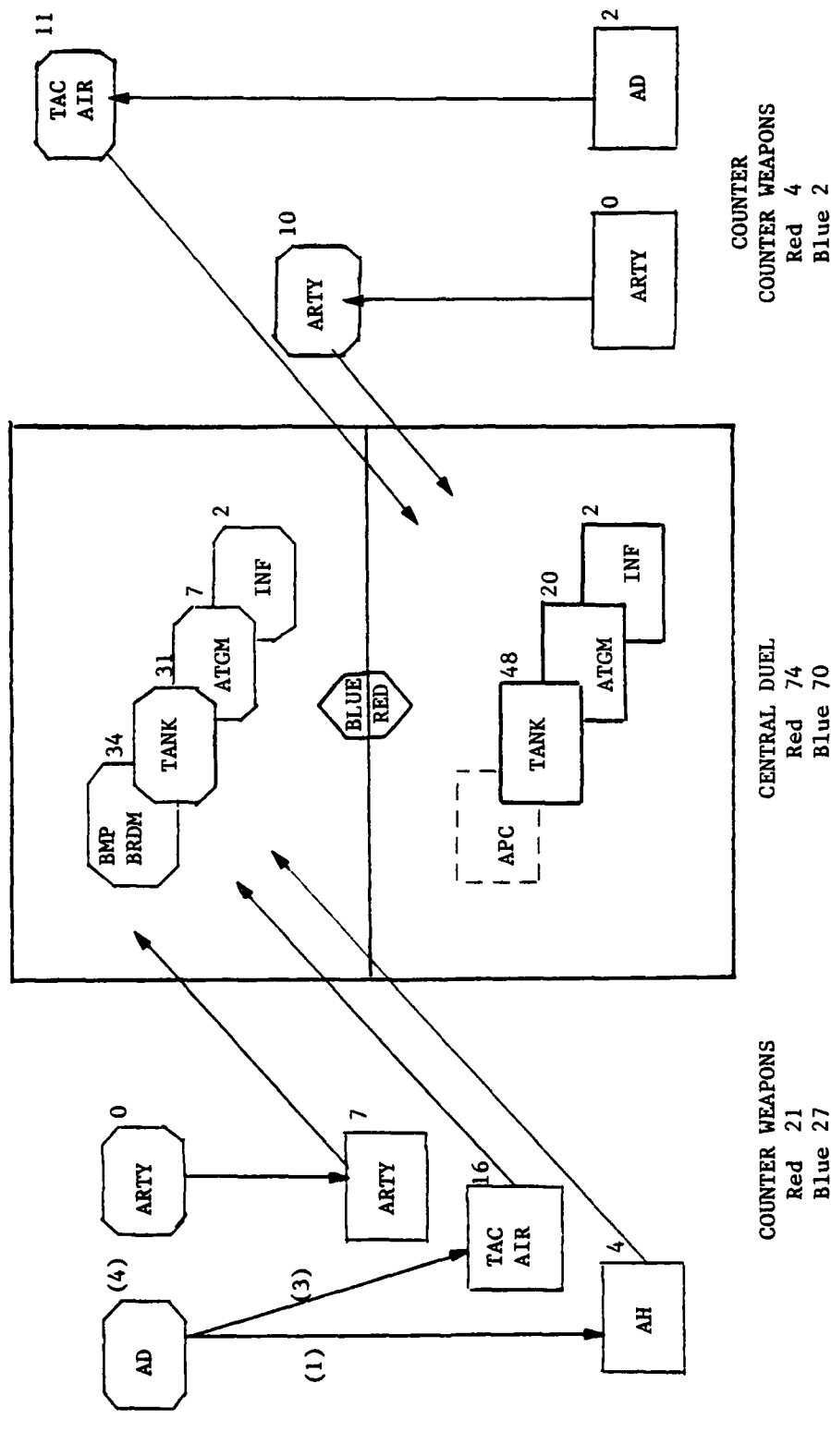


Figure 1.1. Central Dual Charts

products, over all weapons in the force). Thus, they represent the percent contribution of each weapon to its force strength. The principal indicator of combat model battle results is, however, the force effectiveness ratio (the quotient of Blue to Red force strengths). The combination of Central Duel charts and force effectiveness ratios gave the director of BSI the synthesis of combat modeling results he desired (over 50 separate off-the-shelf combat modeling results are in the BSI killer-victim library).

One further step remained. It was noted by BSI that if one started with a killer-victim scoreboard, for example, from the AAH COEA involving the AH-1S helicopter with Tow and used "informed" judgment to increase/decrease its attrition rates against various targets to reflect the added lethality/survivability of the AAH/Hellfire and then calculated weapons values, one obtained a close approximation to the weapons values obtained by direct calculation from the results given in the AAH-COEA. Several experiments of this type were carried out with the primary object being to estimate the force effectiveness ratio of a modeled battle where one or more weapons have been replaced, on a one-for-one basis, by "new" systems defined by using military/technical judgment as to the percent increase/decrease in the new system's ability to kill or avoid being killed. Since dramatic increases in conventional weapons system capabilities seldom occur, these changes were generally small and the resulting values were thought to compare well with what would be obtained from explicit modeling efforts.

Notice then that the original scenarios of the input results could not be changed, the numbers/mixes of weapons were not changed and the input killer-victim scoreboards (equivalently, the "input" average attrition rates) were changed by small amounts. Central Duel charts were calculated corresponding to the "adjusted" input model results and these were compared to the original to obtain a rough (but quick) estimate of the worth of a real or conceptual weapons system development.

1.2 PURPOSE OF THIS STUDY

After numerous excursions of the type described above, BSI produced what it considered to be an estimate of "COMCAP 1985." That is, the GRC COMCAP study as if it had been carried out with the same scenarios as the original, but with 1985 type weapons replacing the circa 1977 weapons systems. Since this was a rather large complex extrapolation for such a simple methodology, BSI felt that a "bench-mark" or calibration of the estimate to actual COMCAP CARMONETTE runs should be obtained. Further, in order to reduce the number of accidental sources of divergence, a sole source contract was obtained for GRC to use the same scenarios (including terrains, methods of calculation of LOS, etc.) in several CARMONETTE runs as they did in the original COMCAP studies; then calculate the weapons values and force ratios and provide these to BSID for comparison with their "quick and dirty" estimates. Additionally, these new GRC CARMONETTE runs will furnish BSI analysts with numerous killer-victim scoreboards, with well-defined scenarios, to serve as a basis for extrapolation to later time periods in the same way that COMCAP II and III served for current systems.

1.3 METHODOLOGY FROM COMCAP II, III

1.3.1 Battle Scenario

In the COMCAP II CARMONETTE runs, four tactical scenarios were used, each of which defined a different Blue posture/mission: long-range defense, short-range defense, delay, and attack. Other variables were the respective size and composition of Red and Blue forces. For this study, it was agreed that the new CARMONETTE runs would use the long-range defense scenario designated in COMCAP II as "2101" (the first two digits are indexes of the particular composition of Blue and Red forces, respectively (to be noted later), and the fourth digit describes the terrain and maneuver scheme (also developed fully below). Thus, all the new "battle" runs for this study consist simply of 1985 weapons characteristics inserted in the Base Case "2101" scenario. This scenario was judged to be most representative of the situation confronting NATO defensive elements in the early, critical stages of a WP attack and one

that would be most easily compared to the BSID extrapolation of the original COMCAP results.

1.3.2 1985 Weapons Characteristics

The weapons descriptors and characteristics used for the projected 1985 weapons are spelled out in Section 2. These were compiled by GRC on the basis of cited authoritative documentation provided by BSID, as modified or expanded by BSID judgment.

1.3.3 Method of Incorporating 1985 Weapons in New Runs

At the outset, BSID requested a few runs in which the entire complement of prescribed 1985 weapons on both sides would be inserted in the "2101" scenario. These runs (described in section 3 as "3301" A, B, C) incorporate effects that are not capable of being reflected by BSID methodology and so are necessary efforts in order to judge possible sources and possible magnitudes of divergence between BSI extrapolation and the results of detailed CARMONETTE modeling. Given this base, the successive runs then incorporated one major new 1985 weapon at a time, for each side, but in a cumulative fashion, in an attempt to measure the pure incremental value of these weapons operating in the original COMCAP tactical environment. These runs were 9 in number, although two were minor variants of others. The detailed structure and nomenclature is shown in section 3 and Fig. 3.1.

1.4 FORMAT OF THIS REPORT

As should be clear from the previous discussion, the sponsor requirements in this study are simply the summarized and integrated set of weapons performance results in the respective treatments. They will be used (as noted earlier) to provide BSID with input data to calibrate their internal analysis results. The expositions of CARMONETTE and WEV methodology are contained in the COMCAP II report. This report contains, then, brief statements of force structures, scenario and weapons characteristics used in the simulation, and consecutive and cumulative results of the respective CARMONETTE and WEV treatments.

2 SCENARIO, FORCE STRUCTURES, AND WEAPON CHARACTERISTICS

2.1 PURPOSE

This section adumbrates the tactical environment, relative force postures and compositions, and weapons characteristics essential to the operation of the combined-arms simulation. As noted earlier, a single "typical" CARMONETTE terrain board is used for all the simulated battles. Similarly, all the simulation treatments incorporate identical postures for Red (frontal attack) and Blue (hasty defense) and identical organization for battle. The variables in the respective treatments are then simply the estimated enhanced weapons capabilities characteristic of the 1985 candidate weapons.

2.2 SCENARIO

The tactical operation depicted in the simulation is a long-range (4000 meters) frontal attack by three reinforced Red mechanized companies, supported by air defense weapons, helicopters, and artillery, against a Blue reinforced company, with proportionate slices of support, in a hasty defense. The Red attack is launched on about a 2-kilometer front, along three roughly parallel axes, against a Blue hasty defense on high ground, permitting extended lines-of-sight to approaching forces. The general configuration of postures, maneuver, and terrain is shown in Figure 2.1.

2.3 FORCE COMPOSITION AND ORGANIZATION

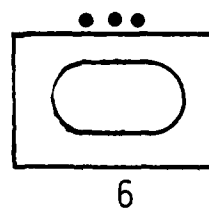
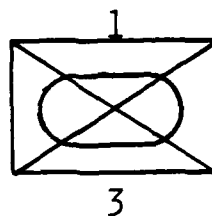
Figures 2.2 and 2.3 indicate the major unit and weapons structure of Red and Blue forces involved in the simulation scenario. It will be noted that these weapons lists emphasize tanks and other armored vehicles (AV) and weapons that can kill them, or that are counterweapons to tank/AV killers.

Tables 2.1 and 2.2 indicate the tactical organizations (and the associated unit numbers, as used in CARMONETTE inputs) of the maneuver



Figure 2.1. COMCAP '85 Tactical Scenario

MANEUVER UNITS

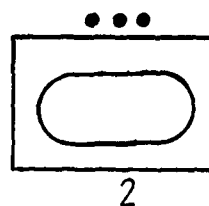
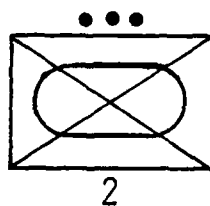


MAJOR WEAPONS

T-62 (T-72)	20
BMP	30
BRDM	3
SAGGER MP	2
BTR 60	3
100 MM AT	2
73 MM	2
AA 23/4	4
HIND	2
120 MORT	6
122 How	18
152 How	6
122 MRL	1

Figure 2.2 Attacking Red Force

MANEUVER UNITS



MAJOR WEAPONS:

M60 A3 (XM-1)	10
TOW	10
DRAGON	6
AH	2
81 MORT	3
4.2" MORT	4
155 How	12
8" How	4

Figure 2.3 Defending Blue Force

TABLE 2.1

COMCAP 85 RED FORCE ORGANIZATION

MR BN, 2 TANK COS

CARMONETTE UNIT NO.

- | | |
|------------------------------|--------------------------|
| 1. 4 BMP w/SAGGER | 28. AT/BRDM w/SAGGER |
| 2. 24 Man Rifle Plt & Co HQ | 29. AT/BRDM w/SAGGER |
| 3. 3 BMP w/SAGGER | 30. AT/BRDM w/SAGGER |
| 4. 24 Man Rifle Plt | 31. 2 Man Pack 73-mm RR |
| 5. 3 BMP w/SAGGER | 32. 2 Man Pack SAGGER |
| 6. 24 Man Rifle Plt | 33. 100-mm AT Gun |
| 7. Tank Plt - 4 T-62 | 34. 100-mm AT Gun |
| 8. BTR-60 | |
| | 35. AA Plt - 2 23/4 |
| 9. 4 BMP w/SAGGER | 36. AA Plt - 2 23/4 |
| 10. 24 Man Rifle Plt & Co HQ | 37. HIND |
| 11. 3 BMP w/SAGGER | 38. HIND |
| 12. 24 Man Rifle Plt | 39. 3 GRAIL |
| 13. 3 BMP w/SAGGER | 40. 4 GRAIL |
| 14. 24 Man Rifle Plt | 41. 4 GRAIL |
| 15. Tank Plt - 3 T-62 | 42. 4 GRAIL |
| 16. BTR-60 | |
| | 43. 120-mm Mortar |
| 17. 4 BMP w/SAGGER | 44. 122-mm How Btry |
| 18. 24 Man Rifle Plt & Co HQ | 45. 122-mm How Btry |
| 19. 3 BMP w/SAGGER | 46. 122-mm How Btry |
| 20. 24 Man Rifle Plt | 47. 152-mm How Btry |
| 21. 3 BMP w/SAGGER | 48. 1 122-mm MRL or SA 9 |
| 22. 24 Man Rifle Plt | |
| 23. Tank Plt - 3 T-62 | |
| 24. BTR-60 | |
| 25. Tank Plt - 4 T-62 | |
| 26. Tank Plt - 3 T-62 | |
| 27. Tank Plt - 3 T-62 | |

Note: Although unit weapons change in successive treatments, unit numbers remain same throughout.

TABLE 2.2

COMCAP 85 BLUE FORCE ORGANIZATION (BASE)

2 TK PLTS (A3), 2 INF PLTS - 4 TOW, 6 DRAGON, 12 LAW, 2 ATK HEL

CARMONETTE UNIT NO.

1. Squad APC	} Mech Rifle Plt	24. Squad APC	} Mech Rifle Plt
2. Rifle Squad		25. Rifle Squad	
3. DRAGON		26. DRAGON	
4. Squad APC		27. Squad APC	
5. Rifle Squad		28. Rifle Squad	
6. DRAGON		29. DRAGON	
7. Squad APC		30. Squad APC	
8. Rifle Squad		31. Rifle Squad	
9. DRAGON		32. DRAGON	
10. M60A3 Tank	} Tank Plt	33. APC w/TOW	} TOW Sec
11. ↓		34. APC w/TOW	
12. ↓		35. M60A3 Tank	} Tank Plt
13. ↓		36. ↓	
14. M60A3 Tank		37. ↓	
		38. ↓	
15. APC w/TOW	} TOW Sec	39. M60A3 Tank	
16. APC w/TOW			
17. 81-mm Mortar Plt (3)	} Arty		
18. 4.2-inch Mortar Plt (4)			
19. 155-mm How Btry (6)			
20. 155-mm How Btry (6)			
21. 8" How Btry (4)			
22. Atk Hel	} Atk Hel Sec		
23. Atk Hel			

Note: Although unit weapons change in successive treatments, unit numbers remain same in all treatments.

and fire support units whose major weapons are listed in Figures 2.1 and 2.2. In the Red force structure, some organizational substitutions were necessary to incorporate 1985 weapons, since CARMONETTE as currently configured can accommodate only 48 units on either side.

2.4 TERRAIN AND LINE-OF-SIGHT (LOS) ANALYSIS

One of the more important features of CARMONETTE is the dynamic line-of-sight determination among all enemy and friendly units as the moving maneuver unit proceed along their attack paths (or stop, at certain pre-ordered points). This determination is continuous for all units as moving units progress from one defined grid square to another. The general configuration of LOS for this scenario is shown in Figure 2.4. The circled x's in the lower right quadrant show the front-to-rear and left-to-right limits of the Blue defensive deployments. Each other x depicts a grid square (60 x 64) which can be seen from at least one defending position. The superimposed range arcs (1000 to 3000 m) indicate that, in this terrain, enemy armored vehicles can be more or less continuously engaged out at the maximum ranges of respective defending weapons.

2.5 1985 WEAPONS CHARACTERISTICS

The CARMONETTE simulation requires a wide range of detailed weapons descriptors, not all of which were currently "documentable" for the 1985 weapon concepts of concern in this study. Accordingly, the study group first sought a judgmental consensus on these data from among BSID principals, and, failing that, made extrapolations based on its own experience in weapons technology. The results of this process, expressed in categories of CARMONETTE input, are indicated in Table 2.3.

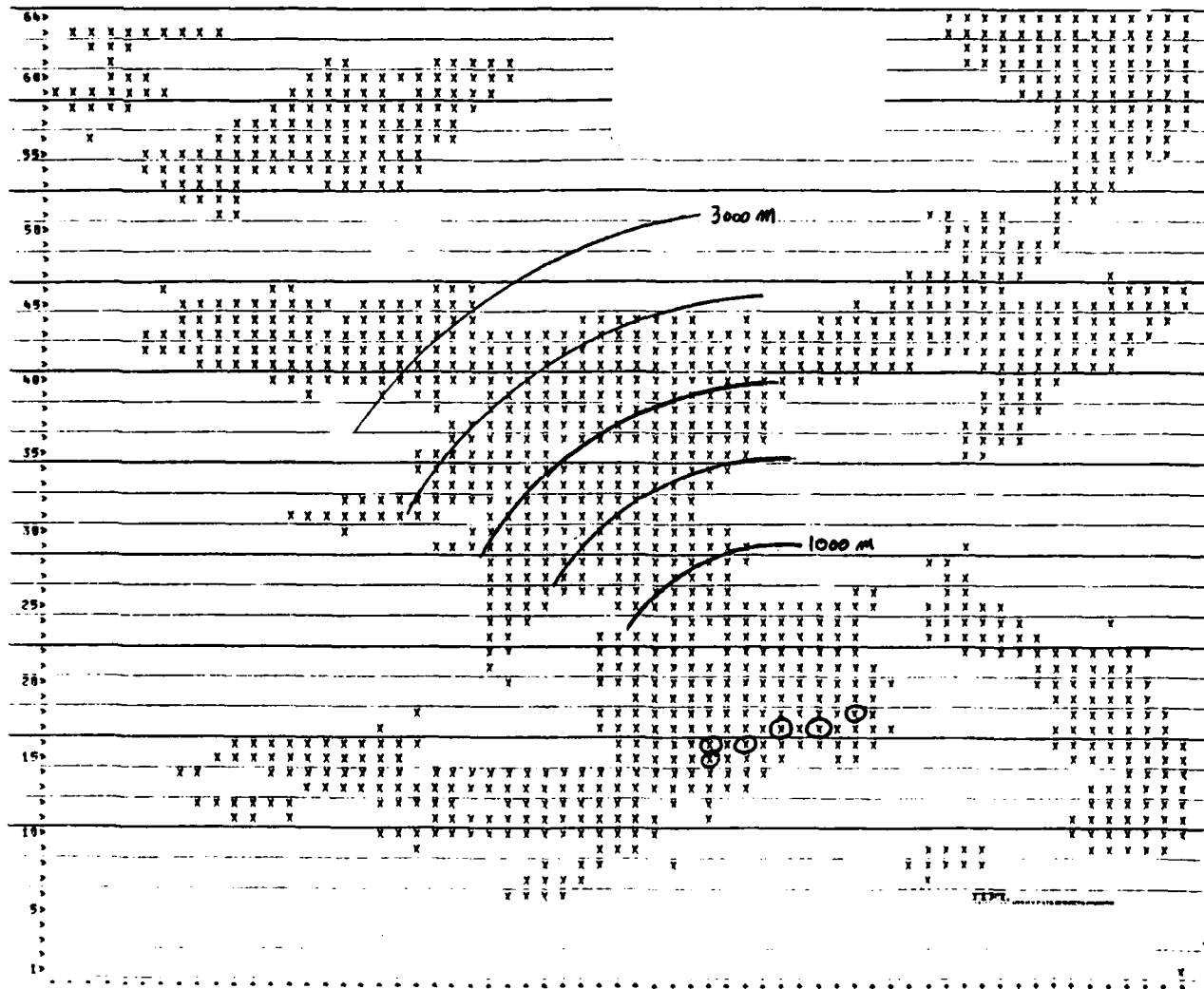


Figure 2.4 LOS Map 1 COMCAP 85

TABLE 2.3
WEAPONS CHARACTERISTICS

Weapon		1 - Characteristics	2 - Accuracy	3 - P _K & Ammo Selection	4 - P _K vs Inf. & Veh.	5 - Priority List
Type	No.					
B - Imp. 81mm Mort	1	n/c	Not used	n/c	Arbitrary increase in lethal radius from 14 to 16m for cover State 2 increases P _K from .02 to .03. Added slight P _K = .0001 against vul. State 4	Not used
B - GSRS	4	Max range is largest allowed by CARPNETTE Aiming times assumed same as other artillery Round velocity assumed at 200 m/sec for mid range Reload time is function of rate of fire; assumed entire launcher load expended then all 12 rds reloaded = 2.4 min (this is 12 x .2)	Not used	Only has one type of ammo so entries in column 14 for first 11 vul. classes not needed; i.e., always use ammo type 1 Estimate of troops surviving a kill on armored carrier assumed to be same as hit by 8" with ICH.	12 times as many munitions will be in the impact area as one round of 8"; therefore P _K 's of 8" - line 8 are multiplied by 12.	Not used
B - XM1 120mm	13	Increased max range to 3500 meters Reduced aim time from 10 sec to Reaim time reduced from 9 sec to 4 sec assumes better stabilized fire control to hold on tgt Load time left same 20 sec since larger ammo wt. Reload time left same.	Columns 29-30 & 32-33 show mles dist for APDS & HEAT stationary gun shooting at stationary target - giving following P _H APDS HEAT P _H at 3500 = .23 .08 P _H at 2475 = .45 .28 P _H at 1500 = .75 .53 P _H at 500 = 1.0 1.0 Figures based on review of Brit Chieftan (120) and Leopard II (120) Other entries scaled from the above as follows: add 10% if moving and firing add 10% if tgt moving add 25% if being fired on	Scaled by increased caliber of the round and then degraded for effect against the T-72 because of increased T-72 armor protection.	Scaled by increase in explosive in larger round.	No change List 1 - 1 SAGGER/BRIM 2 BHP 3 T-72 4 FACOT 5 100 mm AT G 6 SA-9 List 2 - 1 T-72 2 SAGGER/BRIM 3 BHP 4 100 mm AT G 5 FACOT 6 23-Q List 3 - 1 T-72 2 BHP 3 BRIM/SAGGER 4 FACOT 5 73 mm RR 6 23-Q

TABLE 2.3 (cont.)

WEAPONS CHARACTERISTICS

Weapon		1 - Characteristics	2 - Accuracy	3 - P _K & Ammo Selection	4 - P _K vs. Inf. & Veh. round.	5 - Priority List
Type	No.					
R - T-72 (125)	14	Same as XMI	Slight degradation of accuracy at longer ranges based on what is known of fire control emphasis APDS HEAT P _H at 3500 = .16 .06 P _H at 2475 = .38 .23 P _H at 2000 = .53 .38 P _H at 1500 = .75 .53 P _H at 500 = 1.00 1.00	Scaled by increased caliber of the round and degraded by increased armor on XMI.	Scaled by increase in explosive in larger round.	List 1 - 1 ITV 2 IFV 3 XMI 4 DRACOM 5 DIVADS 6 Rifle Sq List 2 - 1 IFV 2 ITV 3 XMI 4 DIVADS 5 DRACOM 6 Rifle Sq List 3 - 1 XMI 2 IFV 3 ITV 4 DIVADS 5 Rifle Sq 6 DRACOM
R - Imp. 23/4	21	Increased range to 3200 Reduced aim time from 8 to 6 sec Increased average velocity to keep rd stable to 3200 Reduced re-load time from .03 to .02 min resulting in increase in rate of fire from 400 to 600 rds/min	Arbitrary decrease in miles distance of 10% resulting in following P _H by one TP 3200m = .03 2000m = .07 1000m = .20 500m = .46 for 12 seconds of firing or 10 TPs this would be P _H of 3200 = .26 2000 = .52 1000 = .89 500 = 1.00.	Vulnerable area of AMI is less than one half the scout or Cobra vulnerable area therefore the prob. of kill given a hit for the AMI was reduced from .33 to .16.	Not used to shoot at ground targets.	n/c
B - DIVADS	28	Range from COEA Delay times similar to the 23 Q Rate of fire is 18 rds burst followed by 16.2 sec delay in same as 4 rds (per TP) every .06 min; so reload time = .06 & TP = 4 Average vel. is estimated for expected engagement range of about 3000m.	Accuracies estimated from COEA requirements resulting in P _H for 1 TP as follows 4000m = .20 3000m = .28 2000m = .38 1000m = .53 500m = .64 For 12 seconds of fires (or 3 TPs) P _H becomes 4000m = .49 3000m = .63 2000m = .76 1000m = .85 500m = .95	The 35mm round compared w/23mm will have larger effects area	Not used to shoot at ground targets	o Shoots only at the attack helicopter o Any interactions with fixed wing high performance air will be done outside of CARBONETTE.

TABLE 2.3 (cont.)
WEAPONS CHARACTERISTICS

Weapon	No.	1 - Characteristics	2 - Accuracy	3 - Pk & Ammo Selection	4 - Pk vs. Inf. & Veh.	5 - Priority List
B - 25mm on the IFV and an M1	32 & 36	Data for 20mm, 23mm in ground role & 30mm were plotted and scaled to get values shown. Rate of fire assumed is 2 rds every 6 sec or 20 rds per minute (this emphasizes the AP in ground role.	Prob. of hit for stationary gunner shooting at stationary target are 3000 - .20 2500 - .31 2000 - .50 1500 - .64 1000 - .75 500 - .88	Pk assigned are best estimates by GRC.	Low Pk of killing Inf were estimated based on comparison with other values	Priority List 1 - 1 Fagot 2 100mm AT G 3 73mm RR 4 23 Q 5 SA-9 6 M1nd List 2 - 1 23 Q 2 SA-9 3 M1nd 4 Fagot 5 BRDM/Sagger 6 BWR List 3 - 1 BWR 2 Fagot 3 BRDM/Sagger 4 Rifle Sq 5 100mm AT G 6 73mm RR
B - TOW (PIF) on ITV and IFV	35 & 43	Only change from previous data is increase in max range to 3750 and modest increase in velocity.	Constant accuracy at all ranges Pk = .92 when everything stationary.	Lowered Pk by 20% given a hit against the T-72 because of increased armor on T-72.	Not used	n/c
B - Cobra TOW	36	Same as previous data except increase in max range and increase in velocity	Constant accuracy not degraded when helicopter or target moving.	Lowered Pk by 20% given a hit against the T-72 because of increased armor on T-72	Not used	List 1 - 1 23 Q 2 SA-9 3 BRDM 4 T-72 5 BWR 6 Fagot List 2 - 1 23 Q 2 SA-9 3 BRDM 4 T-72 5 BWR 6 100mm AT G List 3 - 1 T-72 2 BWR 3 23 Q 4 SA-9 5 BRDM 6 100mm AT G

TABLE 2.3 (cont.)

WEAPONS CHARACTERISTICS

Weapon		1 - Characteristic	2 - Accuracy	3 - P _K & Ammo Selection	4 - P _K vs Inf. & Veh.	5 - Priority List
Type	No.					
R - Fagot	37	Data from ANSAA TR159 and SEPA. Alm time reduced to 7 sec, slight increase in speed, and large change in range envelope, i.e. from 500-3000 to 50 to 2000 meters.	Prob of hit is .9 throughout the flight envelope. Degradation for on the move implies with a moving force yet the weapon would be stopped briefly to fire.	Lowered P _K given a hit by 20% against the XM1 because of increase in effective armor thickness.	Not used	List 1 - 1 ITV 2 IFV 3 XM1 4 DRAGON 5 DIVADS 6 -
R - /Sagger	38 & 39	Data from ANSAA TR159 & SEPA. Min range reduced to 300 meters. Increased min. crew requirement to fire from 1 to 2. Alm time reduced from 10 to 7 sec and missile velocity reduced to 120 m/sec.				List 2 - 1 IFV 2 XM1 3 ITV 4 DRAGON 5 DIVADS 6 -
R - BRDM/Sagger						List 3 - 1 XM1 2 IFV 3 ITV 4 DRAGON 5 DIVADS 6 -
B - Imp. DRAGON	40	All data as provided by McDonald-Douglas for the PIP DRAGON.	P _H vary from .93 at minimum range to .75 at maximum range.	P _K same as provided by McDonald-Douglas except reduced by 20% against T-72.	Not used	n/c
B - VIPER	41	Range band reduced from previous characteristics for LAW (which exceeded the LAW capabilities). The round velocity was also reduced. Basic data points are from ANSAA TR159.	P _H for stationary gunner and target are at each range 500 - .05 400 - .16 300 - .48 200 - .88 100 - .99	Arbitrary increase in effectiveness of 70% but assumed increased armor of T-72 offset this increase	Not used	n/c

TABLE 2.3 (cont.)
WEAPONS CHARACTERISTICS

Weapon		1 - Characteristics	2 - Accuracy	3 - P _K & Ammo Selection	4 - P _K vs Inf. & Veh.	5 - Priority List
Type	No.					
B - AAH/HELIFIRE R - HIND/ ?	48 6	Information from study done by CRC for BSI. Currently we have assumed the HIND D to have the same capability.	P _H vs range for basic conditions are shown below. A slight degradation for the target moving is imposed. 5000m = .64 4000m = .81 3000m = .90 2000m = .94 1000m = .99	P _K given a hit compare with existing data except the P _K /H of the T-62 of .82 was degraded to .66 for the T-72. This same value was used for the HIND vs the XM1.	Not used	Same as for TOM Cobra wpn #36 for AAH HIND List 1 - 1 DIVADS 2 ITV 3 IFV 4 XM1 5 DRAGON 6 Stinger List 2 - 1 DIVADS 2 IFV 3 ITV 4 XM1 5 DRAGON 6 Stinger List 3 - 1 XM1 2 IFV 3 ITV 4 Rifle Sq 5 DIVADS 6 Stinger
R - SA-9	53	Data from CRC Report CR-92, Jan 1975. Times are guesses. It is assumed a burst of 4 missiles, volley or ripple, are fired.	P _H with one of the 4 missiles in flight is estimated to be 0.75 at all ranges within the system envelope.	The redundancy and limited armor protection on the AAH (and assumed for the HIND) suggested a lower P _K given a hit than for a hit against the Cobra which was previously given as .95; therefore, .80 is entered for the AAH.	Not used	Red shoots at the Blue helicopters and Blue shoots at the Red helicopters on all priority lists.
R - SA-7 6	55	The improved SA-7 was assumed to have characteristics similar to the Stinger. Previous SA-7 velocity was excessive and adjusted down to 413 m/sec.	Previous miss distance data for SA-7 gave no capability against a stationary target. These were adjusted to give P _H at any range of 0.31 for both moving and stationary targets.			
B - Stinger	56					

3 SEQUENCE OF SIMULATION TREATMENTS

As noted in the introduction, after a base case "2101" run, three original aggregated 3301 runs were made. These were followed by a series of seven "one-weapon-at-a-time"* runs (nine counting major variants of two of the seven). Each of the 10 "3301" runs, as shown in Fig. 3.1, was accompanied by a WEV/UEV run to develop the individual weapon and unit values by the Holter method cited in the introduction.

* In the case of a few 1985 weapons, they were introduced as Red and Blue opposed pairs; e.g., the insertion of the Red HIND called for use of Blue DIVADS.

4 CARMONETTE TREATMENT RESULTS AND WEV ESTIMATES

This section contains, for each of the specified close-combat treatments (A through J in Figure 3.1): the summary results of CARMONETTE runs (15 replications each); a table recasting the basic killer/casualty data in a form necessary to running the WEV model; and the WEV, UEV tables resulting, with a consolidated table of all WEV, UEV as a final exhibit.

For treatment A, no WEV/UEV calculations were made since it was considered as preliminary effort to B. Thus, all subsequent treatments of the amended option (D through J) should have been expected to be comparable to B and not to A. C was a special-case variant to B; it provided hull defilade for defending tanks and APC, and also used a casualty threshold for end-of-battle rather than a standard time period.

The full computer printouts, including preprocessors for each treatment and each WEV run, are available to the sponsor, should he desire them.

Shown in the first exhibit of each set are the killer/casualty data as generated by the several CARMONETTE runs. In these tables the killers are identified by individual weapon type (T62 main tank, T62 coax machine gun, TOW missile, etc.) and the victims are identified by weapon platform (T62 tank, infantry fighting vehicle, etc.). In order that this data be used as input to the WEV-UEV methodology, it is necessary to regroup the output from CARMONETTE into weapons platform killers versus weapons platform victims. Thus the weapon platform killer labeled Red tank includes the Red tank main gun and the tank machine guns. The results of this rearrangement are shown in the second exhibit in each set (except A). In these tables each row corresponds to a Blue weapons platform type and each column to a Red weapons platform type. The box in the ith row and jth column of the table contains two numbers corresponding to (1) the number of Red platforms of type j killed by Blue platforms of type i

(upper left corner of box) and (2) the number of Blue platforms of type i killed by Red platforms of type j (lower left corner of box).

The third exhibit in each set is the WEV/UEV model results print-out. In each of the tables, the WEVs are normalized on the Blue tank, and hence that tank has a value of 1.00. The number of weapon platforms of each type given in a table is the average number of that type fighting over the duration of the battle. The total value for each type of weapons platforms is the product of the WEV value and the average number of weapons platforms of that type. Also shown in each table is the average UEV (labeled Total Force Value in the table) for Blue and Red, along with the initial UEV (labeled Total Initial Force Value) for each force. Finally, the initial force ratio is shown--a ratio of initial Blue strength to initial Red strength. This ratio is independent of the weapon type on which the WEVs are normalized.

Simulation Results

2201 Base Case

3301 A, B, C

The following four sets of simulation results reflect the outcomes of the BSD original option of inserting all specified 1985 weapons at once in the COMCAP II Base Case Scenario. 3301A used the original tactical order set of 2201, which did not fully exploit the capabilities of the 1985 IFV. 3301B amended the IFV orders to bring them fully into play. 3301C was a tactical variant of B; it provided hull-defilade advantages for defending tanks and IFV/ITV, and it used a casualty threshold determinant of end of battle rather than a time limit.

11/09/78

BA5E

AVERAGE TARGET KILLS BY WEAPON TYPE

BLUE WEAPON NUMBERS	RED TARGET CLASSES															
	CLASS 1		CLASS 3		CLASS 4		CLASS 5		CLASS 7		CLASS 9		CLASS 10		CLASS 11	
	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH
1	0.0	0.0	0.0	0.0	1.0	0.0	.1	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	.6	0.0	.5	0.0	.9	0.0	.1	0.0	.3	0.0	0.0	0.0
13	4.9	1.6	16.3	5.4	.1	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
35	14.9	4.9	19.3	5.9	0.0	0.0	0.0	0.0	0.0	0.0	.0	.2	0.0	0.0	.2	.1
36	7.6	2.5	1.3	.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	14.2	4.7	9.3	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	2.6	.9	.2	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45	0.0	0.0	.6	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	44.2	14.7	47.6	15.5	1.7	.1	1.0	.3	1.9	0.0	1.1	.2	.3	0.0	1.0	.3

	CLASS 12		CLASS 13	
	NEW	VEH	NEW	VEH
1	.1	0.0	.1	0.0
2	.1	0.0	.1	0.0
3	.1	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0
36	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0
41	0.0	0.0	0.0	0.0
45	0.0	0.0	0.0	0.0
52	0.0	0.0	.1	0.0
54	0.0	0.0	0.0	0.0
TOTALS	.1	0.0	.2	0.0

AVERAGE TARGET KILLS BY WEAPON TYPE

REFD WEAPON NUMBERS	BLUE TARGET CLASSES											
	CLASS 1		CLASS 5		CLASS 7		CLASS 9		CLASS 15			
	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH		
3	0.0	0.0	0.0	0.0	2.6	0.0	.7	.1	0.0	0.0		
5	.2	.1	0.0	0.0	3.7	0.0	.7	.1	0.0	0.0		
6	.4	.1	.1	.1	.9	0.0	.3	0.0	0.0	0.0		
14	6.9	2.9	.3	.3	4.5	0.0	2.7	1.5	0.0	0.0		
19	.2	.1	.3	.5	1.3	0.0	2.5	1.5	0.0	0.0		
20	.2	.1	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0		
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	.2		
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	.2		
27	.4	.3	0.0	0.0	.4	0.0	.1	0.0	0.0	0.0		
37	4.4	1.5	.0	.4	0.0	0.0	0.9	0.0	0.0	0.0		
39	10.0	3.3	.0	.4	0.0	0.0	.7	.4	0.0	0.0		
46	5.0	1.7	.7	.1	0.0	0.0	0.0	0.0	0.0	0.0		
47	0.0	0.0	.3	.1	.2	0.0	.1	.1	0.0	0.0		
50	0.0	0.0	0.0	0.0	.2	0.0	.1	.1	0.0	0.0		
51	0.0	0.0	0.0	0.0	.2	0.0	.1	.1	0.0	0.0		

54	0.0	0.0	0.0	0.0	.7	0.0	.1	.1	0.0	0.0
TOTALS	30.0	10.0	4.4	2.2	17.1	0.0	9.2	4.3	2.7	1.3

VARIANCE OF TARGET KILLS BY WEAPON TYPE

BLUE WEAPON NUMBERS

RED TARGET CLASSES

	CLASS 1		CLASS 3		CLASS 4		CLASS 5		CLASS 7		CLASS 9		CLASS 10		CLASS 11	
	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH
1	0.0	0.0	0.0	0.0	1.6	.5	0.0	0.0	1.4	0.0	.1	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	.5	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
13	15.2	1.7	70.1	6.3	.1	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
35	57.2	6.4	56.5	5.6	0.0	0.0	2.1	.2	0.0	0.0	.2	0.0	0.0	0.0	.6	.1
36	38.4	4.3	6.5	.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	.4
40	37.9	4.2	39.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	9.6	1.1	.5	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45	0.0	0.0	1.5	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CLASS 12 CLASS 13
MEN VEH MEN VEH

1	.1	0.0	.1	0.0
2	.1	0.0	.1	0.0
13	.3	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0
36	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0
41	0.0	0.0	0.0	0.0
45	0.0	0.0	0.0	0.0
52	0.0	0.0	.1	0.0
54	0.0	0.0	0.0	0.0

VARIANCE OF TARGET KILLS BY WEAPON TYPE

RED WEAPON NUMBERS

BLUE TARGET CLASSES

	CLASS 1		CLASS 5		CLASS 7		CLASS 9		CLASS 15	
	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH
3	0.0	0.0	0.0	0.0	4.5	0.0	.4	.1	0.0	0.0
5	.6	.1	0.0	0.0	5.7	0.0	.6	.1	0.0	0.0
6	1.1	.1	.3	.1	.9	0.0	.2	0.0	0.0	0.0
14	27.6	3.1	.5	.1	7.7	0.0	6.9	1.7	0.0	0.0
19	.5	.1	3.4	.4	2.5	0.0	3.4	1.1	0.0	0.0
20	.5	.1	.3	.1	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	1.9	.2	0.0	0.0	.5	0.0	.1	0.0	0.0	0.0
37	10.1	1.1	1.6	.3	0.0	0.0	0.0	0.0	0.0	0.0
38	13.7	1.5	1.6	.4	0.0	0.0	1.5	.5	0.0	0.0
39	10.9	2.1	2.1	.5	0.0	0.0	0.0	0.0	0.0	0.0
46	0.0	0.0	.5	.1	.3	0.0	.1	.1	0.0	0.0
47	0.0	0.0	.7	.2	.9	0.0	.7	.1	0.0	0.0
50	0.0	0.0	0.0	0.0	.1	0.0	.4	.1	0.0	0.0

BLUF	AVERAGE AMMUNITION EXPENDITURE BY WEAPON TYPE	
WEAPON TYPE	AMMO 1	AMMO 2

1	54.6	0.0
2	43.2	39.2
11	10.0	
29	2.4	9.0
35	37.0	0.0
36	9.1	0.0
36	40.4	0.0
40	40.0	0.0
41	40.0	0.0
45	16.9	0.0
52	136.0	0.0
54	31.7	0.0

RTD AVERAGE AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
3	131.2	0.0
5	236.0	0.0
6	72.0	0.0
12	40.0	0.0
14	76.2	131.9
19	214.6	9.5
20	10.9	0.0
21	69.6	0.0
22	1.5	0.0
23	16.6	0.0
26	3.0	0.0
27	6.7	17.0
37	15.7	0.0
38	102.1	0.0
39	19.5	0.0
42	29.6	0.0
46	72.0	0.0
47	275.2	0.0
50	137.4	0.0
51	530.9	0.0
52	451.7	0.0
54	304.2	0.0
55	5.4	0.0

BLUE VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	12.7	0.0
2	107.9	0.0
13	19.7	109.3
29	2.7	0.0
35	10.3	0.0
36	20.6	0.0
40	50.0	0.0
45	291.4	0.0
52	2307.2	0.0
54	1960.6	0.0

RED VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
3	235.9	0.0
5	201.1	30.2
14	560.2	1241.6
19	3060.7	171.6
20	7.9	0.0
21	1115.0	0.0
22	4.6	0.0
25	901.0	0.0
26	25.3	0.0
27	11.5	140.0
37	19.4	0.0
39	82.8	0.0
42	146.4	0.0
46	416.0	0.0
47	*****	0.0
50	6102.0	0.0
51	*****	0.0
57	*****	0.0
54	*****	0.0
55	33.7	0.0

BASE

INTERPOLATION FACTOR
RATIO = 1.291

GROUP FORCE DATA

ITEM	GROUP	NUM. UNITS	TOTAL VALUE
R TANK	1.000	5.00	5.000
1000 AMP	1.000	3.40	4.551
DRAGON	1.505	1.85	6.255
2000 REL	.010	1.30	2.447
APTY	.010	23.00	.230
1000	.010	11.00	.792
IFV	0.000	5.00	0.000

TOTAL FORCE VALUE = 23.825

TOTAL INITIAL FORCE VALUE = 36.971

RED FORCE DATA

ITEM	VALUE	NUM. UNITS	TOTAL VALUE
R TANK	.009	10.65	8.443
1000	.011	20.25	12.742
DRAGON	1.175	1.85	3.349
2000 REL	1.700	1.30	3.376
1000 AT	.004	1.60	.187
2000	.770	3.00	5.316
APTY	.010	31.00	1.063
1000	.000	1.00	.19
GRILL	0.000	11.00	0.000
2000	.191	5.00	.544
1000	.003	20.00	.509

TOTAL FORCE VALUE = 39.361

TOTAL INITIAL FORCE VALUE = 92.260

INITIAL FORCE VALUE = 0.000

BASE

[illegible]

SUMMARY OF TREATMENT 3301 A
NUMBER OF REPLICATIONS 15

05/22/78

AVERAGE TARGET KILLS BY WEAPON TYPE

BLUE WEAPON RED TARGET CLASSES

RED WEAPON NUMBERS	CLASS 1	CLASS 3	CLASS 4	CLASS 5	CLASS 7	CLASS 9	CLASS 10	CLASS 11
1	MEN 0.0	VEH 0.0	MEN 0.0	VEH 0.0	MEN 0.0	VEH 1.0	MEN 0.0	VEH 0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	51.0	17.0	70.4	21.9	1.7	0.0	2.6	.9

RED WEAPON NUMBERS	CLASS 13	CLASS 5	CLASS 7	CLASS 9	CLASS 13	CLASS 15	CLASS 16
1	MEN 0.0	VEH 0.0	MEN 0.0	VEH 0.0	MEN 0.0	VEH 0.0	MEN 0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	1.6	0.0	0.0	0.0	0.0	0.0	0.0

AVERAGE TARGET KILLS BY WEAPON TYPE

BLUE WEAPON RED TARGET CLASSES

RED WEAPON NUMBERS	CLASS 1	CLASS 3	CLASS 4	CLASS 5	CLASS 7	CLASS 9	CLASS 10	CLASS 11
1	MEN 0.0	VEH 0.0	MEN 0.0	VEH 0.0	MEN 0.0	VEH 1.0	MEN 0.0	VEH 0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0

11/17/78

BLUE AVERAGE AMMUNITION EXPENDITURE BY WEAPON TYPE

1	46.0	0.0
2	52.3	0.0
7	92.0	25.0
8	51.2	14.9
13	26.1	43.3
34	22.5	6.0
35	34.6	0.0
40	55.9	0.0
41	16.4	0.0
43	1.1	0.0
46	6.7	0.0
52	16.0	0.0
54	2.6	0.0

AMMO 2

3	124.0	0.0
5	235.2	12.0
6	72.0	0.0
12	40.0	0.0
14	79.1	106.7
19	102.3	3.1
20	7.6	0.0
21	43.2	0.0
22	.4	0.0
27	.4	12.5
30	90.1	0.0
39	17.5	0.0
42	19.2	0.0
46	40.0	0.0
47	146.0	0.0
49	2.0	0.0
50	60.6	0.0
51	234.5	0.0
52	264.5	0.0
54	159.4	0.0
55	.9	0.0

BLUE VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	82.3	0.0
2	236.5	0.0
7	610.3	429.3
6	235.9	199.9
13	156.7	167.2
34	270.0	0.0
35	13.1	0.0
40	58.5	0.0
41	186.4	0.0
43	1.6	0.0
46	22.7	0.0
52	43.1	0.0
54	62.6	0.0

RED VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
3	427.9	0.0
5	160.5	82.3
14	456.6	920.4
19	2111.0	65.6
20	18.4	0.0
21	530.7	0.0
22	1.1	0.0
27	.6	71.7
38	225.5	0.0
39	31.0	0.0
42	219.6	0.0
46	715.9	0.0
47	9642.2	0.0
49	2.1	0.0
50	5812.5	0.0
51	*****	0.0
52	*****	0.0
54	*****	0.0
55	2.3	0.0

SUMMARY OF TREATMENT 13301 B
NUMBER OF REPLICATIONS 15

06/01/78

AVERAGE TARGET KILLS BY WEAPON TYPE

BLUE WEAPON RFD TARGET CLASSES

	CLASS 1		CLASS 3		CLASS 4		CLASS 5		CLASS 7		CLASS 9		CLASS 10		CLASS 11	
	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH
1	0.0	0.0	0.0	0.0	.3	0.0	0.0	0.0	2.3	0.0	.3	0.0	.1	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	.4	0.0	0.0	0.0	2.7	0.0	.6	.1	.4	.1	0.0	0.0
7	0.0	0.0	.3	.1	.7	0.0	0.0	0.0	5.4	0.0	.5	.1	.3	0.0	0.0	0.0
8	.6	.2	1.7	.5	.7	0.0	0.0	0.0	3.3	0.0	.7	0.0	.1	0.0	0.0	0.0
13	13.4	4.5	19.3	4.9	0.0	0.0	.5	.2	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	.5	.1	1.4	.5	.5
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	.3
34	0.0	0.0	2.3	.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	13.4	4.5	16.5	4.9	0.0	0.0	1.6	.5	0.0	0.0	.7	.3	0.0	0.0	0.0	0.0
40	10.2	3.4	20.0	7.2	0.0	0.0	0.9	0.0	0.0	0.0	.9	.3	.1	.1	0.0	0.0
41	.0	.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	16.0	5.3	30.9	9.3	0.0	0.0	1.6	.5	0.0	0.0	.3	.1	0.0	0.0	0.0	.3
46	3.0	1.0	2.6	.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	.6
TOTALS	57.4	19.1	94.5	20.5	2.0	0.0	3.0	1.3	13.7	0.0	5.9	1.3	1.3	.2	5.0	1.7

CLASS 13 CLASS 15

	MEM	VEN	MEY	VEH
1	.2	0.0	0.0	0.0
2	.7	0.0	0.0	0.0
3	.2	0.0	0.0	0.0
4	.7	0.0	0.0	0.0
5	.7	0.0	0.0	0.0
6	.7	0.0	0.0	0.0
7	.7	0.0	0.0	0.0
8	.7	0.0	0.0	0.0
9	.7	0.0	0.0	0.0
10	.7	0.0	0.0	0.0
11	.7	0.0	0.0	0.0
12	.7	0.0	0.0	0.0
13	.7	0.0	0.0	0.0
14	.7	0.0	0.0	0.0
15	.7	0.0	0.0	0.0
16	.7	0.0	0.0	0.0
17	.7	0.0	0.0	0.0
18	.7	0.0	0.0	0.0
19	.7	0.0	0.0	0.0
20	.7	0.0	0.0	0.0
21	.7	0.0	0.0	0.0
22	.7	0.0	0.0	0.0
23	.7	0.0	0.0	0.0
24	.7	0.0	0.0	0.0
25	.7	0.0	0.0	0.0
26	.7	0.0	0.0	0.0
27	.7	0.0	0.0	0.0
28	.7	0.0	0.0	0.0
29	.7	0.0	0.0	0.0
30	.7	0.0	0.0	0.0
31	.7	0.0	0.0	0.0
32	.7	0.0	0.0	0.0
33	.7	0.0	0.0	0.0
34	.7	0.0	0.0	0.0
35	.7	0.0	0.0	0.0
36	.7	0.0	0.0	0.0
37	.7	0.0	0.0	0.0
38	.7	0.0	0.0	0.0
39	.7	0.0	0.0	0.0
40	.7	0.0	0.0	0.0
41	.7	0.0	0.0	0.0
42	.7	0.0	0.0	0.0
43	.7	0.0	0.0	0.0
44	.7	0.0	0.0	0.0
45	.7	0.0	0.0	0.0
46	.7	0.0	0.0	0.0
TOTALS	1.3	0.0	2.7	1.3

AVERAGE TARGET KILLS BY WEAPON TYPE

RED WEAPON

FLUE TARGET CLASSES

	CLASS 1		CLASS 5		CLASS 6		CLASS 7		CLASS 8		CLASS 13		CLASS 15		CLASS 16	
	MFN	VEH	MFN	VEH	MFN	VEH	MFN	VEH	MFN	VEH	MFN	VEH	MFN	VEH	MFN	VEH
3	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	7	1	3	0.0	0.0	0.0	0.0	0.0
5	6	1	0.0	0.0	6	1	4.2	0.0	9	1	3	0.0	0.0	0.0	0.0	1
6	0.0	0.0	0.0	0.0	2	1	3	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	0.0	0.0	0.0	0.0	0.0
16	14.0	4.9	1.6	2.4	0.0	0.0	0.0	0.0	4	1	0.0	0.0	0.0	0.0	0.0	0.0
19	2	1	0.0	0.0	1.4	5	0.0	0.0	5	3	0.0	0.0	0.0	0.0	0.0	0.0
20	2	1	0.0	0.0	2	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	1.5	0.0	0.0
27	1.0	1	1	1.0	1	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	0.4	2.6	5	3	2.6	9	0.0	0.0	4	2	0.0	0.0	0.0	0.0	0.0	0.0
40	4.5	1.4	4	3	4	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ONLY 1 SURVEY TO SURVEYING																

46	0.0	0.0	0.0	0.0	.2	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
49	.0	.3	0.0	0.0	0.0	4.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.1	0.0	0.0	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	.2	.1	0.0	0.0	0.0	0.0	0.0	0.0
54	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	0.0	.2	.1	0.0	0.0	0.0	0.0	0.0	0.0
55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	30.0	10.0	2.9	1.5	13.6	4.5	9.5	0.0	3.0	1.2	.7	0.0	3.5	1.7	.8	.1	

VARIANCE OF TARGET KILLS BY WEAPON TYPE

BLUE WEAPON RED TARGET CLASSES

NUMBERS	CLASS 1		CLASS 3		CLASS 4		CLASS 5		CLASS 7		CLASS 9		CLASS 10		CLASS 11	
	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH
1	0.0	0.0	0.0	0.0	.6	0.0	0.0	0.0	4.1	0.0	.2	0.0	.1	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	6.2	0.0	1.3	.1	.8	.1	0.0	0.0
7	0.0	0.0	1.1	.1	1.7	0.0	0.0	0.0	13.1	0.0	.8	.1	.4	0.0	0.0	0.0
6	1.5	.2	5.0	.6	1.7	0.0	0.0	0.0	0.5	0.0	.5	0.0	.1	0.0	0.0	0.0
13	48.7	5.4	47.0	3.6	0.0	0.0	1.5	.2	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	6.1	.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	.1	11.4	1.3
35	55.1	6.1	52.0	5.2	0.0	0.0	5.0	.6	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0
40	22.9	2.5	86.3	8.9	0.0	0.0	0.0	0.0	0.0	0.0	2.6	.2	.3	.1	0.0	0.0
41	1.9	.2	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	67.7	7.5	77.6	6.1	0.0	0.0	3.7	.4	0.0	0.0	.8	.1	0.0	0.0	3.2	.4
46	9.0	1.0	12.0	.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	.6

NUMBERS	CLASS 13		CLASS 15	
	MEN	VEH	MEN	VEH
1	.2	0.0	0.0	0.0
2	.5	0.0	0.0	0.0
7	.2	0.0	0.0	0.0
6	.2	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0
20	0.0	0.0	1.5	.4
32	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0
41	0.0	0.0	0.0	0.0
43	0.0	0.0	0.0	0.0
46	0.0	0.0	0.0	0.0

VARIANCE OF TARGET KILLS BY WEAPON TYPE

RED WEAPON BLUE TARGET CLASSES

NUMBERS	CLASS 1		CLASS 5		CLASS 6		CLASS 7		CLASS 8		CLASS 13		CLASS 15		CLASS 16	
	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH
3	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	1.4	.1	.4	0.0	0.0	0.0	0.0	0.0
5	1.1	.1	0.0	0.0	1.1	.1	5.3	0.0	1.1	.1	.2	0.0	0.0	0.0	4.0	0.0

BLUE AVERAGE AMMUNITION EXPENDITURE BY WEAPON TYPE
 WEAPON TYPE AMMO 1 AMMO 2

1	50.4	0.0
2	53.9	0.0
7	40.8	20.0
8	46.9	16.5
13	31.5	44.9
20	9.6	0.0
32	6.9	23.1
34	21.6	.4
35	35.2	0.0
40	42.5	0.0
41	3.5	0.0
43	51.5	0.0
48	5.9	0.0
52	2.0	0.0
56	.2	0.0

AMMO - 2

1	143.2	0.0
5	247.2	0.6
6	72.0	0.0
12	40.0	0.0
15	60.1	70.4
19	40.7	4.7
20	11.2	0.0
21	57.0	0.0
22	3	0.0
27	4.7	13.7
36	04.0	0.0
39	19.0	0.0
42	20.0	0.0
46	44.9	0.0
47	42.0	0.0
49	6.3	0.0
50	10.0	0.0
51	117.0	0.0
52	293.3	0.0
54	101.5	0.0
55	1.4	0.0

BLUE VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	55.5	0.0
2	132.3	0.0
7	366.7	507.4
8	100.5	95.7
13	100.1	111.4
26	65.0	0.0
32	92.5	301.6
34	145.0	1.3
35	21.9	0.0
40	116.6	0.0
41	21.4	0.0
43	24.0	0.0
46	20.4	0.0
52	54.6	0.0
56	.2	0.0

RED VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
3	235.9	0.0
5	304.5	50.7
14	427.4	1021.6
19	2329.4	113.9
20	9.6	0.0
21	445.7	0.0
22	.6	0.0
27	19.0	51.4
36	106.6	0.0
39	15.1	0.0
42	121.5	0.0
46	690.2	0.0
47	157.7	0.0
49	6.2	0.0
50	1020.2	0.0
51	*****	0.0
52	*****	0.0
54	*****	0.0
55	6.0	0.0

B

	RTK (1)	BMP (3)	BRDM (5)	MP SAG (4)	100AT (9)	23/4 (11)	ARTY (16)	75RR (10)	GRAIL (13)	HIND (15)	INF REG (7)
B TK (1)	$\frac{4.5}{4.9}$	$\frac{5.6}{2.9}$	$\frac{0.2}{1.4}$		$\frac{0.3}{0.3}$	$\frac{0.3}{0.3}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$		$\frac{0.3}{0.3}$	
TOW APC (5)	$\frac{4.5}{0.8}$	$\frac{4.9}{0.3}$	$\frac{0.5}{0.2}$		$\frac{0.3}{0.1}$			$\frac{0.1}{0.1}$			
DRAGON (8)	$\frac{3.4}{0.2}$	$\frac{7.2}{0.6}$			$\frac{0.3}{0.3}$		$\frac{0.2}{0.2}$	$\frac{0.1}{0.1}$			$\frac{0.2}{0.2}$
ATK HEL (15)	$\frac{1.0}{0.8}$				$\frac{0.6}{1.5}$				$\frac{0.2}{0.2}$		
ARTY (16)	$\frac{0.2}{0.6}$				$\frac{0.2}{0.1}$		$\frac{0.1}{0.1}$				
INF, LAW (7)	$\frac{0.3}{0.3}$										
IFV (6)	$\frac{5.3}{0.8}$	$\frac{9.3}{1.5}$	$\frac{0.5}{0.1}$		$\frac{0.6}{0.3}$	$\frac{0.8}{0.2}$	$\frac{0.1}{0.1}$			$\frac{1.6}{1.6}$	
STINGER (13)											
DIVADS (11)										$\frac{1.3}{1.3}$	

B

ITERATIONS = 5
ROOTC = .939

BLUE FORCE DATA

WPN	VALUE	NUM. WPNS	TOTAL VALUE
R TANK	1.000	5.00	5.000
TOW APC	1.552	3.25	5.067
DRAGON	.879	5.40	4.747
ATK HEL	1.028	1.15	1.160
ARTY	.021	22.95	.479
INF	.010	12.00	.197
IFV	2.077	3.75	7.528
STINGER	0.022	1.00	0.000
DIVADS	2.924	1.00	2.924

TOTAL FORCE VALUE = 27.100

TOTAL INITIAL FORCE VALUE = 39.172

RED FORCE DATA

WPN	VALUE	NUM. WPNS	TOTAL VALUE
R TANK	.700	10.45	7.372
BMP	.342	18.75	6.421
BRDM	.757	2.35	1.778
MP TAG	0.000	2.00	0.000
100 AT	.720	1.35	.984
237A	.946	3.15	1.905
ARTY	.000	31.00	.000
7320	.223	1.90	.425
GPATL	.013	10.00	.130
INF	.075	27.00	.163
MIRO	1.410	1.35	3.265

TOTAL FORCE VALUE = 22.534

TOTAL INITIAL FORCE VALUE = 37.191

INITIAL FORCE RATIO = 1.053

SUMMARY OF TREATMENT 3301 C
NUMBER OF REPLICATIONS 15

06/26/76

AVERAGE TARGET KILLS BY WEAPON TYPE

BLUE WEAPON
RFD TARGET CLASSES

	CLASS 1		CLASS 3		CLASS 4		CLASS 5		CLASS 7		CLASS 9		CLASS 10		CLASS 11	
	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH
1	0.0	0.0	0.0	0.0	.0	0.0	0.0	0.0	.6	0.0	.1	0.0	.1	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	.5	0.0	0.0	0.0	.6	0.0	.3	0.0	.1	0.0	0.0	0.0
7	.2	.1	.4	.1	.3	0.0	0.0	0.0	1.0	0.0	.1	0.0	.2	0.0	0.0	0.0
8	.4	.1	.3	.1	.4	0.0	0.0	0.0	.9	0.0	.4	0.0	0.0	0.0	.2	.1
13	16.4	5.5	20.6	5.4	0.0	0.0	1.0	.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	1.3	.6	0.0	0.0	.4	.1	0.0	0.0	0.0	0.0	0.0	0.0	.2	.1
35	11.2	3.7	14.3	4.3	0.0	0.0	1.2	.4	0.0	0.0	.2	.1	0.0	0.0	0.0	0.0
40	0.0	0.0	.4	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	14.8	4.9	22.1	6.6	0.0	0.0	1.6	.5	0.0	0.0	.2	.1	0.0	0.0	1.0	.1
46	2.4	.8	.3	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	.4
TOTALS	45.4	15.1	60.3	17.3	1.9	0.0	4.2	1.4	3.1	0.0	1.2	.1	.4	0.0	2.6	.9

	CLASS 13		CLASS 15	
	MEN	VEH	MEN	VEH
1	.1	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0
7	.5	0.0	0.0	0.0
8	.3	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0
26	0.0	0.0	.4	.2
34	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0
43	0.0	0.0	0.0	0.0
48	0.0	0.0	0.0	0.0
TOTALS	.9	0.0	.4	.2

AVERAGE TARGET KILLS BY WEAPON TYPE

RED WEAPON
RFD TARGET CLASSES

NUMBERS	CLASS 1		CLASS 3		CLASS 5		CLASS 6		CLASS 7		CLASS 8		CLASS 13		CLASS 15		CLASS 16	
	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH
1	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	.5	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	.1
2	.4	.1	.4	.7	0.0	0.0	1.5	0.0	.6	0.0	.1	0.0	0.0	0.0	0.0	0.0	.4	.1
3	.2	.1	0.0	0.0	.4	.1	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	10.0	3.3	.4	.7	.4	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.2	0.0	0.0
7	.4	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	5.6	1.9	.1	.1	.4	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	2.4	.9	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	.1	0.0	0.0
TOTALS	19.0	6.3	1.1	.5	1.2	.4	6.4	0.0	1.2	0.0	.5	0.0	2.5	1.3	.4	.1		

VARIANCE OF TARGET KILLS BY WEAPON TYPE

BLUE WEAPON NUMBERS RED TARGET CLASSES

	CLASS 1		CLASS 3		CLASS 4		CLASS 5		CLASS 7		CLASS 9		CLASS 10		CLASS 11	
	MEAN	VEH	MEAN	VEH	MEAN	VEH	MEAN	VEH	MEAN	VEH	MEAN	VEH	MEAN	VEH	MEAN	VEH
1	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	1.7	0.0	0.0	0.0	.1	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	1.1	0.0	.2	0.0	.1	0.0	0.0	0.0
7	.6	.1	1.3	.1	.4	0.0	0.0	0.0	3.9	0.0	.1	0.0	.2	0.0	0.0	0.0
8	1.1	1.1	1.1	.1	.8	0.0	0.0	0.0	1.4	0.0	.4	0.0	0.0	0.0	.6	.1
13	57.2	6.4	109.4	7.5	0.0	0.0	2.1	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	5.6	.5	0.0	0.0	1.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	.6	.1
35	43.0	4.8	65.1	7.2	0.0	0.0	2.3	.3	0.0	0.0	.6	.1	0.0	0.0	0.0	0.0
40	0.0	0.0	1.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	44.3	4.9	50.2	4.1	0.0	0.0	2.4	.3	0.0	0.0	.6	.1	0.0	0.0	3.4	.4
48	4.1	.5	1.7	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	.3

	CLASS 13		CLASS 15	
	MEAN	VEH	MEAN	VEH
1	.1	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0
7	.7	0.0	0.0	0.0
8	1.1	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0
26	0.0	0.0	.7	.2
34	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0
43	0.0	0.0	0.0	0.0
48	0.0	0.0	0.0	0.0

VARIANCE OF TARGET KILLS BY WEAPON TYPE

RED WEAPON NUMBERS BLUE TARGET CLASSES

	CLASS 1		CLASS 5		CLASS 6		CLASS 7		CLASS 8		CLASS 13		CLASS 15		CLASS 16	
	MEAN	VEH	MEAN	VEH	MEAN	VEH	MEAN	VEH	MEAN	VEH	MEAN	VEH	MEAN	VEH	MEAN	VEH
3	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	.6	0.0	.1	0.0	0.0	0.0	0.0	0.0
5	1.1	.1	.7	.7	0.0	0.0	1.6	0.0	.7	0.0	.1	0.0	0.0	0.0	2.4	.1
6	.6	.1	0.0	0.0	1.1	.1	2.1	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	30.4	3.4	.7	.2	1.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	.5	0.0	0.0
27	1.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	24.3	2.7	.3	.1	1.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	14.4	1.6	.3	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	.1	0.0	0.0

VALUE AVERAGE ANNUAL EXPENDITURE BY WEAPON TYPE			
WEAPON TYPE	AMMO. 1		AMMO. 2
1	16.0	0.0	
2	23.2	0.0	
7	44.8	1.6	
8	26.4	1.1	
13	36.3	54.9	
20	.8	0.0	
32	.7	1.5	
34	19.3	1.2	
35	10.1	0.0	
40	.5	0.0	
43	44.2	0.0	
46	3.6	0.0	
56	.1	0.0	

BLUE VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	14.7	0.0
2	27.9	0.0
7	30.2	12.8
8	16.1	7.9
13	202.5	343.2
26	2.7	0.0
32	6.7	0.3
34	234.1	21.6
35	23.3	0.0
40	.0	0.0
43	56.6	0.0
44	1.8	0.0
56	.1	0.0

RED VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
3	76.5	0.0
5	71.3	0.0
14	469.7	294.6
19	189.4	0.0
20	26.1	0.0
21	683.0	0.0
27	2.1	0.0
27	8.6	9.4
34	313.4	0.0
39	6.8	0.0
46	167.5	0.0
47	.3	0.0
49	.6	0.0
55	6.1	0.0

C

	R TK (1)	BMP (3)	BRDM (5)	MP SAG (4)	100MT (9)	23/4 (11)	ARTY (16)	73RR (10)	GRAIL (13)	HIND (15)	INF RPG (7)
B TK (1)	5.5 3.3	6.0 1.9	0.4 0.8		0.1	0.1	0.2				
TOW APC (5)	3.7 0.2	4.3 0.1	0.4 0.1		0.1		0.2				
DRAGON (8)		0.1									
ATK HEL (15)	0.8	0.1				0.4 1.2			0.1		
ARTY (16)	0.2	0.2				0.1	0.1				
INF, LAW (7)											
IFV (6)	4.9 0.1	6.6 0.1	0.5		0.1	0.3	0.1				
STINGER (13)											
DIVADS (11)										0.2	

C

ITERATIONS = 7
RJOTC = 1.712

BLUE FORCE DATA

WPN	VALUE	NUM. WPNS	TOTAL VALUE
B TANK	1.000	6.85	6.850
TOW APC	1.279	3.75	4.796
DRAGON	.004	4.00	.126
ATK HFI	.752	1.35	1.015
ARTY	.013	22.95	.299
INE	0.000	12.00	0.000
IFV	1.167	5.80	6.768
STINGER	0.000	1.00	0.000
OIVADS	0.000	1.00	0.000
TOTAL FORCE VALUE =			19.754
TOTAL INITIAL FORCE VALUE =			23.947

RED FORCE DATA

WPN	VALUE	NUM. WPNS	TOTAL VALUE
R TANK	.515	12.45	6.297
BMP	.151	24.35	3.671
BRDM	.641	2.30	1.584
MP CAG	0.000	2.00	0.000
100 AT	.088	1.95	.171
2374	.433	3.55	1.545
ARTY	.032	31.00	.782
7324	0.000	2.00	0.000
GRAIL	.004	13.00	.124
INE	0.000	27.00	0.000
HIND	0.000	1.90	0.000
TOTAL FORCE VALUE =			14.573
TOTAL INITIAL FORCE VALUE =			20.173
INITIAL FORCE RATIO =			1.187

Simulation Results

3301D

The following set of simulation results reflect the outcome of the first of the BSID amended option series: inserting only the T72 into the COMCAP II Base Case Scenario. Thus 20 T72 tanks replaced the 20 T62 tanks of the Base Case. All other parameters remaining unchanged.

SUMMARY OF TREATMENT 3101 D
NUMBER OF REPLICATIONS: 15

12/09/78

AVERAGE TARGET KILLS BY WEAPON TYPE

RED WEAPON
NUMBERS

RED TARGET CLASSES

	CLASS 1	CLASS 2	CLASS 3	CLASS 4	CLASS 5	CLASS 6	CLASS 7	CLASS 8	CLASS 9	CLASS 10	CLASS 11	
RED WEAPON NUMBERS	MIN	VEH	MIN	VEH	MIN	VEH	MIN	VEH	MIN	VEH	MIN	VEH
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	2.0	0.0	20.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	11.2	3.7	16.7	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	4.0	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	9.6	3.2	4.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	3.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	30.0	10.0	43.7	12.5	1.1	0.0	.6	.2	2.1	0.0	1.0	.1

AVERAGE TARGET KILLS BY WEAPON TYPE

RED WEAPON
NUMBERS

RED TARGET CLASSES

	CLASS 1		CLASS 3		CLASS 5		CLASS 7		CLASS 9		CLASS 11	
	MIN	VEH	MIN	VEH	MIN	VEH	MIN	VEH	MIN	VEH	MIN	VEH
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	.2	0.0	0.0
2	0.0	0.0	0.0	0.0	.1	.1	5.1	0.0	.5	.1	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	.3	0.0	0.0	0.0
4	1.2	0.0	3.2	1.6	0.0	0.0	7.2	0.0	5.1	1.1	0.0	0.0
5	.2	.1	.5	.1	0.0	0.0	1.0	0.0	2.4	1.3	0.0	0.0
6	0.0	0.0	.1	.1	0.0	0.0	0.0	0.0	.1	.1	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.2
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.5	.1
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	.3	.1	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
11	2.4	.0	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	10.2	3.4	.4	.2	0.0	0.0	0.0	0.0	.7	.3	0.0	0.0
13	3.0	1.0	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	.1	0.0	0.0
15	0.0	0.0	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	.0	.3	.3	.1	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
18	.0	.0	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	10.2	3.4	.4	.2	0.0	0.0	0.0	0.0	.7	.3	0.0	0.0
20	3.0	1.0	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	.1	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	.0	.3	.3	.1	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
24	.0	.0	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	10.2	3.4	.4	.2	0.0	0.0	0.0	0.0	.7	.3	0.0	0.0
26	3.0	1.0	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	.1	0.0	0.0
28	0.0	0.0	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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[illegible]

BLUF AVERAGE AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	53.2	0.0
2	39.5	0.0
13	5.1	49.0
30	1.7	0.0
35	33.7	0.0
36	7.9	0.0
40	39.3	0.0
41	48.0	0.0
45	10.0	0.0
52	120.6	0.0
59	18.6	0.0

RED AVERAGE AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	127.2	0.0
5	253.6	0.0
6	12.0	0.0
12	40.0	0.0
13	75.0	136.2
19	126.2	4.4
20	7.1	0.0
21	75.2	0.0
22	1.5	0.0
23	20.4	0.0
26	4.4	0.0
27	6.5	0.0
32	19.3	0.0
34	06.1	0.0
39	15.6	0.0
42	17.0	0.0
46	69.3	0.0
47	289.3	0.0
50	176.0	0.0
51	330.4	0.0
52	270.4	0.0
54	135.2	0.0
56	6.2	0.0

RTD AVERAGE AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	ANNO 1	ANNO 2
1	127.2	0.0
4	233.6	0.0
5	72.0	0.0
12	40.0	0.0
13	75.0	135.2
19	125.2	4.4
20	7.1	0.0
21	75.2	0.0
22	1.5	0.0
23	20.4	0.0
25	4.4	0.0
27	6.5	0.0
37	19.3	0.0
38	86.3	0.0
39	15.6	0.0
42	17.4	0.0
46	69.3	0.0
47	289.3	0.0
50	176.0	0.0
51	330.4	0.0
52	270.4	0.0
54	135.2	0.0
55	6.2	0.0

BLUE VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

1	19.7	0.0
2	40.0	0.0
3	12.0	230.0
4	0.0	0.0
5	12.0	0.0
6	15.5	0.0
7	82.2	0.0
8	04.0	0.0
9	4001.1	0.0
10	531.4	0.0

PERIOD VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

5	242.7	0.0
5	161.8	4.3.3
14	404.0	1983.1
19	3068.9	65.9
20	25.1	0.0
21	914.7	0.0
22	2.0	0.0
25	545.6	0.0
26	51.5	0.0
27	17.1	4.2.4
37	16.2	0.0
38	177.5	0.0
39	24.5	0.0
42	222.4	0.0
46	307.2	0.0
47	222.2	0.0
50	0.0	0.0
51	0.0	0.0
52	0.0	0.0
54	0.0	0.0
55	61.0	0.0

D

	RTK (1)	BAIP (3)	BRDM (5)	MP SAG (4)	100AT (9)	23/4 (11)	ARTY (16)	73RR (10)	GRNL (13)	57AD (12)	INF RPG (7)
B TK (1)	0.7 4.4	5.3 3.5	0.1 1.0	0.8	0.3	0.1	0.1				
TOW APC (5)	3.7 1.6	5.0 0.6	0.1 0.1	0.1 0.1	0.1 0.1			0.1		0.1	
DRAKON (8)	3.2 3.1	1.5 1.8	0.1 0.1		0.1		0.3	0.1			0.2
ATK HEL (15)	1.3 1.3	0.5 0.5				0.6 1.2			0.1	0.3	
ARTY (16)											
INF, LAW (7)	1.1	0.2							0.4		
APC (6)						0.1					

170-1104 = 170-1104

WPN	VALUE	NUM. WPNS	TOTAL VALUE
ATK ALC	1.333	2.00	2.666
ATK APC	3.104	2.75	10.735
ATK BOM	2.333	3.33	7.666
ATK HEL	3.188	1.25	3.985
ATK IFV	0.333	27.00	9.000
INF	.145	12.00	2.335
IFV	0.000	5.75	0.000

TOTAL GROSS VALUE = 27.444

TOTAL INITIAL FORCE VALUE = 47.554

WPN	VALUE	WIM. WPNs	TOTAL VALUE
R 1774	1.535	1.00	25.75
840	1.140	26.75	17.432
8358	1.727	3.00	3.834
82 147	.772	1.00	1.358
10 141	.443	1.00	.03
2372	1.321	1.55	7.204
4477	1.132	31.00	7.917
7281	.000	7.00	.799
35471	.577	14.00	.917
57 40	.029	1.25	1.251
19	.001	21.00	.577

1013L - 142 VAL IE = 41.331

TOTAL INITIAL FORTY-FOUR = 75.00%

INITIAL FORCE PAIR : .715

Simulation Results
3301E

The following set of simulation results reflect the outcome of the second of the BSID amended option series: inserting only the XM1 into the COMCAP II Base Case Scenario. Thus, 10 XM1 tanks replaced the 10 M60A3 tanks of the Base Case. All other parameters remained unchanged.

SUMMARY OF TREATMENT 3301 E
NUMBER OF REPLICATIONS 15

12/06/78

AVERAGE TARGET KILLS BY WEAPON TYPE

RED TARGET CLASSES

BLUE WEAPON	NUMBERS	CLASS 1	CLASS 3	CLASS 4	CLASS 5	CLASS 7	CLASS 9	CLASS 11	CLASS 12
		MTN	VEH	MTN	VEH	MTN	VEH	MTN	VEH
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	17.8	5.9	56.4	14.6	2.2	1.1	1.8	3.3	1.5
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	16.6	5.5	13.5	4.2	2.2	1.1	1.4	1.1	0.0
36	5.6	1.9	2.4	2.3	0.0	0.0	0.0	0.0	0.0
40	11.2	3.7	7.0	2.7	0.0	0.0	0.0	0.0	0.0
41	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	57.0	17.3	84.3	23.9	2.0	2.7	2.5	2.7	4.3

CLASS 13

1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AVERAGE TARGET KILLS BY WEAPON TYPE

RED WEAPON

RED WEAPON	NUMBERS	CLASS 1	CLASS 3	CLASS 4	CLASS 5	CLASS 7	CLASS 9	CLASS 11	CLASS 12
		MTN	VEH	MTN	VEH	MTN	VEH	MTN	VEH
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	7.4	2.5	2.7	2.5	0.0	0.0	1.1	1.1	1.6
19	2.6	1.2	1.4	1.2	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	2.2	2.7	2.4	2.2	0.0	0.0	0.0	0.0	0.0
37	5.4	1.8	1.1	1.1	0.0	0.0	0.0	0.0	0.0
38	1.4	2.2	1.1	1.1	0.0	0.0	0.0	0.0	0.0
39	5.5	1.9	1.1	1.1	0.0	0.0	0.0	0.0	0.0
46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	23.9	7.3	4.3	4.3	0.0	0.0	2.2	2.2	3.2

RED TARGET CLASSES

CLASS 13
HTM VEN

VARIANCE OF TARGET KILLS BY WEAPON TYPE

MLUF TARGET CLASSES

III. OTHER FACTORS AFFECTING THE INVESTIGATION

52

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BLUE
AVIATION AMMUNITION EXPENDITURE BY WEAPON TYPE
WEAPON TYPE AMMO 1 AMMO 2

WEAPON TYPE ---- AMMO 1 ---- AMMO 2 ----

1	53.5	0.0
2	45.3	0.0
3	16.3	0.0
4	1.3	0.0
5	68.7	24.7
6	38.5	0.0
7	5.1	0.0
8	46.6	0.0
9	41.5	0.0
10	.4	0.0
11	118.6	0.0
12	15.4	0.0

RED AVERAGE AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	130.4	0.0
5	236.8	0.8
12	12.0	0.0
14	40.0	0.0
17	12.3	193.7
19	147.1	4.0
20	8.9	0.0
21	83.2	0.0
22	1.7	0.0
25	26.4	0.0
26	5.4	0.0
27	9.4	10.3
17	15.7	0.0
38	05.7	0.0
39	19.1	0.0
42	17.4	0.0
45	52.8	0.0
47	174.5	0.0
50	113.8	0.0
51	357.9	0.0
52	246.4	0.0
54	96.2	0.6
55	2.0	0.0

BLUE VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	12.7	0.0
2	161.5	0.0
13	25.7	441.5
29	.5	0.0
34	1707.2	177.2
35	1.3	0.0
36	7.4	0.0
40	135.7	0.0
41	115.0	0.0
50	2.4	0.0
52	2733.3	0.0
54	541.0	0.0

RED VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	295.3	0.0
5	277.0	30.2
14	474.7	121.8
19	2548.9	137.6
20	17.1	0.0
21	2725.0	0.0
22	4.6	0.0
25	369.3	0.0
26	50.7	0.0
27	21.3	37.0
17	11.4	0.0
38	174.3	0.0
39	7.3	0.0
42	128.8	0.0
46	675.9	0.0
47	8078.0	0.0
50	0.0	0.0
51	0.0	0.0
52	0.0	0.0
54	0.0	0.0
55	0.0	0.0

E

	RTK (1)	BMP (3)	BEDM (5)	MP SAG (4)	100 AT (9)	23/4 (11)	ACTY (16)	73RR (10)	GEALC (13)	5 JAL (12)	INF REF (7)
B TK (1)	5.9 2.5	16.7 2.7	0.8 1.9	0.2 1.8	0.1 0.7	0.4		0.1			
TOW APC (5)	5.5 0.6	4.2 0.5	0.1 0.1	0.1 0.1	0.3 0.2						
DRAGON (8)	3.7 0.9	2.7 2.0			0.1		0.2				0.1
ATK HEL (15)	1.9	0.3				0.3 1.2				0.4	
ARTY (16)				0.3			0.1				
INF, LAW (7)	0.3	0.1							0.1		
APC (6)							0.1				

E

ITERATION = 4
POINTS = 709

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REF FORCE DATA

WPN	VALUE	NUM. WPVS	TOTAL VALUE
B-44A	1.000	5.15	5.150
174 APC	.750	3.25	2.437
174 ARVN	.327	4.45	1.456
ATK 42L	.414	1.20	.593
ATK	.013	27.95	.313
INF	.005	12.00	.075
TRV	0.000	0.95	0.000
TOTAL FORCE VALUE =			10.044
TOTAL INITIAL FORCE VALUE =			14.354

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REF FORCE DATA

WPN	VALUE	NUM. WPVS	TOTAL VALUE
B-44A	.274	11.35	3.110
BMP	.170	21.05	3.575
B37M	.742	5.35	1.493
MP 185	1.047	1.55	1.797
100 81	.555	1.75	.915
237	.106	3.55	.369
ATK	.000	31.00	.000
232	.048	2.00	.096
ATK 42L	1.000	13.75	1.000
57 87	.053	2.00	.107
TRV	.000	2.00	.000
TOTAL FORCE VALUE =			10.137
TOTAL INITIAL FORCE VALUE =			17.455
INITIAL FORCE RATIO =			.582

Simulation Results

3301F

The following set of simulation results reflect the outcome of the third of the BSID amended option series: inserting both the T72 tanks and the XM1 tanks into the COMCAP II Base Case Scenario. Thus, 20 T72 tanks and 10 XM1 tanks replaced 20 T62 and 10 M60A3 tanks, respectively, of the Base Case. All other parameters remained unchanged.

BLUE WEAPON

RED TARGET CLASSES

CLASS 13		
NEW	VEH	
1	.1	0.0
2	.2	0.0
13	0.0	0.0
34	0.0	0.0
35	0.0	0.0
36	0.0	0.0
40	0.0	0.0
41	0.0	0.0
52	.2	.2
54	0.0	0.0

RED HEASON

BLUE TARGET CLASSES

	CLASS 1		CLASS 5		CLASS 7		CLASS 8		CLASS 15	
	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH
3	0.0	0.0	0.0	0.0	2.4	0.0	.6	.1	0.0	0.0
5	.6	.2	0.0	0.0	4.1	0.0	.5	.1	0.0	0.0
6	0.0	0.0	0.0	0.0	1.3	0.0	.2	0.0	0.0	0.0
14	13.6	4.5	3.7	1.9	3.2	0.0	1.8	.5	0.0	0.0
19	.4	.1	.3	.1	.7	0.0	3.5	1.9	0.0	0.0
20	.2	.1	.3	.1	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.7	.3
27	1.0	.3	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0
37	2.2	.7	.4	.2	0.0	0.0	0.0	0.0	0.0	0.0
38	5.2	2.7	.4	.2	0.0	0.0	.7	.4	0.0	0.0
39	3.6	1.2	.3	.1	0.0	0.0	0.0	0.0	0.0	0.0
45	.2	.1	0.0	0.0	.1	0.0	.4	.2	0.0	0.0
47	0.0	0.0	0.0	0.0	.5	0.0	.8	.7	0.0	0.0
50	0.0	0.0	0.0	0.0	.3	0.0	.1	.1	0.0	0.0
51	0.0	0.0	0.0	0.0	.3	0.0	.3	.1	0.0	0.0
52	0.0	0.0	0.0	0.0	1.0	0.0	.1	.1	0.0	0.0
54	0.0	0.0	0.0	0.0	.6	0.0	.1	0.0	0.0	0.0

52	0.0	0.0	0.0	0.0	0.0	3.1	0.0	.1	.1	0.0	0.0
54	0.0	0.0	0.0	0.0	0.0	2.1	0.0	.1	0.0	0.0	0.0
55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	.1

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RED AVERAGE AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
3	121.6	0.0
5	226.4	8.8
6	72.0	0.0
12	40.0	0.0
14	49.9	137.0
19	134.9	1.3
20	10.0	0.0
21	68.0	0.0
22	1.3	0.0
25	24.0	0.0
26	2.0	0.0
27	3.5	11.8
37	13.2	0.0
38	84.6	0.0
39	14.1	0.0
42	22.2	0.0
46	55.3	0.0
47	247.9	0.0
50	211.0	0.0
51	351.7	0.0
52	389.9	0.0
54	243.5	0.0
55	6.6	0.0

BLUE VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	6.2	0.0
2	59.1	0.0
13	42.3	107.6
29	1.2	0.0
34	239.9	115.2
35	10.3	0.0
36	11.7	0.0
40	114.1	0.0
52	3414.2	0.0
54	1179.1	0.0

RED VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
5	223.5	0.0
14	100.1	50.7
19	273.4	1005.0
20	2293.0	26.7
21	14.3	0.0
22	1685.7	0.0
22	2.3	0.0
25	540.0	0.0
26	11.3	0.0
27	7.0	47.2
37	21.6	0.0
38	173.7	0.0
39	23.1	0.0
42	84.6	0.0
46	855.4	0.0
47	*****	0.0
50	*****	0.0
51	*****	0.0
52	*****	0.0
54	*****	0.0
55	24.7	0.0

RTK	BHP	BDHQ	MP SA6	100AT	Z3/4	ARCTY	73FR	GFAL	57AD	INF
(1)	(3)	(5)	(4)	(9)	(11)	(16)	(16)	(13)	(17)	(7)

	TK (1)	TCW APC (5)	DRAGON (8)	ATK HEL (15)	ARTY (16)	INF, LAW (7)	APC (6)
TK (1)	2.3 / 4.5	10.5 / 2.9	0.4 / 1.2	0.7	0.3	0.2	0.1
TCW APC (5)	3.7 / 1.9	4.0 / 0.3	0.1 / 0.1	0.2	0.1 / 0.1	0.1	0.1
DRAGON (8)	5.9 / 1.3	2.7 / 2.6	0.2	0.2	0.2	0.1	0.1
ATK HEL (15)	1.5 / 0.5	0.1 / 1.0	0.1	0.3	0.1	0.1	0.1
ARTY (16)							
INF, LAW (7)	1.1 / 0.3	0.1	0.2	0.1	0.1		
APC (6)							

F

ITERATION 1
SCOUT = 1.017

BLUE FORCE DATA

WPN	VALUE	WPN% WPNVS	TOTAL VALUE
B TANK	1.000	5.00	5.000
TOP APC	1.337	7.55	32.358
ORATON	1.301	3.35	5.140
APR REL	.754	1.50	1.179
ARTY	0.000	23.00	0.000
INF	.777	10.00	.777
ISV	0.000	5.00	0.000
TOTAL FORCE VALUE =			15.312
TOTAL INITIAL FORCE VALUE =			25.690

RED FORCE DATA

WPN	VALUE	WPN% WPNVS	TOTAL VALUE
P TANK	.735	10.55	9.129
APC	.735	20.00	14.700
APM	.735	2.75	1.372
MS TANK	.735	5.00	1.015
TOP AT	.291	1.30	.378
TOP AT	.291	5.40	1.561
ARTY	.015	31.00	.459
INF	.127	5.00	.635
GRATL	.097	10.90	.106
TOP AT	.110	5.00	.550
INF	.105	27.00	.283
TOTAL FORCE VALUE =			21.139
TOTAL INITIAL FORCE VALUE =			27.041
INITIAL FORCE VALUE =			1.15

Simulation Results

3301G G*

The following two sets of simulation results reflect the outcomes of two variations on the fourth of the BSID amended option series. Both sets include the following insertions into the Base Case. The T72 tanks and the improved Sagger missiles are inserted on the Red side. On the Blue side, the ITV and IFV replace the four TOW-APCs and the six APCs respectively. With these insertions, the variations are as follows. In the G* simulation, the IFV orders are amended to them fully into play. In the G simulation, the orders are amended to bring only four of IFVs into play. This latter variation, in effect, lowers the number of IFVs in the battle to four instead of six.

12/09/78

9

WUJ 3010

RELIABILITY CLASSES

[illegible]

AVP PAGE TARGET KILLS BY WEAPON TYPE

REF. UTILITY
AUTUMN 1985

PLUS TARGET CLASSES

	CLASS 1		CLASS 5		CLASS 6		CLASS 7		CLASS 8		CLASS 9		CLASS 10		CLASS 11		CLASS 12		CLASS 13		CLASS 14		CLASS 15		CLASS 16		CLASS 17		CLASS 18		CLASS 19		CLASS 20		CLASS 21		CLASS 22		CLASS 23		CLASS 24		CLASS 25		CLASS 26		CLASS 27		CLASS 28		CLASS 29		CLASS 30		CLASS 31		CLASS 32		CLASS 33		CLASS 34		CLASS 35		CLASS 36		CLASS 37		CLASS 38		CLASS 39		CLASS 40		CLASS 41		CLASS 42		CLASS 43		CLASS 44		CLASS 45		CLASS 46		CLASS 47		CLASS 48		CLASS 49		CLASS 50		CLASS 51		CLASS 52		CLASS 53		CLASS 54		CLASS 55		CLASS 56		CLASS 57		CLASS 58		CLASS 59		CLASS 60		CLASS 61		CLASS 62		CLASS 63		CLASS 64		CLASS 65		CLASS 66		CLASS 67		CLASS 68		CLASS 69		CLASS 70		CLASS 71		CLASS 72		CLASS 73		CLASS 74		CLASS 75		CLASS 76		CLASS 77		CLASS 78		CLASS 79		CLASS 80		CLASS 81		CLASS 82		CLASS 83		CLASS 84		CLASS 85		CLASS 86		CLASS 87		CLASS 88		CLASS 89		CLASS 90		CLASS 91		CLASS 92		CLASS 93		CLASS 94		CLASS 95		CLASS 96		CLASS 97		CLASS 98		CLASS 99		CLASS 100		CLASS 101		CLASS 102		CLASS 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IT'S OFFER # 1 FOR A LIMITED TIME ONLY

20	1.1	.1	0.0	0.0	0.0	2.1	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	.2	0.0	0.0	0.0	0.0	.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	1.5	.2	.5	.1	.1	.6	.1	.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	21.6	2.4	1.6	.4	7.5	.8	0.0	0.0	2.1	.3	.1	.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	12.7	1.4	.7	.2	1.1	.1	0.0	.4	0.0	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.7	0.0	1.5	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	.5	.1	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54	0.0	0.0	0.0	0.0	0.0	0.0	.3	0.0	.3	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RED AVERAGE AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	129.6	0.0
2	236.0	7.2
3	72.0	0.0
4	40.0	0.0
5	32.8	94.9
6	119.1	4.1
7	10.4	0.0
8	56.0	0.0
9	1.2	0.0
10	14.4	0.0
11	1.7	9.0
12	4.9	13.6
13	78.1	0.0
14	14.4	0.0
15	21.4	0.0
16	40.0	0.0
17	148.8	0.0
18	106.2	0.0
19	311.1	0.0
20	409.6	0.0
21	236.0	0.0
22	5.9	0.0

PLUE VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	9.5	0.0
2	107.9	0.0
7	503.0	230.4
8	17.1	0.0
13	49.3	265.7
14	2.0	0.0
33	29.9	0.0
15	8.2	0.0
36	22.9	0.0
40	104.5	0.0
41	81.8	0.0
43	12.5	0.0
45	161.7	0.0
52	6871.1	0.0
54	1013.5	0.0

RFD VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	168.7	0.0
1	157.7	37.0
14	80.2	708.4
19	1935.3	44.8
20	0.3	0.0
21	1412.6	0.0
22	2.6	0.0
25	425.8	0.0
26	7.9	0.0
27	14.5	15.3
30	147.7	0.0
30	14.8	0.0
45	170.7	0.0
46	440.1	0.0
47	3608.6	0.0
50	5210.2	0.0
51	*****	0.0
52	*****	0.0
54	*****	0.0
55	52.1	0.0

G

	RTK (1)	BMP (3)	BRDM (5)	MSAG (4)	100AT (9)	23/4 (11)	ARTY (16)	73RR (10)	GRML (13)	57AD (12)	INF REG (7)
B TK (1)	$\frac{1.9}{4.3}$	$\frac{5.7}{2.8}$	$\frac{0.1}{2.5}$		$\frac{0.2}{0.2}$	$\frac{0.1}{0.1}$	$\frac{0.2}{0.2}$	$\frac{0.1}{0.1}$			
TOW APC (5)	$\frac{6.0}{1.1}$	$\frac{7.0}{0.6}$	$\frac{0.3}{0.2}$		$\frac{0.5}{0.1}$						
DRAGON (8)	$\frac{3.9}{0.3}$	$\frac{4.3}{2.1}$	$\frac{0.1}{0.1}$		$\frac{0.1}{0.1}$						$\frac{0.3}{0.3}$
ATK HEL (15)	$\frac{1.2}{0.2}$	$\frac{0.9}{0.9}$			$\frac{0.7}{1.1}$					$\frac{0.1}{0.1}$	
ARTY (16)							$\frac{0.1}{0.1}$				
INF, LAW (7)	$\frac{0.6}{0.6}$	$\frac{0.1}{0.1}$									
IFV (6)	$\frac{3.4}{1.3}$	$\frac{8.3}{1.8}$	$\frac{0.1}{0.1}$		$\frac{0.3}{0.1}$	$\frac{0.7}{0.7}$	$\frac{0.1}{0.1}$	$\frac{0.3}{0.3}$			

G

ITERATIONS = 4
 PROBE = 1993

BLUE FORCE DATA

WPN	VALUE	NUM. WPNS	TOTAL VALUE
INF	1.000	5.00	5.000
TCV APC	3.357	2.95	9.903
DRAGON	1.311	4.65	6.087
ATK HEL	1.363	1.40	1.908
ARTY	0.000	20.00	0.000
INF	.051	12.00	.612
197	1.000	4.00	4.000

TOTAL FORCE VALUE = 31.578

TOTAL INITIAL FORCE VALUE = 35.869

RED FORCE DATA

WPN	VALUE	NUM. WPNS	TOTAL VALUE
RTANK	.000	10.00	0.000
ARM	.051	10.00	.510
SRM	1.000	0.00	0.000
WP CAG	0.000	0.00	0.000
100 AT	.000	1.00	.000
237A	.000	3.00	.000
197	.000	10.00	.000
237B	.000	0.00	.000
237C	0.000	15.00	0.000
237D	.000	0.00	.000
197	.000	0.00	.000

TOTAL FORCE VALUE = 0.510

TOTAL INITIAL FORCE VALUE = 44.429

INITIAL FORCE RATIO = 1.424

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AVERAGE TARGET KILLS BY WEAPON TYPE

RED TARGET CLASSES

$$\begin{array}{r} 2.0 \\ 2.8 \overline{) 2.14} \end{array}$$

AVERAGE TARGET KILLS BY WEAPON TYPE

MULTI-TARGET CLASSES

[illegible]

IBM

19	13.2	.4	.3	.1	10.0	1.1	.8	0.0	2.0	.7	0.0	0.0	0.0	0.0
20	.6	.1	.3	.1	.6	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	3.7	.4	.3	.1	1.7	.2	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	22.1	2.5	.1	.2	15.0	1.7	0.0	0.0	.2	.2	0.0	0.0	0.0	0.0
39	16.0	1.8	.5	.1	.6	.1	0.0	0.0	.3	.1	0.0	0.0	0.0	0.0
42	.6	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46	0.0	0.0	0.0	0.0	1.1	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	0.0	0.0	0.0	0.0	.5	.1	.3	0.0	.6	.3	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	.1	.1	0.0	0.0	0.0	0.0
51	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	.1	.1	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	.3	.1	0.0	0.0	0.0	0.0
54	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	.3	.1	0.0	0.0	0.0	0.0

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GENERAL RESEARCH CORP MCLEAN VA OPERATIONS ANALYSIS GROUP F/6 15/3
ARMY COMBAT CAPABILITIES ANALYSIS COMCAP 85.(U)

JUN 79 J B CAMPBELL, L J DONDERO

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3	193.2	0.0
5	248.0	10.4
6	72.0	0.0
12	40.0	0.0
14	24.6	100.1
19	61.7	0.0
20	12.0	0.0
21	65.6	0.0
22	2.1	0.0
25	15.6	0.0
26	1.7	0.0
27	7.5	6.2
30	71.5	0.0
39	14.4	0.0
42	14.0	0.0
46	30.3	0.0
47	127.2	0.0
50	91.4	0.0
51	121.6	0.0
52	267.2	0.0
54	217.3	0.0
55	1.4	0.0

TRUE VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	9.6	0.0
2	117.0	0.0
7	667.9	169.6
8	16.8	20.1
13	42.4	305.8
29	0.0	0.0
12	21.4	0.0
35	16.9	0.0
36	4.7	0.0
40	241.7	0.0
41	153.6	0.0
43	22.4	0.0
45	274.1	0.0
50	31.7	0.0
52	5441.4	0.0
54	920.5	0.0

RED VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
3	277.0	0.0
5	260.6	51.0
14	308.7	2225.7
19	2446.7	0.0
21	676.1	0.0
22	1.1	0.0
25	549.3	0.0
26	18.6	0.0
27	36.7	31.7
38	209.0	0.0
39	20.7	0.0
42	116.6	0.0
46	745.1	0.0
47	0.0	0.0
50	0.0	0.0
51	0.0	0.0
52	0.0	0.0
54	0.0	0.0
55	12.0	0.0

G^*
(all 6 IFVs)

	RTK (1)	BMP (3)	BRDM (5)	MP SAG (4)	100AT (9)	23/4 (11)	ARTY (16)	73RR (10)	GRAIL (13)	57AD (12)	INF REG (7)
B TK (1)	$\frac{1.4}{3.3}$	$\frac{5.8}{3.1}$	$\frac{2.3}{2.3}$	$\frac{0.9}{0.9}$	$\frac{0.5}{0.5}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$
TOW APC (5)	$\frac{5.5}{1.3}$	$\frac{5.9}{0.3}$	$\frac{0.3}{0.1}$	$\frac{0.3}{0.1}$	$\frac{0.3}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$
DRAGON (8)	$\frac{4.1}{0.5}$	$\frac{3.1}{1.3}$	$\frac{0.1}{0.1}$	$\frac{0.3}{0.3}$	$\frac{0.3}{0.3}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.2}{0.2}$
ATK HEL (15)	$\frac{1.5}{0.3}$	$\frac{0.3}{0.3}$	$\frac{0.3}{0.3}$	$\frac{0.3}{0.3}$	$\frac{0.3}{0.3}$	$\frac{0.3}{1.3}$	$\frac{0.3}{0.3}$	$\frac{0.3}{0.3}$	$\frac{0.3}{0.3}$	$\frac{0.3}{0.3}$	$\frac{0.3}{0.3}$
ARTY (16)	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$
INF J LAW (7)	$\frac{0.3}{0.3}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$
IFV (6)	$\frac{5.2}{2.1}$	$\frac{2.3}{2.0}$	$\frac{0.3}{0.1}$	$\frac{0.5}{0.3}$	$\frac{0.3}{0.3}$	$\frac{0.3}{0.3}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$

Gr(mod)

ITERATIONS =
RATIO = .979

BLUE FORCE DATA

NAME	VALUE	NUM. WINS	TOTAL VALUE
B TANK	1.000	5.00	5.000
TOW ART	3.311	2.05	7.766
DP430N	1.299	4.55	5.909
ATK ART	1.242	1.40	1.738
ARTY	0.000	27.95	0.000
INF	0.000	12.00	0.000
ICV	4.777	2.15	10.281
TOTAL FORCE VALUE =			31.175
TOTAL INITIAL FORCE VALUE =			49.317

RED FORCE DATA

NAME	VALUE	NUM. WINS	TOTAL VALUE
B TANK	1.012	11.50	11.638
TOW ART	1.154	1.40	1.614
DP430N	1.152	2.80	3.225
ATK ART	0.000	2.00	0.000
ARTY	0.015	1.55	0.023
INF	0.001	2.25	0.002
ICV	0.016	31.00	0.508
DP430N	0.000	2.00	0.000
ATK ART	0.000	1.00	0.000
INF	0.013	27.00	0.351
TOTAL FORCE VALUE =			31.339
TOTAL INITIAL FORCE VALUE =			49.227
INITIAL FORCE RATIO			1.542

G*

ITERATIONS = 5
ROOTC = .0003

BLUE FORCE DATA

WPN	VALUE	NUM. WPNS	TOTAL VALUE
R TANK	1.000	5.15	5.150
TOW APC	3.443	3.05	10.502
DRAGON	1.413	4.95	6.996
ATK HEL	1.675	1.25	2.093
ARTY	.011	22.95	.245
INF	.045	12.00	.545
ISV	3.878	3.65	14.156
TOTAL FORCE VALUE =			37.688
TOTAL INITIAL FORCE VALUE =			52.654

RED FORCE DATA

WPN	VALUE	NUM. WPNS	TOTAL VALUE
R TANK	1.341	10.95	14.589
BMP	.633	17.15	10.857
BRDM	1.058	2.65	2.804
MC SAG	0.000	2.00	0.000
100 AT	1.519	1.40	2.127
23/A	.557	3.45	1.923
ARTY	.020	31.00	.620
73PP	.250	2.00	.500
SPALL	0.000	14.00	0.000
SV AC	.100	2.05	.205
INF	.015	27.00	.405
TOTAL FORCE VALUE =			34.347
TOTAL INITIAL FORCE VALUE =			52.654
INITIAL FORCE RATIO =			1.719

Simulation Results
3301H, H*

The following two sets of simulation results reflect the outcomes of two variations on the fifth of the BSID amended option series. In 3301H*, the following insertions are made into the Base Case. On the Blue side, the XML, ITV, IFV (with orders amended to bring all six into play), and the AAH helicopter, firing Hellfire, replace their counterparts of the COMCAP II Base Case Scenario. On the Red side, the T72, improved Sagers, and the improved ZSU-23/4 replace their counterparts. In 3301H, the changes are the same as those in 3301H* with the exception that the COBRA helicopter (rather than the AAH) carries the Hellfire.

REU TARGET CLASSES

	CLASS 1	CLASS 1	CLASS 4	CLASS 5	CLASS 7	CLASS 9	CLASS 10	CLASS 11
	MEM	MEM	MEM	MEM	MEM	MEM	MEM	MEM
1	0.0	0.0	.1	0.0	.1	0.0	.1	0.0
2	0.0	0.0	.1	0.0	.1	0.0	.1	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	1.3	0.0	.3	.1
8	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
9	20.4	6.8	36.3	7.6	0.7	0.0	1.0	.3
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
49	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	58.0	17.3	106.9	31.6	.2	0.0	5.4	1.8

~~PLUS TAPER CLASSES~~

	CLASS 1		CLASS 5		CLASS 6		CLASS 7		CLASS 8		CLASS 15		CLASS 16	
	MIN	VEH	MIN	VEH	MIN	VEH	MIN	VEH	MIN	VEH	MIN	VEH	MIN	VEH
1	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	1.1	.1	0.0	0.0	0.0	0.0
2	0.0	0.0	.1	.1	.2	.1	5.5	0.0	.9	.1	0.0	0.0	.4	.1
3	0.0	0.0	.1	.1	0.0	0.0	1.1	0.0	.5	0.0	0.0	0.0	0.0	0.0
4	12.0	4.5	1.5	.4	5.5	1.0	.3	0.0	.2	.1	0.0	0.0	0.0	0.0
5	.0	.1	.1	.1	.1	.1	1.0	0.0	.1	.1	0.0	0.0	0.0	0.0
6	1.4	.5	.1	.1	.1	.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	3.2	1.5	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	.1	0.0	0.0	0.0	0.0
9	0.0	0.0	.1	.1	.5	.3	0.0	0.0	.1	.1	0.0	0.0	0.0	0.0
10	5.2	1.4	.1	.2	3.3	1.0	0.0	0.0	.1	.2	0.0	0.0	0.0	0.0
11	5.2	1.4	.1	.1	.4	.1	0.0	0.0	.1	.1	0.0	0.0	0.0	0.0
12	0.0	0.0	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	.2	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	.1	.1	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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41	10.5	1.2	.7	.2	9.0	1.0	0.0	0.0	0.0	.5	.2	0.0	0.0	0.0	0.0	0.0	0.0
42	5.7	.6	.3	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44	0.0	0.0	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
49	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

BLUE AVERAGE AMMUNITION EXPENDITURE BY JAPON TYPE

WEAPON TYPE	AMMO-1	AMMO-2
1	37.7	0.0
2	58.7	0.0
3	26.0	11.2
4	2.1	1.6
5	22.7	36.1
6	.4	4.0
7	46.7	4.3
8	32.4	5.0
9	32.0	0.0
10	23.7	0.0
11	70.3	0.0
12	5.3	0.0
13	41.9	0.0
14	17.1	0.0

SED AVIATION AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO-1	AMMO-2
5	177.1	0.0
4	259.2	0.0
12	42.0	0.0
13	40.3	0.0
14	31.6	33.0
19	41.9	0.0
20	18.9	0.0
21	44.8	0.0
22	8.5	0.0
23	9.6	0.0
24	8.6	0.0
27	8.1	7.2
30	57.0	0.0
39	14.0	0.0
42	12.6	0.0
46	15.9	0.0
47	43.5	0.0
50	30.6	0.0
51	44.2	0.0
52	263.8	0.0
54	74.8	0.0
55	3.0	0.0

44444

0-0

44-38861-2

0.7

H

	RTK (1)	BMP (3)	BRDM (5)	MP SAG (4)	100AT (9)	23/4 (11)	ARTY (16)	73RR (10)	GRAIL (13)	57AD (12)	INF REG (7)
B TK (1)	$\frac{6.8}{4.3}$	$\frac{10.7}{2.1}$	$\frac{0.8}{1.7}$	$\frac{0.8}{0.8}$	$\frac{0.7}{0.8}$	$\frac{0.7}{0.7}$	$\frac{0.5}{0.5}$	$\frac{0.5}{0.5}$	$\frac{0.5}{0.5}$	$\frac{0.5}{0.5}$	$\frac{0.5}{0.5}$
TOW APC (5)	$\frac{3.6}{0.9}$	$\frac{6.9}{0.3}$	$\frac{0.3}{0.3}$	$\frac{0.3}{0.1}$	$\frac{0.5}{0.1}$	$\frac{0.5}{0.1}$	$\frac{0.2}{0.2}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$
DRAGON (8)	$\frac{2.0}{0.1}$	$\frac{2.2}{0.4}$	$\frac{0.1}{0.1}$	$\frac{0.3}{0.1}$	$\frac{0.3}{0.1}$	$\frac{0.3}{0.1}$	$\frac{0.2}{0.2}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.3}{0.3}$	$\frac{0.3}{0.3}$
ATK HEL (15)	$\frac{1.5}{0.3}$	$\frac{0.3}{0.4}$	$\frac{0.3}{0.1}$	$\frac{0.6}{1.6}$	$\frac{0.6}{1.6}$	$\frac{0.6}{1.6}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$
ARTY (16)	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$	$\frac{0.1}{0.1}$
INF, LAW (7)	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$	$\frac{0.2}{0.2}$
IFV (6)	$\frac{5.2}{1.9}$	$\frac{11.5}{1.4}$	$\frac{0.7}{0.1}$	$\frac{0.5}{0.2}$	$\frac{0.8}{0.1}$	$\frac{0.8}{0.1}$	$\frac{0.3}{0.3}$	$\frac{0.3}{0.3}$	$\frac{0.3}{0.3}$	$\frac{0.3}{0.3}$	$\frac{0.3}{0.3}$

H

ITERATIONS = 4
 PROTC = .783

BLUE FORCE DATA

WPN	VALUE	NUM. WPNs	TOTAL VALUE
R TANK	1.000	5.35	5.350
100 APC	1.001	3.05	3.114
DRAICN	.257	5.55	1.426
ATK HFL	.759	1.15	.872
ARTY	.003	22.55	.068
INF	.007	12.00	.090
IFV	1.230	4.05	4.981
TOTAL FORCE VALUE =			15.902
TOTAL INITIAL FORCE VALUE =			24.680

RED FORCE DATA

WPN	VALUE	NUM. WPNs	TOTAL VALUE
R TANK	.574	10.35	5.938
BM2	.193	17.20	3.314
BRDM	.204	2.10	1.198
MD BAG	0.000	2.00	0.000
100 AT	.641	1.35	.719
270	.322	2.95	.951
ARTY	.010	31.00	.307
200P	.340	1.95	.761
GRAIL	0.000	15.00	0.000
57 AC	.021	2.80	.059
INF	.003	27.00	.080
TOTAL FORCE VALUE =			14.405
TOTAL INITIAL FORCE VALUE =			24.113
INITIAL FORCE RATIO =			1.024

01/18/79

BLUE WEAPON

RED TARGET CLASSES

TOTALS

AVERAGE TARGET KILLS BY WEAPON TYPE

**RED WEAPON
NUMBERS**

BLUE TARGET CLASSES

III. UNITED STATES DEPARTMENT OF JUSTICE

42	0.0	0.0	0.0	0.0	0.0	0.0	0.6	.1	0.0	0.0	0.0	0.0	0.0	0.0
46	0.0	0.0	0.0	0.0	0.0	0.0	.6	.1	0.0	0.0	0.0	0.0	0.0	0.0
47	0.0	0.0	0.0	0.0	0.0	0.0	1.1	.1	0.0	0.0	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.0	.1	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	0.0	.1	0.0	0.0	0.0

BLUE	AVERAGE	AMMUNITION	EXPENDITURE	OF	WEAPON TYPE
WEAPON TYPE	AMMO 1	AMMO 2			
1	51.0	0.0			
2	64.3	0.0			
7	20.8	10.4			
8	.5	.5			
13	16.9	53.6			
32	.1	3.1			
34	64.7	11.5			
35	34.5	0.0			
40	24.5	0.0			
41	21.3	0.0			
43	49.7	0.0			
48	7.3	0.0			
52	88.4	0.8			
54	10.0	0.0			

RED AVERAGE APPUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
3	136.0	0.0
5	236.0	6.4
6	72.0	0.0
12	40.0	0.0
14	23.6	61.8
19	48.7	2.0
20	10.3	0.0
21	63.2	0.0
22	1.1	0.0
25	10.0	0.0
26	1.0	0.0
27	6.2	7.9
38	62.7	0.0
39	16.0	0.0
42	15.8	0.0
46	28.7	0.0
47	36.4	0.0
50	27.2	0.0
51	33.2	0.0
52	266.0	0.9
54	44.9	8.0
55	3.3	0.0

BLUE VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	19.3	0.0
2	46.8	0.0
7	400.5	141.3
8	4.3	4.3
13	32.6	227.1
32	.3	23.3
39	410.7	155.1
35	16.7	0.0
40	189.1	0.0
41	220.4	0.0
43	10.9	0.0
46	13.1	0.0
52	5800.7	0.0
54	517.7	0.0

RED VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
3	260.6	0.0
5	137.1	59.0
14	149.8	670.6
19	632.9	60.0
20	17.6	0.0
21	900.5	0.0
22	1.7	0.0
25	314.7	0.0
26	7.3	0.0
27	13.2	32.5
38	122.5	0.0
39	15.0	0.0
42	67.3	0.0
46	321.5	0.0
47	3142.4	0.0
50	3726.6	0.0
51	3689.3	0.0
52	*****	0.0
54	7981.1	0.0
55	5.1	0.0

H *

	RTK (1)	BMP (3)	BRDM (5)	MP SAG (4)	100AT (9)	23/4 (11)	ARTY (16)	73RR (10)	GRAIL (13)	57AD (12)	INF REG (7)
B TK (1)	5.9 3.4	12.0 2.8	0.5 2.3		0.7	0.9	0.2	0.1			
TOW APC (5)	5.7 1.0	6.0 0.4	0.3 0.2		0.2 0.3	0.3		0.1			
DRAGON (8)	1.1 0.1	1.7 0.2			0.3		0.2			0.1	
ATK HEL (15)	1.9	1.3				0.5 1.2				0.1	
ARTY (16)					0.1			0.1			
INF LAW (7)	0.1	0.1							0.3		
IFV (6)	4.7 1.3	10.7 1.6	0.6 0.1		0.7 0.1	0.6		0.1			0.1

H*

ITERATIONS = 4
RJOTC = .412

BLUE FORCE DATA

WPN	VALUE	WJM. WPNS	TOTAL VALUE
B TANK	1.000	5.35	5.350
TCV APC	1.321	2.95	3.896
DRAGON	.157	5.75	.958
ATK HEL	.808	1.40	1.131
ARTY	.005	23.00	.071
INF	.005	12.00	.060
IFV	1.157	4.35	5.033
TOTAL FORCE VALUE =			15.499
TOTAL INITIAL FORCE VALUE =			24.972

RED FORCE DATA

WPN	VALUE	WJM. WPNS	TOTAL VALUE
R TANK	.492	10.30	5.066
BMP	.247	17.10	4.231
BROM	.946	2.30	2.175
MP SAG	0.000	2.00	0.000
100 AT	.729	1.35	.984
23/4	.276	2.85	.787
ARTY	.006	31.00	.189
73RR	.145	1.95	.282
GRAIL	0.000	14.85	0.000
ST AD	0.000	2.95	0.000
INF	.003	27.00	.079
TOTAL FORCE VALUE =			15.407
TOTAL INITIAL FORCE VALUE =			24.972
INITIAL FORCE RATIO =			1.012

Simulation Results
3301I

The following set of simulation results reflect the outcome of the sixth of the BSID amended option series. It includes the H* insertions and an improved SA7. Additionally, it includes two SA9 who travel with the ZSU-23/4.

SUMMARY OF TREATMENT 3501 2
NUMBER OF REPLICATIONS 15

01/11/79

AVERAGE TARGET KILLS BY WEAPON TYPE

BLUE WEAPON NUMBERS	RED TARGET CLASSES										
	CLASS 1	CLASS 3	CLASS 4	CLASS 5	CLASS 7	CLASS 9	CLASS 10	CLASS 11	CLASS 12	CLASS 13	CLASS 15
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	56.6	14.9	105.7	31.5	.1	0.0	5.4	1.1	6.5	0.0	6.5

BLUE WEAPON NUMBERS	RED TARGET CLASSES										
	CLASS 1	CLASS 3	CLASS 4	CLASS 5	CLASS 7	CLASS 9	CLASS 10	CLASS 11	CLASS 12	CLASS 13	CLASS 15
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	1.9	.5	1.1	.1							

AVERAGE TARGET KILLS BY WEAPON TYPE

RED WEAPON NUMBERS	BLUE TARGET CLASSES										
	CLASS 1	CLASS 3	CLASS 4	CLASS 5	CLASS 7	CLASS 9	CLASS 10	CLASS 11	CLASS 12	CLASS 13	CLASS 15
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

14	29.0	3.3	3.1	.4	11.1	1.2	.1	0.0	.1	0.0	.1	0.0	.4	0.0	0.0
19	3.7	.4	.3	.1	6.0	.7	0.0	0.0	1.1	.4	0.0	0.0	0.0	0.0	0.0
20	1.5	.2	0.0	0.0	3.4	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	8.6	1.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	26.8	3.0	.7	.2	10.9	1.2	0.0	0.0	1.8	.6	0.0	0.0	0.0	0.0	0.0
39	14.0	1.6	.4	.2	1.1	.1	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0
42	0.0	0.0	0.0	0.0	.5	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46	0.0	0.0	0.0	0.0	.6	.1	0.0	0.0	.1	.1	0.0	0.0	0.0	0.0	0.0
47	0.0	0.0	0.0	0.0	1.1	.1	0.0	0.0	.1	.1	0.0	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0	0.0	.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
53	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	.1	0.0	0.0	0.0	0.0	0.0
55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

BLUE AVERAGE AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	56.4	0.0
2	56.3	0.0
7	12.0	17.6
8	1.1	.5
13	19.5	51.1
12	4.7	24.5
14	58.9	1.2
15	34.2	0.0
40	32.0	0.0
41	29.3	0.0
43	53.3	0.0
48	6.6	0.0
52	134.0	0.0
54	47.5	0.0

REFD AVERAGE AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1		AMMO 2	
1	139.2	0.0		
2	247.2	4.4		
3	72.0	0.0		
4	48.9	0.0		
5	29.9	72.0		
6	44.7	1.0		
7	12.0	0.0		
8	54.4	0.0		
9	4.9	0.0		
10	13.7	0.0		
11	7.1	0.0		
12	10.3	5.4		
13	61.0	0.0		
14	16.1	0.0		
15	10.0	0.0		
16	21.3	0.0		
17	74.0	0.0		
18	58.4	0.0		
19	86.7	0.0		
20	209.6	0.0		
21	1.1	0.0		
22	AC-8	0.0		
23	2.1	0.0		

PLUE VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	35.3	0.0
2	119.3	0.0
7	123.4	203.0
8	7.9	4.3
11	78.0	287.4
12	71.8	367.1
14	525.1	114.7
15	16.2	0.0
16	174.6	0.0
17	196.1	0.0
18	26.1	0.0
19	14.8	0.0
20	8430.0	0.0
21	5582.4	0.0

RFD VARIANCE OF AMMUNITION EXPENDITURE BY WEAPON TYPE

WEAPON TYPE	AMMO 1	AMMO 2
1	139.9	0.0
2	203.9	51.0
7	197.2	1435.9
11	819.1	15.0
12	820.1	0.0
14	9.4	0.0
15	567.0	0.0
16	21.4	0.0
17	96.9	43.4
18	70.6	0.0
19	14.4	0.0
20	71.6	0.0
21	818.0	0.0
22	8476.0	0.0
23	8953.5	0.0
24	8953.5	0.0
25	8953.5	0.0
26	8953.5	0.0
27	8953.5	0.0
28	8953.5	0.0
29	8953.5	0.0
30	8953.5	0.0
31	8953.5	0.0
32	8953.5	0.0
33	8953.5	0.0
34	8953.5	0.0
35	8953.5	0.0
36	8953.5	0.0
37	8953.5	0.0
38	8953.5	0.0
39	8953.5	0.0
40	8953.5	0.0
41	8953.5	0.0
42	8953.5	0.0
43	8953.5	0.0
44	8953.5	0.0
45	8953.5	0.0
46	8953.5	0.0
47	8953.5	0.0
48	8953.5	0.0
49	8953.5	0.0
50	8953.5	0.0
51	8953.5	0.0
52	8953.5	0.0
53	8953.5	0.0
54	8953.5	0.0
55	8953.5	0.0
56	8953.5	0.0
57	8953.5	0.0
58	8953.5	0.0
59	8953.5	0.0
60	8953.5	0.0
61	8953.5	0.0
62	8953.5	0.0
63	8953.5	0.0
64	8953.5	0.0
65	8953.5	0.0
66	8953.5	0.0
67	8953.5	0.0
68	8953.5	0.0
69	8953.5	0.0
70	8953.5	0.0
71	8953.5	0.0
72	8953.5	0.0
73	8953.5	0.0
74	8953.5	0.0
75	8953.5	0.0
76	8953.5	0.0
77	8953.5	0.0
78	8953.5	0.0
79	8953.5	0.0
80	8953.5	0.0
81	8953.5	0.0
82	8953.5	0.0
83	8953.5	0.0
84	8953.5	0.0
85	8953.5	0.0
86	8953.5	0.0
87	8953.5	0.0
88	8953.5	0.0
89	8953.5	0.0
90	8953.5	0.0
91	8953.5	0.0
92	8953.5	0.0
93	8953.5	0.0
94	8953.5	0.0
95	8953.5	0.0
96	8953.5	0.0
97	8953.5	0.0
98	8953.5	0.0
99	8953.5	0.0
100	8953.5	0.0

RTK	BMP	BDNF	MP-SAG	100AT	23/4	ARTY	73RR	GRAL	SAG	INF _{RR}	HIND
(1)	(3)	(5)	(4)	(9)	(11)	(16)	(10)	(13)	(12)	(7)	(15)

Weapon	ATK HEL (15)	ARTY (16)	INF, LAW (7)	IFV (6)	STINGER (13)	DIADS (11)
BTK (1)	0.4 3.8	10.0 3.0	0.6 1.9			
TOW APC (5)	3.5 1.1	7.4 0.3	0.1 0.3			
DRAGON (8)	1.4 0.1	1.7 0.6	0.1			
ATK HEL (15)	2.1	0.9				
ARTY (16)			0.1			
INF, LAW (7)	0.2	0.2				
IFV (6)	5.3 1.8	11.3 1.3	0.4 0.1			
STINGER (13)						
DIADS (11)						

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ITERATIONS = 4
RODTC = .803

BLUE FORCE DATA

WPN	VALUE	NUM. WFNs	TOTAL VALUE
B TANK	1.000	5.25	5.250
TOW APC	1.7018	3.15	3.2208
DRAGON	.196	5.50	1.079
ATK HEL	1.025	1.20	1.230
ARTY	.001	23.00	.033
INF	.020	12.00	.235
IFV	1.286	4.15	5.338
TOTAL FORCE VALUE =			16.373
TOTAL INITIAL FORCE VALUE =			25.287

RED FORCE DATA

WPN	VALUE	NUM. WFNs	TOTAL VALUE
R TANK	.552	10.55	5.823
BMP	.237	17.25	4.090
BRDM	.771	2.45	1.889
MP SAG	0.000	2.00	0.000
100 AT	.416	1.25	.562
23/4	.329	3.00	.987
ARTY	.004	31.00	.113
73RR	.336	1.40	.470
GRAIL	.011	14.95	.165
SA9	.034	1.75	.165
INF	.004	27.00	.119
TOTAL FORCE VALUE =			14.343
TOTAL INITIAL FORCE VALUE =			24.543
INITIAL FORCE RATIO =			1.029

Simulation Results

3301J

The following set of simulation results reflect the outcome of the seventh of the BSID amended option series. It includes the 3301I insertions and adds two HIND helicopters on the Red side and a DIVADS and a STINGER on the Blue side.

BLUE WEAPON NUMBERS	RED TARGET CLASSES
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

RED WEAPON NUMBERS	BLUE TARGET CLASSES
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

RED WEAPON
NUMBERS

[illegible]

[illegible]

RED TARGET CLASSES

	CLASS	1	CLASS	3	CLASS	4	CLASS	5	CLASS	7	CLASS	9	CLASS	10	CLASS	11
	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MEN	VEH	MJN	VEH	MEN	VEH
1	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	4.4	0.0	.1	0.0	.1	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	4.0	0.0	.6	0.0	.3	0.0	0.0	0.0
7	.6	.1	0.0	0.0	1.4	0.0	0.0	0.0	2.0	0.0	.1	0.0	.1	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	75.2	8.4	23.0	14.7	0.0	0.0	1.7	.2	13.2	0.0	3.1	0.0	0.0	0.0	6.3	.7
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0
34	0.0	0.0	28.7	2.9	0.0	0.0	1.9	.2	4.6	0.0	0.0	0.0	1.7	0.0	2.8	.3
35	43.3	4.8	81.4	7.8	0.0	0.0	2.1	.2	0.0	0.0	1.3	.1	0.0	0.0	0.0	0.0
40	12.6	1.4	17.1	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	.1	0.0	0.0
41	1.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	2.4	2.6	131.3	11.5	0.0	0.0	.6	.1	0.0	0.0	9.8	.8	0.0	0.0	10.1	1.1
48	27.7	2.6	17.5	.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	.7
52	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	3.2	.4	0.0	0.0
54	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	.7	.1	0.0	0.0

CLASS 12	CLASS 13	CLASS 15
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	CLASS 12	CLASS 13	CLASS 15
PFM	VEH	VEH	VEH
1	0.0	0.0	0.0
2	0.0	0.0	0.0
7	0.0	0.0	0.0
8	0.0	0.0	0.0
13	0.0	0.0	0.0
24	0.0	0.0	0.0
32	0.0	0.0	0.0
34	1.9	0.0	0.0
35	0.0	0.0	0.0
40	0.0	0.0	0.0
41	0.0	0.0	0.0
43	0.0	0.0	0.0
44	0.6	0.0	0.0
52	0.0	0.0	0.0
54	0.0	0.0	0.0

VARIANCE OF TARGET KILLS BY WEAPON TYPE

RED WEAPON NUMBERS	BLUE TARGET CLASSES															
	CLASS 1 MEN	CLASS 1 VEH	CLASS 5 MEN	CLASS 5 VEH	CLASS 6 MEN	CLASS 6 VEH	CLASS 7 MEN	CLASS 7 VEH	CLASS 8 MEN	CLASS 8 VEH	CLASS 13 MEN	CLASS 13 VEH	CLASS 15 MEN	CLASS 15 VEH	CLASS 16 MEN	CLASS 16 VEH
3	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.6	0.1	0.3	0.1	1.5	0.2	3.7	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	1.1	0.1	0.0	0.0	0.0	0.0	1.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	39.4	4.4	6.2	1.5	7.5	0.0	1.4	0.0	2.5	0.6	0.0	0.0	0.0	0.0	0.0	0.0
19	0.6	0.1	0.0	0.0	0.6	0.1	0.0	0.0	1.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
20	1.1	0.1	0.0	0.0	1.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	5.0	0.6	0.0	0.0	4.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	25.3	2.8	0.3	0.1	6.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	12.6	1.4	1.5	0.4	0.0	0.0	0.0	0.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0
46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
49	5.4	0.6	0.0	0.0	10.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
53	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1	56.9	0.0
2	52.3	0.0
7	10.4	12.0
8	.5	1.1
13	14.4	55.3
20	.3	0.0
32	6.9	16.4
34	52.9	14.1
35	33.0	0.0
40	31.5	0.0
41	4.1	0.0
43	26.3	0.0
44	17.4	0.0
48	7.5	0.0
52	116.8	0.0
54	51.3	0.0
56	.1	0.0

RED AVERAGE AMMUNITION EXPENDITURE BY WEAPON TYPE

1	148.0	0.0
5	274.8	6.4
6	12.0	0.0
12	40.0	0.0
14	22.5	64.5
19	45.7	2.7
20	12.0	0.0
21	60.8	0.0
22	.9	0.0
27	9.0	4.5
38	60.9	0.0
39	15.7	0.0
42	9.4	0.0
46	17.9	0.0
47	65.7	0.0
49	5.3	0.0
50	52.4	0.0
51	43.4	0.0
52	229.6	0.0
53	1.6	0.0
54	124.0	0.0
55	2.3	0.0

1	19.9	0.0
2	99.4	0.0
7	161.6	226.3
6	4.3	7.9
13	30.7	565.4
26	1.1	0.0
32	161.4	131.3
35	576.1	264.3
35	30.9	0.0
40	327.3	0.0
41	184.5	0.0
43	10.6	0.0
48	0.8	0.0
52	4086.3	0.0
54	4570.6	0.0
56	.1	0.0

3	137.1	0.0
5	222.2	38.4
14	145.9	1381.4
17	1176.2	105.7
21	1264.5	0.0
22	2.4	0.0
27	40.1	39.1
38	279.5	0.0
39	14.7	0.0
42	118.1	0.0
46	247.7	0.0
47	9177.1	0.0
49	2.2	0.0
50	8777.8	0.0
51	0.0000	0.0
52	0.0000	0.0
53	6.4	0.0
54	0.0000	0.0
55	12.8	0.0

RTK	BMP	BRM	MP	SAG	100AT	23/4	ARTY	73RR	GRILL	SAG	INF ₂ RPT ₂	HIND
(1)	(3)	(5)	(4)	(9)	(11)	(16)	(10)	(13)	(12)	(7)	(15)	

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ITERATIONS = 5
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BLUE FORCE DATA

WPN	VALUE	WPN* WPN5	TOTAL VALUE
B TANK	1.000	5.35	5.350
TOW APC	1.241	3.05	3.794
DRAGON	.187	5.45	1.017
ATK HEL	1.627	1.30	2.115
ARTY	.002	22.95	.051
INF	.010	12.00	.122
IFV	1.344	3.90	5.242
STINGER	0.000	1.00	0.000
DIVADS	.119	1.00	.119
TOTAL FORCE VALUE =			17.800
TOTAL INITIAL FORCE VALUE =			27.693

RED FORCE DATA

WPN	VALUE	WPN* WPN5	TOTAL VALUE
R TANK	.574	10.35	5.945
B40	.222	17.50	3.885
BROD	.692	2.55	1.766
MP SAG	0.000	2.00	0.000
100 AT	.682	1.35	.920
2374	.473	3.05	1.443
ARTY	.017	31.00	.526
73RR	.198	1.65	.327
GRAIL	.010	14.95	.144
SA9	.234	1.45	.333
INF	.591	27.00	.217
HIND	1.342	1.95	2.617
TOTAL FORCE VALUE =			17.568
TOTAL INITIAL FORCE VALUE =			27.714
INITIAL FORCE RATIO =			.939

TABLE 4.1
WEV/UEV RESUME BASED ON M60 TANKS

	<u>BASE</u>	<u>D</u>	<u>G</u>	<u>G mod</u>	<u>G*</u>
M60	1.00	1.00	1.00	1.00	1.00
TOW	2.98	3.90	(3.36	3.31	3.44
DGN	1.63	2.21	(1.31	1.30	1.41
COBRA	2.11	3.19	1.36	1.29	1.68
ARTY	.01	.00	.00	.00	.01
INF	.07	.20	.05	.05	.05
IFV			1.97	(3.78	3.88
RTK	.67	(1.53	.94	1.01	1.34
BMP	.50	.48	(.55	.63	.63
BRDM	1.18	.73	(1.23	1.15	1.06
M SAG	1.78	.78	(.00	.00	.00
100 AT	.20	.46	.47	.52	1.52
Q23	.78	1.37	.45	.38	.56
ARTY	.03	.03	.01	.02	.03
73RR	.26	.40	.34	.54	.37
GRAIL	.00	.03	.00	.00	.00
57 AD	.18	.42	.05	.04	.15
INF	.02	.02	.01	.01	.01
B/R	.855	.785	1.034	1.002	1.019

TABLE 4.2
WEV/UEV RESUME BASED ON XM1 TANKS

	<u>E</u>	<u>F</u>	<u>H</u>	<u>H*</u>	<u>I</u>	<u>J</u>
XM1	1.00	1.00	1.00	1.00	1.00	1.00
TOW	.75	1.50	1.02	1.32	1.02	1.24
DGN	.33	1.30	(.26	.17	.20	.19
ATK HEL	.49	.98	.76	.81	1.03	1.63
ARTY	.01	.00	.00	.00	.00	.00
INF	.01	.08	.01	.01	.02	.01
IFV			1.23	1.16	1.29	1.34
STINGER						.00
DIVADS						.12
RTK	.27	.73	.57	.49	.55	.57
BMP	.17	.29	(.19	.25	.24	.20
BRDM	.74	.50	(.80	.95	.77	.69
M SAG	1.09	.51	(.00	.00	.00	.00
100 AT	.47	.24	.68	.73	.42	.68
Quad 23	.16	.26	.32	.28	.33	.47
ARTY	.00	.02	.01	.01	.00	.02
73 RR	.05	.13	.39	.15	.34	.20
GRAIL	.00	.01	.00	.00	.01	.01
57 AD	.06	.10	.02	.00	—	--
INF	.00	.01	.00	.00	.00	.00
SA9					.09	.23
HIND						1.34
B/R	.939	.913	1.024	1.042	1.029	.999