

PROJECT TEAM MEMBERS

Colonel Jack Thorpe, USAF, DARPA, Special Assistant
Lieutenant Commander, USN Dennis McBride, DARPA, Program Manager
Major Mark Chaney, USA, Ft.Knox, SIMNET, OIC
Mr. George Lukes, Engineer Topographical Laboratories, Ft. Belvoir
Dr. Jesse Orlansky, IDA, Task Manager
Mr. Gary Bloedom, (COL.,Ret.) IDA Consultant
Mr. Chris Turrell, (LTC, Ret.) IDA ODIN Field Boss
Mr. Jim McDonough, (MAJ,Ret) IDA Contractor
Mr. Ulf Helgesson, HA Contractor
Mr. Michael Gilbert, DIA
Mr. Robert Clover, IDA POC
Colonel Michael Krause, USA, US ARMY Center of Military History

SOUTHWEST ASIA TEAM

Colonel Michael Krause, Deputy Chief of Military History
Center of Military History
Team Chief
Mr. Gary Bloedom, (Colonel, Retired), IDA/DARPA Consultant
Creator SIMNET
Major Michael C. Sandridge, Chief Cavalry Doctrine, USA Armor Center,
Ft. Knox, KY
Veteran of 2ACR Action and CALL Liaison Officer
Captain Richard K. Major, Directorate of Training and Doctrine, USA
Aviation Center, Ft Rucker
Previous 2 ACR Aviation Company Commander
Mr. Michael G. Barwick, Engineer Topographical Laboratories, Terrain
Analysis Center, Ft. Belvoir Physical Scientist with in country
experience

MCRS

Mult.
Rochet
Launched
Syst

Col Don Holder

EPW
Enemy POW

G host
Eagle } AARs
Iron }

check DTAER
First

- 1 -

G is in Avnug Mey-

Contents

Executive summary

Purpose

Background

"Toujours Pret"

"Action Front"

Epilogue

Observations

Methodology

Documentation

Maps & Sketches

Appendices (Not Included at this time)

1. Operations Orders
2. 2ACR Log extracts
3. Ghost, Eagle, Iron written AAR
4. Transcribed oral AAR's with Ghost, Eagle, Iron (When available)
5. Organization schema (with Names) of Ghost, Eagle, Iron Troop.

Executive Summary

In early April 1991 the VCSA, General Gordon Sullivan, suggested the examination of the Battle of 73 Easting which occurred on 26 February 1991, to record its history and utility for Simulation Network training.

A team went to Saudi Arabia and Iraq and surveyed the battle site. The VII Corps Commander, LTG Franks and Colonel Holder, the Second Armored Cavalry Commander provided full documentation and support to the joint historical and technical effort. Rich documentation, full logs, oral and written after-action reviews were provided and conducted. Full, on-site battle reconstruction was accomplished. Command net logs or recordings were provided. Soldiers at all levels re-constructed the battle in recorded interviews. In summary, there is no question on the historical fact of this battle and its utility for SIMNET training purposes.

On 25/26 February 1991, 2 ACR had the mission of screening eastward in front of 1 ID. 2ACR was on the right (south) flank of 3AD. 1AD(UK) was to the south. 2ACR was deployed with squadrons abreast with 2/2 in the north, 3/2 in the middle and 1/2 in the south. "To find and fix the enemy".

Contact was made on the 60 Easting in the early afternoon on 26 February against elements of the 50th BDE of the 12 AD. Ghost, Eagle and Iron troops were abreast and moving eastward. Visibility was limited at best with ranges of 200-1400 meters. A Shamal was blowing. At about 1530 Eagle was taken under fire from a building at 69 Easting. Fire was returned and movement continued. Enemy artillery was fired. Eagle continued movement. At about 1607 Eagle encountered T-72 tanks in prepared positions at 70 Easting. The troop commander attacked with tank platoons abreast and Bradleys in support. Eagle encountered a mine field pressing the attack. At 1637 the defensive position was taken with numerous T-72 tanks killed. Ghost to the north pressed against the enemy prepared defenses at the 73 Easting at about 1615 with platoon in the north and center. Iron to the south attacked the same fortified building Eagle had encountered and then smashed positioned T-72 tanks and BMP's south of the building complex at the 71 Easting about 1630. Artillery was silenced by 2/1 Apache missions. In the north 13 BMP's, 3 T-72 (more in 3AD sector, but not surveyed), in the center and south 24 T-72, 2 T-55, 11 BMP, 3 MTLB were killed. Numerous bunker positions and vehicles were destroyed. Eagle captured close to 300 EPW and Iron 237 EPW, with unknown numbers from Ghost troop. Action for all three troops stopped at dusk, about 1700-1715. They consolidated their position at the 73 Easting about where the battle took place and awaited the night passage of lines. They fought elements of the Tawakalna Division.

In summary, the battle of 73 Easting involved three troops of cavalry. These troops aggressively attacked prepared positions defended by T-72 tanks supported by dismounted infantry and artillery.

G Troops
E "
1 "

Battle of 73 Easting

Purpose

The purpose of this paper is to introduce a battle fought by the Second Armored Cavalry Regiment on the 26th February, 1991 in the Allied effort to liberate Kuwait. By knowing the reality of this battle the reader will be prepared to use the 73 Easting (an Easting is a north south grid line on a map) Battle Simulation (under development). This SIMNET re-creates the historical reality of this battle.

Both, the historical introduction and the simulation itself rely on history. At the VCSA, General Gordon Sullivan's initiative a team of historians, tacticians and SIMNET experts was sent to South West Asia to "capture" the historic reality of this engagement. Every level of command, but especially the VII Corps and the 2ACR, made available all documentation of the event. A series of oral interviews, with commanders from scouts and tanks, to the Corps Commander, and After Action Reviews both written and oral, were used to substantiate the history. Lastly, a series of on-site battle analysis, terrain modeling and reconstructions were executed with troop commander who fought the action. The SIMNET product using state of the art historical techniques therefore recounts as objectively as possible the battle of 73 Easting.

Background

In early January 1991, General Colin Powell, Chairman of the Joint Chiefs of Staff, described the campaign strategy for the liberation of Kuwait and the defeat of Iraqi ground forces. "We are going to cut it off and kill it" exclaimed the General at a widely publicized and televised news conference. Saddam Hussein, the Iraqi President and Commander-in-Chief of the Iraqi Armed Forces would have done well to head those words.

After the 100 hour ground campaign, General Norman Schwarzkopf, commander of all forces engaged against the Iraqi forces would explain the campaign by use of a football stratagem. "This was basically a Hail Mary play" mused General "Stormin' Norman". "We deceived our opponent into thinking that our main attack would be a frontal one against the Iraqi defenses in occupied Kuwait". We held our forces in place until Saddam Hussein could not see as a result of our blinding him. Then at the right moment, General Schwarzkopf moved two Allied Corps to the west - about 400 kilometers, without being discovered. This movement of the XVIII Airborne Corps consisting of the Sixth Light Armor French Division, 82nd Airborne Division, 101st Air Assault Division (Airmobile), 24th Mechanized Infantry Division and the 3rd Armored Cavalry Regiment and the armor heavy VII Corps, consisting of the 2nd Armored Cavalry Regiment, 1st Armored, 3rd Armored, 1st Infantry (Mechanized) Divisions, and the 1st Armored (UK) Division. The 1st Cavalry Division operated under the Theater Commanders immediate control and led the westward attack. As General Schwarzkopf explained, the "Horse Soldiers" of the 1st Cavalry Division led the westward attack up the Wadi al Batin. This attack was expected by the enemy. While the Allied forces attacked against the Iraqi forces manning the trench lines in Kuwait to fix the main Iraqi forces, the 1st Cavalry Division's attack was meant to confirm a westward outflanking movement in the enemy's mind. General Schwarzkopf's intent was to force the best armor units of the Iraqi Army, the Republican Guards to commit against this threat to their flanks.

On G-Day - the beginning of the ground war on 23 February at 0400 Hours - Allied forces consisting of Saudi, and other Arab national forces, Marines of the First and Second Marine Expeditionary Forces and the "Tiger Brigade" of the 2nd Armored Division attacked. Shortly thereafter the 1st Cavalry Division launched forward on its daring deception mission. Once these forces were engaged in bursting the Iraqi trench lines, about 14 hours later, the "Hail Mary" forces crossed the line of departure. XVIII Airborne forces launched simultaneous attacks to the north with the objective of securing the westward flank of VII Corps. The French Light Armored Division axis of advance led to As Salman 80 kilometers inside Iraq. The 82nd Airborne and 101st Air Assault Divisions launched still deeper into Iraq seizing key airfields and establishing logistical bases for their continued drive to the north. The corps main attack was the 24th Infantry Division. The "Victory" Division's mission was to fight to the Euphrates River and establish blocking positions along highway 8 from Basra to Baghdad and used as the Iraqi Army's main supply route. The 3rd Armored Cavalry Regiment (ACR) provided screening on the Corps eastern right flank and established a link to the VII Corps. The XVIII Airborne Corps was to cut any attempt by Iraqi forces to engage from the west and to prevent any enemy forces from retreating out of the theater. (Refer to sketch map A)

- The main thrust of General Schwarzkopf's westward outflanking maneuver was the VII Corps. Commanded by LTG Fred Franks, the Corps was plucked out of Europe where it was forward based and redeployed to the theater during the months of November, December (1990) and January 1991. The Corps was re-enforced by the 1st Infantry Division, the "Big Red One" from Fort Riley, Kansas. The 2nd Armored Division (Forward) from Gerlstadt Germany rounded out "The Big Red One". The First Cavalry Division would remain under ARCENT control, that is under the Army Commander LTG Yoesock, for the first phase of the operation.

Deep inside Iraq, LTG Franks stood in a sand terrain "box" outside of his Tactical Area Command (TAC) and explained his Corps campaign plan to a group of historical fact finders. We were sent by the Vice Chief of Staff, General Gordon Sullivan, to establish the historical fact of a series of engagements fought by elements of VII Corps, specifically the 2 ACR. Once the accuracy of the battle was established General Sullivan's intent was to use this historical reality in training simulations using computer driven actions to train future commanders at every level.

Standing in the "sand box" of a giant mock-up map of southern Iraq - labeled with strings and military symbols of the four plus Corps - LTG Franks beamed: "The mission of cavalry is to find, fix and fight the enemy. The action of the 2nd Armored Cavalry Regiment (ACR) at the 73 Easting (a grid locator noting a north south grid axis) is a classic". As a result of their finding and fixing elements of the main Republican Guard Tawakalna Division, LTG Franks made the decision to "clench his fist of combat power" by passing the "Big Red One" through the cavalry regiment, massing his combat power and destroying the Republican Guard divisions: The Tawakalna, Medina, Hammurabi and others.

LTG Franks explained his Corps concept of operations. At G-Day beginning on the Saudi-Iraq border and the line between XVIII Airborne and VII Corps in the west, the 1AD and 3AD were abreast with the 2ACR screening to their north. First Infantry breached the berm line to their east to support the First Cavalry attack still further to the east. The 1AD (UK) backed up the 1ID. General Franks' intent was to strike north, then find the Republican Guards, fix them, mass four armored

divisions as a "clenched fist" and punch the Republican Guards so hard as to "cut them off and kill 'em".

As he walked through the "sand box" explaining his concept of operations, LTG Franks spoke in short descriptive sentences. "Our plan to outflank him was working. Elements of his force were deploying to the south to face the 1st Cavalry. Iraqi forces were also deploying against our most westward forces. We were now deep into Iraq. On 25 February at 0841 I ordered the 1AD to shift northward and pass the 2ACR. 3AD was still behind 2ACR at that time. Early in the morning on 26 February at 0216 I gave a frag order to orient the force to the east. This meant the passing of the 3AD to the north between IAD and 2ACR. By 0918 26 February the force was arrayed as follows: IAD in the north, south of them 3AD, 2ACR and 1AD(UK). First Infantry was in reserve behind 2ACR."

Next LTG Franks detailed some of the 2ACR action. During the morning of 26 February, the 2 ACR began to encounter elements of the Iraqi 12 Armored Division. 2ACR reported seeing movement of T-72 tanks, contact between T-72's were reported at 0754 in vicinity of PC5299. The regiment engaged covering force elements of the Republican Guards beginning at 0820. These we now know to be elements of the 12AD and the Tawakalna Divisions. 2ACR still holds the mission to find and fix the enemy so that First ID can punch through. Then he said: "Take my helicopter, my command armored personnel carrier and Colonel Stan Cheri's (G-3 Operations Officer of the Corps) and see the battle as it developed. Just don't get hurt, there are still mines, cluster bombs and artillery shells out there".

Toujours Pret

The Regimental Commander of the Second Armored Cavalry Regiment, Colonel Don Holder, a Brigadier General designate, personified the motto of the Regiment: *Toujours Pret* - Always Ready. A quiet soft-spoken officer, Colonel Holder was well prepared intellectually and physically to lead his regiment into combat. With a solid background in military history, including tours teaching cadets at the United States Military Academy at West Point and directorship of mid-level officers at the U.S. Army School of Advanced Military Studies in Fort Leavenworth, Kansas, Colonel Holder relived the history and analysis of previous campaigns. As primary author of the U.S. Army's doctrine of Air/Land Battle, field manual FM 100-5 Operations, 1986, Colonel Holder would put doctrine into practice. As he spoke, one could hear the authoritative voice of theory and practice coming together. Known affectionately in Regimental and Corps circles as "E.F." - short for when E.F. Hutton talks everyone listens - Colonel Holder quietly amplified the mission and concept of operations of his Regiment, as his S-3 Major Doug Lute S-3 Operations officer of the Regiment and the S-2 Intelligence Officer, Major Steve Lambert conducted the operations and intelligence briefing for the history team.

With the desert wind blowing into the operations tent Major Lute presented the mission:

At 160531 Feb 91, 2ACR covers the western flank of VII (US) Corps as it occupies FAA Utah. At 250538C Feb 91, 2ACR attacks through the western Flank of enemy defenses and conducts offensive cover operations in order to develop the situation for VII (US) Corps.

Inherent in the covering force mission was to perform reconnaissance along the Corps' axis, to deny enemy information on the Corps main body. The 2ACR would have to defeat enemy security forces in the zone and develop the situation for the Corps commander so as to set the terms of battle. The Regiment was to orient on the main body so as to facilitate maneuver and pass the heavy divisions into the fight. Lastly the Regiment was to find and fix enemy forces so as to exploit opportunities for the main body when committed.

The Regiment was heavily re-enforced according to pre-war doctrine and plans. Engineer, artillery, aviation, chemical units, military police and military intelligence units - including psychological warfare units were attached or under the operational control of the Regiment. Colonel Holder task organized his force as follows:

1 Squadron/2 ACR

84 ENGINEER COMPANY (Opcon)

2 Squadron/2 ACR

6 - 41 FIELD ARTILLERY BATTALION (155mm, Self Propelled)
(Direct Support)
A - 82 ENGINEER BATTALION (Opcon)

1 G E 1

3 Squadron/2ACR

3 - 17 FIELD ARTILLERY BATTALION (155mm, Self Propelled)
(Direct Support)
C - 82 ENGINEER BATTALION (Opcon)

4 Squadron/2ACR

FORCE ARTILLERY
210 FIELD ARTILLERY BRIGADE (FFA HQ) (Direct Support)
C/4-27 FIELD ARTILLERY BATTALION (MLRS) (General Support)

Regimental Support Squadron/2ACR

71 LTF (Logistic Task Force) (Direct Support)
214 MILITARY POLICE COMPANY (Opcon)

Regimental Control

87 CHEMICAL COMPANY
502 MILITARY INTELLIGENCE COMPANY
B/511 MILITARY INTELLIGENCE BATTALION/207 MI BRIGADE
2-1 AVIATION BATTALION (Opcon)
82 ENGINEER BATTALION (Opcon)
172 CHEMICAL COMPANY (SG) (Mechanized)

This task organization held the maximum flexibility for maneuver and fire support. The combat power of the Regiment is reflected in these assets:

Tanks	M1A1 (Abrams)	123
Infantry Fighting Vehicle	M2A2/M3A2 (Bradley)	116
Attack Helicopter	AH-1 (Apache)	26
Scout Helicopter	OH-58C/D (?)	34/5
Utility Helicopter	AH-64 (Blackhawk)	18
Self Propelled Artillery	155mm	72

Major Lambert presented the intelligence briefing. He divided the enemy theater of operations into the Kuwait Theater of Operations (KTO) and the Western Iraq Theater of Operations (WTO). The KTO embraced all of occupied Kuwait with up to 31 Divisions in the theater. He identified the Republican Guards as being the operational reserves for the Iraqi Army. In the Western Iraqi Theater of Operations (WTO) intelligence identified two enemy armored divisions, the 12AD and 54AD (?) and 8 to 11 Republican Guards divisions. These divisions were distinguished from the regular force armored division by the best Soviet made for export tank, the formidable T-72. Other forces were equipped with older and less capable T-55 and T-62 tanks. The Republican Guard named their more selected divisions based on home areas or famous historical personages. Thus the Tawakalna Division of the Republican Guard hailed from this town in Iraq. Others, the Medina and the Hammurabi were named after famous religious towns or historical leaders. Best equipped, best trained, best paid of the Iraqi Armed Forces these divisions grew from praetorian guard to effective combat veterans in the eight years of the Iran-Iraq war. The S-2 focused upon these forces as the main stay of the Iraqi Army. He indicated the focus of essential elements of intelligence would be applied to finding this Republican Guard force.

Colonel Holder recounted his concept of operations. Before the beginning of the ground campaign (G+ or -DAY) the regiment was to cover in sector (refer to sketch map B) with two squadrons abreast in front of the two armored divisions, 1AD and 3AD. Because of the overall deception plan inherent in the movement of forces westward, this occupation of sector was to be done "quietly". Essentially this meant little if any radio communications, no fires, no cooking, smoking or any other hint that a major brigade and larger element was in the area. For soldiers this meant lots of discomfort and lots of Meals Ready to Eat (MRE's). Next Colonel Holder authorized reconnaissance of the line of departure (LD) to identify the enemy security zone in the area.

Before the start of the ground campaign, (on G-1), 2ACR was to conduct reconnaissance, use field artillery to destroy high pay-off targets, to defeat any enemy security forces in the zone and attack to seize key terrain so as to facilitate the attack on G+1. On H+26 i.e. on G+1 after heavy fire support by air and artillery the Regiment was to envelop the enemy forward defenses and conduct offensive cover operations forward of the two armored divisions. Regimental aviation assets were to be approximately 20 kilometers forward of the two Squadrons conducting the cover operation abreast. One Squadron and attack helicopters were to be held in reserve. The main effort during this cover operation was aviation. During the covering force operation long-range detection of enemy forces and early attack with close air support (CAS), multiple rocket launch systems (MLRS) and electronic warfare (EW) was emphasized, with hasty attack and defense being the rule.

The Regimental Commander categorized the Regiment's main mission: "The Regiment will set the terms for battle for the Corps and serve as the base of fire and observation. If the enemy is moving, the Regiment destroys the advance guard battalions and develops the situation. If the enemy is stationary, the Regiment fixes the enemy, finds his flanks and assists in getting the divisions into the fight".

The Operations Officer, Major Lute next recounted the Regiments execution of the concept of operations. For five days before the start of the ground campaign - during the "quiet" period - long range scouts were observing the Saudi-Iraq border

and finding locations to breach the berm. As Major Lambert explained, this berm was nowhere near the extensive fortification and obstacle built by the Iraqi Army around Kuwait, but rather it was a high wall of sand which the Saudi Government had previously constructed to keep out desert smugglers. The key obstacle was that tanks and infantry fighting vehicles going over the top of the berm would be dangerously exposed to fire. Hence the breaching operation was conducted by Engineers of the 82nd and 84th Engineer Battalions under the operational control of the Regiment. These breach points were then passed through by the squadrons and subsequently enlarged to enable the armored divisions to pass through.

At 0400 23 February VII Corps announced the start of the ground campaign by radio transmission. That afternoon, at 1330 the Regiment prepared fires and then assaulted the berm. This assault was completed by 1406. Air Scouts were launched to Phase Line Bud. Keeping with Cavalry tradition of thirst in the desert, each of the 2ACR phase lines were code named after brands of beer. Thus the initial observation line was Sharps, the Saudi-Iraqi berm line Becks, the initial post breach line Bud etc. (See sketch map C). For the Regiment, the mission to secure the Corps Line of Departure was important for the future Corps operational conduct. Hence the Regiment moved very quickly and by 1540 two squadrons - 2/2 and 3/2 reported reaching phase line Bud, having linked left and right and secured the left flank with the XVIII Airborne Corps flank holder of the 3ACR. No contact with enemy forces was reported at this time. The Air Squadron - 4/2 - reported an all clear to phase line Busch. At 1900 3/2 reported enemy infantry contact. Major Lambert, the Regimental Intelligence Officer, diagnosed this contact as elements of the Iraqi 26th Infantry Division.

By now 60 (?) kilometers deep into Iraq, on 24 February, the Regiment continued its push to cover well forward of the 1AD and 3AD. By 0700 on 24 February it had pushed its reconnaissance to phase line Busch. At 0841 a Regimental fragmentary order indicated to the 4/2 Air Squadron should screen along phase line Colt, with 2/2 and 3/2 Squadrons continuing to cover in zone. 1/2 Squadron was to continue in reserve as the Regimental Support Squadron (RSS) was brought north of the border berm. At 1110 the Regiment processes its first enemy prisoners of war (EPW). At 1304 the Regiment receives a warning order from the Corps. "The attack of VII Corps is moved forward to 241500 Feb 91; MOPP (Mission Oriented Protective Posture) 4 in effect at 1445". This order was meant to expect the movement of the Corps main force through the berm area and the precaution of wearing the highest level of chemical suit protection was judged to be warranted because of the high probability of enemy chemical attack. The Corps attack was moved up to 1430 with another frag order at 1345. Phase line Coors was crossed by the lead squadrons by 1530. By early evening, at 1800 all M1A1 Abrams tanks were refueled. The Regiment used a forced fueling method. Units were periodically topped off with fuel essentially before they reached half a tank. This meant that only rear fuel tanks would be fueled and re-fueling and Log-Pack could go faster. Scouts reached forward to conduct reconnaissance and fires on objectives Merrell and Feucht at about the same time. By 2133 the Regiment was oriented to defend on phase line Dixie while the Corps formed for attack in mass. During the afternoon and evening, from 1430 to 2330 L Troop of 3/2 fought nine engagements over 20 kilometers on the Regiments eastern flank. This flank was to connect with the 1 AD (UK).

(See sketch map D).

The next day, 25 February, 1AD shifted to the north of 2ACR, with the Regiment continuing to provide cover northeast of 3AD. The day was to see the first

series of actions. The Regimental operations log held the following entries: " 0152 25 February 2/1 Aviation Battalion attacks into Objective Merrell; Battle Damage Assessment: Building with antennas and Bunkers, 1 BMP and 6 Trucks. 0630- Artillery preparation on Objective Merrell and Feucht; Regiment attacks Northeast. 0841- 1AD begins shift north. 4/2 (Air Squadron) reports Objective Gates clear, contact on Objective May." Major Lambert's assessment was elements of 50th Brigade of the 12th Armored Division in vicinity of Objective May. The Regiment reported engagement of a reinforced mechanized infantry battalion with tanks at 1240. The location was given by 3/2 Squadron with tanks revetted in locations along phase line Blacktop. Nomad (Air) Troop reported a bunker or building complex in the vicinity of 68 Easting and 00 Northing. This was not recorded in the regimental operations log and in turn was not passed to the 2/2 or 3/2 squadrons. However, close air support (CAS) and 4/2 Air Squadron, engaged enemy armor approximately 10 kilometers forward of 2/2 and 3/2. Regimental reports are made to Corps: "The Regiment has found the security zone of the Tawakalna Division". (See sketch map E + F).

By the end of the morning, the Corps was arrayed with 1AD to the north, 2ACR and 1AD(UK) in the south. 3AD and IID were trailing 2ACR. LTG Franks advised 2 ACR at 1250 to develop the situation but not to become decisively engaged. Major Lambert's intelligence assessment of the situation indicated the Regiment was about to engage the Tawakalna's security zone along the 65 Easting with the main defenses about 8 kilometers to the east along the 73 Easting. The S-2 concluded that the Tawakalna's mission was to cover the withdrawal of the Iraqi Army from Kuwait. Weather precluded air operations due to sand storm and rain. Squadron scouts are ordered to phase line Miller to defeat enemy observation posts and take prisoners. At 1500 the 2ACR orders its squadrons to establish a hasty defense line along phase line Blacktop so as to interdict the Iraqi line of communications, fix the Tawakalna division with fire and CAS. For three hours the Tawakalna is pounded by CAS. An Apache raid by 2/1 Aviation Battalion led by LTC John Ward is aborted due to weather. Late in the evening, at 2230 MLRS fires begin with unknown effect. (See sketch map F).

In the early morning of 26 February at 0216, the Regiment, now 120 kilometers (?) deep into Iraq, received the Corps frag order to orient to the east. The Regiment's zone of operations was adjusted somewhat to the south to prepare to pass the 3AD through the Regiment's rear. The 3AD would take up position between 1AD to the extreme north and the Regiment. The co-ordination for this movement was accomplished at 0455 with the actual commitment of 3AD to the left and north of the Regiment beginning on 0918. The Corps frag order to the Regiment also gave an "on order" mission: "Be prepared to pass IID and assume Corps Reserve role". Colonel Holder, because of the increased cover zone ordered 3 squadrons abreast.

Sporadic fighting continued. Use of MLRS against enemy positions enabled 3/2 Squadron to defeat Motorized Rifle Company. First Squadron reported contact at 0400 with artillery impacting. By 0713 L Troop of First Squadron reported engaging T-72 tanks. Confirmed reports came to the Regimental TOC of T-72 tanks moving in the vicinity of PT5299. By 0820 the Regiment reported to Corps it was engaging covering force elements of the Republican Guards. Major Lambert, the S-2, reported these elements as defenses from the 12AD, the 52 AD and the Tawakalna located between 50 and 60 Eastings. Meanwhile visibility due to fog and later blowing sand dropped to below 1000 meters. This fog dissipated to be replaced with a blowing sandstorm - a *Shamal* - which reduced visibility to between 200 to

1400 meters. For the morning and part of the afternoon helicopters were grounded. By 1147 the GSM (?) reported enemy vehicles moving north. (See sketch map G).

Shortly afternoon, at 1250 LTG Franks came to the Regimental Tactical Operations Center (TOC) to receive a first hand assessment from the Regimental Commander, Colonel Holder. Both agreed the Regiment had found the Tawakalna Division and that it was moving north. The Regimental Commander ordered his squadrons to conduct reconnaissance forward of phase line Blacktop in order to fix the main body of the Tawakalna. The Corps Commander's order to not become decisively engaged and be prepared to pass the IID remained in effect.

Beginning at 1500 26 February 1991 elements of the Regiment, particularly from the Second and Third Squadron would find, and fix elements of the Tawakalna and of the 12th AD. Continuous CAS was arrayed against the Tawakalna and forces in depth along the IPSA pipeline road. This road was a hard asphalt road, inexplicably not shown on 2ACR maps. The history team did not ascertain whether the road showed on other, notably Corps maps. The battle with the Tawakalna was supported by two successive Apache raids against artillery positions along the 75, 80 and 85 Easting. (See sketch map H) After approximately six hours of battle by the Regiment the Corps Commander ordered the passage of IID at 2311 while 210 Field Artillery Brigade passed to IID operational control. On 0012 27 February 2ACR held all weapons fire for the IID passage and prepared to go into Corps reserve at 0235 following IID to the east. This action was confirmed by a Corps frag order on 1255 indicating 2 ACR movement to 85 Easting. At 1830 2ACR was ordered to remain west of 87 Easting. At 2400 hours the Regiment was informed of a possible cease-fire commencing at 0500 28 February. Shortly before the cease-fire implementation the time was changed to 0800. A stand-down was ordered at 0956 with orders to continue to follow IID into Kuwait and Tactical Assembly Area (TAA) Mexico on 1 March 1991. (See sketch map I).

In 82 hours the Regiment covered close to 200 kilometers, fought elements of five enemy divisions, while covering for three divisions of the VII Corps. It integrated CAS with ground maneuver and operational fires to destroy enemy security forces. The Regiment fixed and disabled the Tawakalna Division and developed the situation for the Corps Commander. It fought in some of the worst conditions: 50% of the fight was conducted in limited visibility and no-fly weather. The battle effects speak for themselves: Over 300 Iraqi armored vehicles were destroyed, over 2000 EPW's captured. The losses to the Regiment were: 6 killed in action and 17 wounded; with 4 M2 Bradley's and 2 M113 armored personnel carriers destroyed. The operational readiness rates exceeded 95% during the course of the battle. The 2 ACR had indeed executed a classic cavalry action: "Find, fix and fight". The Regimental Commander, Colonel Holder concluded the recounting of the 2ACR fight: "The Regiment is *Always Ready* -all of its brothers are brave".

"Action Front"

It was close to two months since Ghost, Eagle and Iron troops had fought the battle. Now they were standing with historians recording the detail of the battle at 73 Easting. It was dark in the tent and a bit confining. Captain Hebert R. "H.R." McMaster, from Philadelphia Pennsylvania, moved his platoon commanders and tank and scout commanders outside the tent, put up a map, shined jeep lights on the blow-up of the battle area and started to recount the battle. "We were anxious to see 'action'" he began slowly and deliberately, ever since we crossed the berm.

Spirits were high." Movement into Iraq was fast and furious. Eagle troop encountered "countless groups of enemy soldiers surrendering. Scout quickly searched them, gave them food and water, and reported their location for the trains to collect them." Part of the first sergeants and cooks duties was to police up these EPW's. At the end of the day Eagle troop halted and formed a hasty defense position and re-fueled. They had covered another fifty kilometers in less than four hours.

During the night of 25 February, the weather turned sour again and the skies opened up with a deluge. The Troop had seen some of the most gruesome sights of war: enemy dead. In the morning Eagle was shifted south somewhat so that Iron troop commanded by Captain Daniel B. Miller from Maumee, Ohio, who was "HR's" plebe roommate at West Point was on Eagle's right flank. Iron troop was from 3/2 Squadron so co-ordination would need to be tight. "The night rain had yielded to heavy fog" in the morning of 26 February. Eagle troop encountered three enemy MTLB's. Ghost Troop, commanded by Captain Joseph Sartiano from San Francisco, California, was oriented to Eagle's north. Captain Sartiano's scout saw the MTLB's and took them under Bradley 25mm fire destroying two. The third took evasive action. Eagle troop commander shot the third.

"About 1000 hours on 26 February, the troops mission changed slightly. We were to move forward having tied in with Iron to the south and Ghost to the north." Captain McMaster continued in almost a familial way. The excited chatter of other commanders now giving way to a respectful silence. *"At noon, the fog cleared only to be replaced by high winds and blowing sand."* Captain Dan Miller called this a real Shamal - visibility down to 200 meters. Eagle troop refueled and waited.

"At 1500 hours the long awaited order came". Captain McMaster told his men *"We attack in five minutes to the 70 Easting. (An 'Easting' is a north to south running grid line on a military map) This is the moment we have all awaited."* Captain McMaster reflected that he had not received detailed intelligence forward in his zone. Lieutenant Tim Gauthier, the Third Platoon Leader, chewing tobacco, dead panned, *"What kind of contact can we expect?"* "H.R." shot back the reply: *"enemy contact"*. Even the radio communications disciplined "Roger" as a reply could not hide the laughter of the Troop as it rolled forward. This laughter was spontaneously rekindled for the historians recording the event.

"As the troop crested a slight rise, at about 1530 hours air burst artillery fell on SSG Lawrence's scout section. " Without breaking stride the troop closed their hatches, diverted south and drove around the impact area. After re-orienting to the east, the third platoon scouts under LT Tim Gauthier reported taking small arms fire from a building complex just north of the troops southern boundary at the 00 Northing (A northing is an east west grid line on a military map). LT Gauthier's scouts attacked the building complex with 25mm high explosive fire. There was also a berm which concealed enemy fighting positions adjacent to the buildings. Captain McMaster ordered both tank platoons to come on line, fire one round of HEAT into the building complex and then by-pass to the north. Near simultaneous fire from nine tanks "impacted into the buildings and blew gaping holes in them. Subsequently, fires started and the blowing smoke obscured the Troop from the enemy. The Troop would take no more enemy fire from that position." Later scout reports indicated the site was an enemy logistics compound consisting of ammunition, fuel, food and water supplies."

"The Troop resumed eastward movement at about 1600 hours. LT Mike Petschek's scout platoon moved deliberately when it sighted an enemy armored vehicle to the east. Before this was reported, Captain McMaster leading in front had ordered his tank platoons to follow. "I took the point and the tanks passed through the scouts in a nine tank wedge. The scouts now moved to secure the flanks and rear of the tanks." Because of the greater height of the Bradley scout vehicle over the Abrams tank it could see and acquire the target earlier. Captains Sartiano, McMaster and Miller would comment on the imperceptible rise in terrain when we returned with them to the battle site. They confirmed the expert terrain utilization by the Iraqi forces. Ten feet rise in ground over 500 meters did make the difference between being seen and unseen. When Eagle troop commander came up on one of these imperceptible "crests" his gunner, Staff Sergeant Koch yelled in the intercom "Tanks, direct front". Immediately finding the range through the laser-range finder at 1420 meters Koch was ready for the Captain's fire command "Fire SABOT". Emptying the HE round in the chamber, SSG Koch quickly responded with a trigger pull. Still moving, but with the tank's stabilization system working, the gun kept its target and the enemy tank "exploded in a huge fire ball". As SSG Koch swung the turret to another T-72 Soviet built tank, "two enemy tank rounds impacted next to my tank" recorded McMaster. As the Captain continued to give engagement instructions to the rest of the platoons, his gunner laid on another round and fired. It too found its mark: "The enemy tank's turret separated from its hull in a hail of sparks. It burst into flames as the round penetrated the fuel and ammunition compartments. The next shot from SSG Koch got equal results. What seemed like an eternity for this solo performance was less than a minute. The time was 1607 hours. LT Mike Hamilton, a Norwich University, Northfield, Vermont graduate, and LT Jeffrey DeStafano charged their tank platoons across the "crest" and into action. "All of the Troops tanks and scouts were now in the action. The enemy felt the full shock effect and firepower of our armor. Enemy tanks and BMP's erupted into innumerable fire balls. The troop was cutting a five kilometer wide swath of destruction through the enemy's defense."

Traffic on the troop radio net was relatively calm in the face of battle. Captain McMaster directed *"the tanks to keep formation and assault through the enemy positions as the scouts fired to the flanks and "scratched the back" of the tanks with small arms fire to clear pockets of enemy dismounted resistance. Bradley's pumped HEAT and AP rounds into enemy personnel carriers and bunkers along the flanks and occasionally stopped to fire TOW's at tanks in the depth of the enemy position. The tanks continued to press forward. No one was missing the target and fire distribution was perfect. No opposing vehicle escaped destruction. The enemy position was reduced to a spectacular array of burning armored vehicles."*

Captain McMaster's continued the account of the battle. *"We pressed the attack east. The enemy had established a U shaped defense and the troop had moved into the center of their position. The scouts to the flanks, reduced enemy vehicles and bunkers to either side, At one point, 3rd platoon (LT Gauthier) received effective fire from a ZSU-23-4, dug into a bunker. The platoon launched two TOW missiles against the target, the first collapsed the bunker and the second hit the ZSU gun. In a particularly tense moment. LT Gauthier swung his Bradley turret onto a T-62 tank just as it fired at him. The enemy tank missed throwing dirt into the air." What LT Gauthier added "was after we fired a TOW at the tank and destroyed it, we had to get out and clean off our weapons optics so that we could continue. " Eagles "tanks were now even with the enemy's first line of defense. Now indirect fires fell behind the enemy's position which the troop FIST LT Davis had*

called. " 1LT John Gifford, the troop executive officer called the Eagle Troop commander to remind him the Troop limited of advance was the 70 Easting. Captain McMaster replied "We're still in heavy contact, advancing to the 73 Easting, tell them I'm sorry". Major Douglas MacGregor, the 2 Squadron Executive Officer monitored the transmission since he was well forward of the Squadron's TOC and practically with Eagle's tanks he fully concurred with the pressing of the attack."

Eagles tanks and Bradley's "were now cutting down hundreds of infantry fleeing to subsequent positions. Some tried to play dead and pop up behind the tanks with rocket propelled grenades. They fell prey to the Bradley 25mm and coaxial machine guns. " Captain McMaster "finally found a position at which I could halt the troop. It was just beyond the 73 Easting. Dominant terrain is difficult to discern in a relatively featureless desert, but this was it. It consisted of a small hill which allowed observation out to several kilometers in all directions. It was an apparent gap in the enemy's defense between the position through which the troop had assaulted and positions further to the east." Eagle troop reported no casualties. The time was 1630 hours. This action of punching through the defenses took just 23 minutes.

But the fight was far from over. Eagle troop's "tanks fired main guns and Bradley's fired TOW missiles at enemy tanks and personnel carriers forward of the 73 grid line. Violent explosions followed the impact of the perfectly aimed and guided fires. All vehicles were suppressing enemy infantry to the front who fired machine guns at us and scurried back and forth among the endless sea of berms which comprised the enemy position."

"The enemy attempted a futile counterattack just before dark. Enemy tanks, BMP's, and MTLB's weaved between the berms to the troop's front attempting to close within range of their weapons capability. Tanks and Bradley's to the flanks, however, had relatively clear shots through the berms and the enemy effort was soon thwarted as, one by one, the enemy vehicles erupted into flames.

TOW anti-tank missiles pursued and caught truck loads of enemy soldiers fleeing to the east. The Troop's mortar section was well into action now; dropping high explosive variable timed rounds which explode in mid-air and spray shrapnel down on the enemy infantry. We could see through the thermal sights that the mortars were exacting a heavy toll."

"The sun was setting. Continuous machine-gun and 25mm high explosive fire kept the enemy at bay and prevented him from organizing an effective counter-attack. Enemy vehicles and bunkers continued to burn and the fire engulfed the troop in an eerie reddish glow which reflected off the heavy, low clouds. Occasionally, an enemy vehicle's ammunition or fuel compartment erupted in a secondary, violent explosion. An enemy truck full of soldiers approached to within two hundred meters of Staff Sergeant Henry Foy's tank; apparently unaware of their proximity to the Troop's position. SSG Foy's crew demonstrated great compassion and discipline as I (Captain McMaster) ordered all to hold fire until the enemy's intention were known. Upon detecting the Troop's perimeter, the enemy truck halted and, the Iraqis jumped down from the truck brandishing assault rifles and RPG's. SSG Foy's machine-gun opened up, setting the truck's engine on fire and wounding one enemy soldier. The others quickly dropped their weapons and surrendered. Scouts searched the enemy soldiers, treated the wounded one and moved them to a collection point."

infantry. Captain Sartiano fought two actions. First he encountered the dug in forces. And second he would battle the forces which were trying to retreat.

1LT Keith Garwick indicated most of the troop was behind a small ridge, overlooking a wide shallow valley about 1 kilometer which the Arabs call a wadi. It was very shallow but enemy vehicles were well positioned on the reverse slope of the wadi facing west. PFC Kick would record the time as 1642. *"We've pulled up on the line right now. We're engaged in a pretty decent firefight right now... we're shooting again. I can see where we're shooting at, but I can't see of victor [vehicle]."*

"This is chaos here," Kick shouted in his tape-recorder. *"This is total chaos".* Battle commands can be heard on the radio. *"I see smoke on the horizon, that means I killed something. What it is I don't know."* He comments on his platoon leader. *"White One, he's the platoon leader. You can hear it in his voice, he's all shook up. Time 4:54....this is the co-ax [machine gun] firing. Time 5:10 P.M. We're still in contact... there's a few P.C.'s [personnel carriers] here and there, mostly infantry. I just spotted the biggest damned explosion at about 12 o'clock. I don't know what the hell it was..."*

1LT Garwick's platoon had already killed nine personnel carriers alone. The enemy shooting back around 1700. Artillery began falling around the Bradley's and the tanks. Keith Garwick reported *"A tremendous volume of small arms fire and shrapnel hit the berm to my front"*. Iraqi infantrymen ran forward and were mowed down. Enemy fire increased and air-burst artillery began exploding over Ghost, peppering LT Garwick's platoon. Two Bradley's in Garwick's platoon were positioned on his right wing. At 1740 LT Garwick saw three tank rounds hit the imperceptible ridge in his front, each shot closer to the Bradleys on his right. The last shot hit. *"One just got one of our guys"* shouted Kick into his recorder.

Specialist Patrick Bledsoe, from Oxnard, California was driving Bradley number G-16 in First Platoon. All he saw was shooting. *"We were in a little wadi"* he said, but the top of his Bradley looked out over the extended "valley". The difference of 10-20 feet in elevation over a distance of 500-1000 meters is crucial. *" We were kind of 'skylined ' and could easily be seen by the enemy gunners. The Bradley's gunner was Sergeant Lars Moller. Just at this moment the coaxial machine gun jammed and the track commander was trying to fix it. The track commander saw Iraqi infantrymen running toward them and asked SGT Moller" You got the troops to the front?" Suddenly there was an explosion. From his seat at the gunsights, down inside the Bradley turret, SGT Moller couldn't see the area right outside of the fighting vehicle. There was a second explosion which showered sparks across the front of the Bradley. "It was just like somebody hit us with a sledgehammer"* Bledsoe said. He jumped out and ran behind the Bradley, SGT Moller was dead and the Bradley commander was wounded. Friendly tanks were shooting over Bledsoe's head as he jumped down from the Bradley after yet another explosion. Bledsoe tried to get away. *"I low-crawled up to the track",* he said. *"Knocked on the back door but they didn't hear me. I went up and knocked on the driver's hatch. The driver opened it. I said, "We just got hit. I think SGT Moller's dead". Bradley G-16 was just smoking.*

At 1747 PFC Kick spoke into his tape recorder *"It was one-six that got hit"*. A few minutes later he continued, his voice steadier. *"The gunner of one-six who was SGT Moller, is dead. The Track Commander and observer are on one-five right now. SGT Moller, SGT Moller was killed.... time about 5:49."* He paused a moment, then

added, "Can't let this... can't let this affect us or get us down or we're all gonna die. And he wouldn't want that. He don't want that. But I'm scared."

1LT Garwick told his men to keep fighting. Artillery, tanks and machine guns were firing all around them on the hill. More were destroyed. More fired. "This is chaos," Kick reported at 1804, "Total chaos... got nine victors to our front. Enemy victors and more coming." Night had worsened the reduced visibility of the sand storm. LT Garwick reported seeing two enemy tanks coming at him. This was part of a concerted enemy counterattack from the north. LT Garwick's scouts reported that 12 tanks and more - possibly 25 - were coming from a northern direction. Captain Sartiano ordered his tank platoon into action and artillery. Staff Sergeant Guliomo saw tanks through his thermal sights. He put the laser range finder to work, shot and hit at 3750 meters. This was but one example. Captain Sartiano was directing action into the adjacent northern flank held by element of 3AD. Because Ghost had moved so rapidly eastward there were no friendly 3AD elements there. Artillery fire was called in. Tank fire and TOWS took their toll.

All PFC Kick could see was rounds going down-range. It went on like this - total chaos - for nearly four more hours. At one point a forward artillery observers track driven by Specialist Chris Harvey from Virginia Beach looked out: "All I could see were things burning for 360 degrees, nothing but action." Wave upon wave of tanks and infantry would come at Ghost only to be destroyed. PFC Kick watched and recorded. "Boom. Hit. Hit and-kill. He hit. That's revenge for SGT Moller. You sonuvabitching Iraqis. God, I hate them. SGT Moller was a good guy. We killed them. That's four Iraqi PC's for this track aloñe."

Major Steven Lambert the Regimental Intelligence officer explained the ferocity of the attacks. Elements of the Iraqi 12 Armored Division and the Republican Guards Tawakalna Division had gotten tangled up trying to retreat. The Tawakalna Division was attacking. Some Iraqi units were in prepared positions and were defending. Others attacked from the northwest in order to allow defending units time to pull out. They fought fiercely in order to get out. They knew the terrain well. This was their maneuver area.

Captain Sartiano orchestrated the fight to the north while attacking the northern edge of the position which Eagle had attacked earlier. Ghost was primarily involved to the north. After Eagles main action at 1630 Captain McMaster ordered his scout section to make positive ground verification with Ghost. This was done by fixing a time for two scout sections to meet at a distinct GPS (Ground Position System) verified location. Eagle's scouts were already beyond the 01 northing and had to back-track. While doing so they had fought into the rear of the Iraqi position. Ghost came at it from the northeast. The physical link-up was accomplished at about 1740. (?)

More than once, the artillery and helicopters helped kill tanks and saved Ghost and, Eagle and Iron. At the end of the action Ghost Troop ran desperately short of ammunition. The 2 Squadron decided to place its Hawk tank company in sector so that Ghost could be re-supplied between 2230-2300 hours.

After the Ghost's battle there was reflection. "No one, however, really knew what to call the battle... And none of them could judge how important it had been. They didn't know how hard they had fought or any one else. They still don't. It might take months or years before people who write history books will decide

10

whether Ghost Troop , or Eagle, or Iron, is worth a page or not". And they may decide on a name: The Battle of 73 Easting.

For Iron Troop commanded by Captain Dan Miller, day three 25 February again began with an artillery preparation and MLRS fire. Iron Troop was to the south of Eagle troop, and part of 3 Squadron maintained its flank.

Captain Miller' assembled his platoon commanders for the historical team and he began his account with the crossing of the SP" at 0630 to continue our movement to contact. The sunrise gave way to overcast skies and falling temperatures. By 0800 the rain began to fall and it would be on and off for the next 24 hours; mostly 'on' seemed to be the order of the day."

"As the Troop continued north there was a real sense that today our training would culminate with enemy contact. In the afternoon the scouts reported dismounts to our front, they opened fire and again the enemy surrendered. As the ten or so surrendered many more began coming out of their bunkers with arms raised high over their heads, waving white flags or white papers. It turned out that we had stumbled on to an infantry company and they all surrendered. The scouts quickly disarmed the prisoners and gathered them together in one large group. There wasn't time to search them all, so they left a guard force and continued to move. Later reports revealed that a lot of surrendering Iraqis were overwhelmed by the amount of firepower we possessed. The EPW's had slowed our move, so we picked up the pace. As we went forward we came across dozens of revetted positions and infantry fighting positions. These positions are difficult to see unless you're right on top of them. In the next day and a half, we would see a lot more of these revetted positions and they wouldn't all be empty."

"Intelligence reports provided by fourth squadron revealed a lot of enemy activity to our front. Our graphics showed that we had already covered a lot of ground, close to 100 km. PL Blacktop, which we were quickly approaching, was to be the end of Phase II. The operations order indicated a good chance of contact. The Troop had long since altered its course from due north to a mostly eastern azimuth. Our mission was to find and fix the Republican Guard, but we expected to find other units before them. As we approached Blacktop it seemed that Phase II would end without a fight - we were wrong!"

"At around 1430 third platoon reported on the command net that they had dismounts to their front again. First platoon reported artillery piece and more dismounts. As the scouts approached, it didn't take long to figure out that the flashes they were seeing were those of AK-47's . Third platoon followed suit a few seconds later."

"The scouts laid a heavy base of fire as they advanced to develop the situation. The command net buzzed with spot reports as CPT Miller demanded clarification of the situation: How many? Where are they? What do they have? etc.. Third platoon responded with a TOW missile launch into an MTLB that had emerged from a revetted position."

"The MTLB exploded as if it were made of plastic. The metal armor shot up into the air accompanied by a fire ball and it seemed to rise and fall in slow motion. In the blink of an eye, a perfectly functional vehicle had become a burning heap of metal."

"With that shot and the report by first platoon that they found themselves in the middle of about 25 unmanned MTLBs in revetted positions, the Commander called for 'Action Front'! We had rehearsed this drill a hundred times in the past couple of months. It was as if 'The Commander' had hit a switch and set in motion a machine of destruction. The scouts immediately went to a split vee formation and the tankers burst forward on line, utilizing the 1500 HP Turbo Engine to hurl their 63 tons of steel destruction forward. Fourth platoon shot up between third platoons Bradleys and Second Platoon, along with I-66, shot through First Platoon and actioned rights on a T-55 and an MTLB. I-66 quickly took out the artillery piece by pumping a 120 mm SABOT round through it. Second Platoon immediately opened fire and annihilated the other two vehicles. After passing through Third Platoon remained on line and devastated MTLBs in revetted positions at close range and snagged a couple of long range moving MTLBs. Fifty caliber rounds ripped into bunkers and soon the white flags of surrender rose from the bunkers. Iraqi soldiers emerged with hands held high and a look of relief - their lives would be spared."

"When the enemy guns were silenced and the prisoners were gathered together we found that we had just destroyed an Infantry Battalion. There were at least 180 prisoners and the fires of burning vehicles were everywhere. Iron Troop had found the enemy and in their first taste of combat, they were overwhelmingly successful. We ended the battle as we started it with 12 Bradleys, 9 tanks a mortar section, an engineer platoon, GSR, the Fist and all trains. We suffered no injuries and no deaths. The training had paid off. We had tasted combat and all walked away to fight another day. As the day grew old, the familiar sound of rain drops started, Iron Troop reconstituted."

"That night, as we sat on the screen line and in hasty defensive positions, the sound of artillery rumbled at a constant tone. The rumbling could not only be heard, but you could feel it in the pit of your stomach in the same way you feel the bass on a good sound systems, only this wasn't a good feeling. The sounds would roll closer and then start to fade; only to return a little louder and a little more intense. The artillery, accompanied with a constant rain, made for a long, miserable night. The artillery would never really find I Troop, but some enemy dismounts and an MTLB would."

"The dismounts that probed our screen line were quickly eliminated by some alert scouts. LT Daigle called for and adjusted artillery on an MTLB and more dismounts to the front of his sector. After adjustment, HE and DPICM were fired on the targets and Red One [the artillery forward observer] reported 'End of mission, target destroyed'."

"A second MTLB found its way through the seam between Iron Troop and Killer Troop to the south. The scanning by the tanks ended the early morning stroll of the enemy vehicles. Second platoon reported vehicle movement to their front and fourth platoon confirmed. Those who had taken a few hours to rest were rudely awoken by fellow crew members who were watching over the sector. The report and flash announced the departure of a tank main gun round from a gun tube in second platoon. The receiver was the MTLB that had infiltrated the sector. A second round delivered by Fourth Platoon with a fiery splash announced a HEAT round. Second Platoon then swept the sector and took care of any dismounts that remained. Except for more artillery rumbles, the remainder of the morning was

calm. Some managed to get a little sleep, others just tried to stay dry, still others remained wired and alert knowing that our enemy doesn't sleep."

"As the light of morning started to show through the heavy overcast skies, Iron Troop prepared to move."

"As expected, Phase III was a frag order. We would continue movement to contact heading due east towards Basra. As far as we could tell, the Republican Guard Divisions still lay in waiting and "the Cavalry" had to find them."

"By 0600 26 February, Iron Troop had formed the familiar Vee formation, SP was at 0630 so we set and waited. There was a report that someone was shooting flares from the Troops northern flank. A quick look to our left rear confirmed the report and CPT Miller called on Fourth Platoon to turn their sights to the direction of the flares. Scanning the area revealed a BTR-50 and an MTLB with Iraqi soldiers apparently trying to signal someone. At less than 1500 meters, the two stationary targets were easy prey for the MIAI. With an order to destroy the target, Fourth Platoon's SFC Stewart 'ripped two rounds in the direction of the flares. Both rounds were center mass hits and the now familiar flying debris and fire balls followed. There wasn't time for further observation; it was 0630 and the scouts reported SP."

"About 10 or 15 kilometers into the march, we stopped. Fourth Squadron had reported tanks and personnel carriers advancing in our direction. The decision was made to allow the combat multipliers to handle the situation. A-10 Thunderbolts circled overhead like a hawk eyeing its prey. The aircraft were mostly hidden from sight because of cloud cover, but explosions that we observed about 5 km to our front assured us the Air Force was close by and eliminated our troubles. Artillery was also called in after close air support departed."

"Early that afternoon we back stepped about 3 or 4 km and shifted our boundary to the south. By this time the winds out of the south started gaining intensity. Soon the sand started blowing and we had a definite Shamal to contend with. Visibility was reduced to less than 1000 meters and the sand became unbearable as it pelted all exposed skin. Soon after the storm began we received orders to begin movement. The war wouldn't wait for the weather to cooperate."

"Our move would take us about 20 km east to the 60 Easting where we would set the screen line again. We reached the screen line about two hours later at about 1530 and CPT Miller surveyed the terrain to find a place for his tanks to overwatch the scouts. The tank platoons cheated forward a bit because of reduced visibility. CSM Tommy Nester had brought his tank forward to replace I-66 which had thrown a track and needed a sprocket. Before the transition could be made, we were ordered to move and CSM Nestor took up position on the left flank of fourth platoon, CPT Miller had jumped to I-55, the XO's Bradley, and it was from I-55 that he fought Iron Troop on 26 February. With all positions confirmed the Troop began occupation procedure, only to be interrupted by another frag order. Reports stated that the Iraqi Army that was in Kuwait was breaking north heading toward Baghdad. Our mission was to push hard and fast to the East to intercept a retreating army."

"After a somewhat misoriented start, the troop re-grouped and pushed forward. The sand storm continued with no loss of intensity; the visibility remained poor at best."

"Third Platoon, commanded by 1LT Thomas H. Isom from Miami, Florida, reported contact with an enemy observation post (OP), and called for indirect fire. The spotting rounds came in, but the reduced visibility made it impossible to adjust fire. 1LT Butner, the FIST was forced to cancel the mission because of lack of observation. A few minutes later, Third Platoon again reported an OP with a BTR-50 and a BMP1. While the artillery prepared to fire, Iron Troop mortar men came up on the command net and advised Third Platoon they could range the mission. Within a few seconds, the first round was out of the tube. SFC Letterman called for an adjustment. SFC Letterman called for "Add 50, fire for effect." The mortars dropped ten rounds per tube right on target. With speed and accuracy the mortars took out their first OP, and the Troop continued to move."

"Two to three kilometers past the OP, First Platoon commanded by 1LT Steve Daigle, reported numerous revetted positions and berms to their front. Immediately following the report came the familiar sound and flash of AK-47s. These positions were occupied with an enemy that was looking for a fight. The enemy seemed to be scrambling to their positions as small arms fire increased with the addition of RPGs whipping toward the scouts. The scouts responded with 25mm fire and put up their TOW launchers. Third Platoon report small arms fire on their left flank from a group of buildings. They suppressed and continued to advance."

"The sand storm had forced Iron Troop to advance closer than they cared, to develop the situation. The reports of armored vehicles and tanks in revetted positions, hurled the tanks into action. Again this day Captain Dan Miller commanded; "Action front". and Iron Troop lunged forward with cold steel."

"Third Platoon reported receiving small arms fire coming from the buildings they had just passed, now to their left rear. Fourth Platoon commanded by 1LT Joseph Paydock, of Oak Harbor Ohio, answered the call with 50 caliber suppression fire and 120mm destruction main tank gun HE rounds. The buildings no longer proposed a threat to Iron Troop. This was the same building complex that Eagle had fired into with two tank platoons earlier, by about 30 minutes. The tanks of the platoon were attacking the southern flank of the positions Eagle slammed into half an hour earlier."

"The tankers soon found themselves passing just in front of the scouts and didn't hesitate to announce their arrival with main gun rounds, 50 cal. and coax. The scouts had already done in a good portion of the enemy tanks and PC's, but the target environment remained rich. The scouts had crushed the initial resistance and the tanks would ensure there wouldn't be a counter attack."

"Enemy tank turrets were hurled skyward as 120mm SABOT rounds ripped through T-55's and T-72's. The fire balls that followed hurled debris one hundred feet into the air. Secondary explosions destroyed the vehicles beyond recognition. Resistance was sporadic. The small arms fire continued and the RPGs were following short or just plain missing their mark. EPWs started to emerge from yet unexploded bunkers. The tankers and scouts continued to lay down a high volume of fire passed the surrendering enemy. With the precision and control of a surgeon's scalpel, the troopers cut away at the enemy who continued to resist and

spared those who surrendered. Iron Troop had fought elements of the Tawakalna Division, which were on Eagle's right flank earlier. By arriving several minutes - about 30 - later than Eagle Troop, Iron Troop rolled the tactical flank of these elements. It was as an oblique movement in a classical sense."

"The annihilation of this Iraqi Armor Battalion continued with the Troop found itself surrounded by burning hulls and exploding ammo bunkers. The unforgettable odor of burning diesel, melting metal and plastics, expended munitions and anything else that happened to be burning in bunkers, hung heavy in the air. For a moment there was an abrupt calm. An occasional shot from a TOW or a tank kept us alert. The scouts were told to continue their advance as the tanks held the line and overwatched. The report of advancing T-72s from the east, told us the battle wasn't over."

"Seven T-72s had managed to crawl out of their revetted positions and attempted a counter attack. The enemy was advancing at about 2500 meters to our front. The flash from their gun tubes confirmed that they had a fix on us. The scouts were in no position to continue the advance on T-72s. The T-72s, 125mm main gun splashed short and kicked up a wall of dirt. Indeed SFC Minilix (?) stated: They hit so close we were covered with dirt and had to get out and clean the optics." In seconds they would have us in range and a Bradley was not build for such a hit."

"Again the tanks quickly bound forward. At 2100 meters the inferior T-72 didn't stand a chance against the Abrams' M1A1. The depleted uranium, long rod penetrators from the SABOT round passed through the T-72s like a hot knife through butter. The TOW missiles also had no problem with the range on penetration and the counterattack was squelched like a match in a cup of water."

"The battle had come upon us without warning and now it was over, I Troop had come upon a dug-in Armor Battalion of the elite Republican Guard. The time of the fight - from 1530 to 1700 was short but intense. The sand storm had worked to our advantage as it concealed our advance and left the enemy seeking shelter from the blowing sand. After we extinguished the OPs, we expected contact, but what and how much was uncertain. The Commander continued the advance of the Troop to clarify the situation. As the engagement began, CPT Miller quickly evaluated the situation. If he halted, he would give the enemy a chance to react and initiate their defense. If he continued to advance, he could find himself committing the Troop to a well defined fire sac. The Troop advance and CPT Miller capitalized on the element of surprise and limited visibility to overwhelm an Armor Battalion that had given us a flank to exploit. The Battalion was oriented to the Southwest and unaware of our advance."

"A cavalry troop does not fight an Armor Battalion by itself, Realistically, this was at least a Squadron fight. But once the troop had committed to the fight there was no way to call for reinforcements or pull out. I Troop had taken a gluttonous bite into the enemy. It was their fight and their fight alone. The bite needed to be devoured quickly, and without hesitation, the Troop swallowed it

"The Troop again reconstituted and set the screen line to begin resupply operations. Darkness had fallen quickly and once again the night sky was illuminated by the fires from burning vehicles and bunkers. On occasional secondary explosion blinded the observer. The artillery started again, as the prep began for the forward passage of the rest of VII Corps."

As Captain Miller ordered his men into a defensive position, he awaited the passing of the IID. The Iron troop casualties were 3 (?) wounded in action, and one Bradley destroyed. The casualties were due to "friendly fire".

After the Eagle , Ghost and Iron Troop action - that is after the war - Captains McMaster, Sartiano, and Miller returned to the 73 Easting battlefield. The Regiment bivouacked in the area enroute to other missions. During this time Regimental project officers Captains Dan White and Don Calvert returned to the battle area to verify the enemy positions, equipment and bunkers and account for the equipment destroyed. These officers went to each position or item of destroyed equipment, recorded its exact location using the Ground Positioning System (GPS) and logged this on a worksheet. This worksheet was then placed on a large scale map to accurately determine the extent of enemy positions. Next, the VII Corps Engineers working for the Corps G-2 Intelligence section called a Battlefield Reconstruction Section, headed by LTC ---? Kirk plotted the actual map. Captains Smith and Maldonano verified the position locations and the extent of the enemy equipment destroyed.

With this homework completed, the Troop Commanders surveyed the battle site once again with the historical team. With LTG Franks' full support, Troop commanders spent a full day with the team on the battle site. Once again positions were verified as troop commanders indicated where they were and when in relation to the enemy. Ground positions were verified, azimuths of shots were determined, and effectiveness was ascertained. Further, the time sequence of attacks was walked through by the commanders and historians and other experts. This was an illuminating experience for both, the commanders and the team members. Certain questions, particularly of timing were cleared up.

Another part of the battle action concerned fire support. Organic mortar and artillery fires and their effect have been described in the commanders written after action reviews and the oral recorded interviews described in excerpt form above. What has not been considered is aviation fire support. Nomad Troop reported the "village" bunker complex at the 68 Easting and 00 Northing to Regiment of 25 February. Unfortunately this report did not reach Eagle or Iron troop. Regiment did co-ordinate an aviation strike by Apache helicopters of 2/1 Aviation Battalion commanded by LTC John Ward. This strike on 26 February was to attack suspected enemy positions on the 73 Easting and enemy artillery positions at the 82/83 Easting. These artillery positions were identified to be in support of the advance elements of the Tawakalna Division. The first mission was aborted because of weather. The second mission was planned for a 1600 26 February start time. His officers planned an ingress route flying over elements of First Squadron on route Blue, rallied over the hard black top road - the elusive IPSA pipeline road not on the Regimental maps - and flew north. In a recorded after action review with 2/1 Aviation pilots indicated that the planned egress route which the Regiment wanted could not be used because this meant flying over engaged units at the 73 Easting. Hence 2/1 Aviation planned to return by a southern route termed Hawk. Visibility was limited to less than 1000 meters. Platoon elements could only see each other not the entire company attack. The unit's mission of attacking the artillery position was executed by two Apaches firing Hellfire missiles and destroying six guns. The time was about 1630. This was obviously to the advantage of Eagle and Iron Troop who either had come through the artillery fire or were encountering it at that time. The Apaches continued their attack mission by strafing the myriad of vehicles moving on the IPSA pipeline road with 30mm cannon. Tanks, BMP's, trucks and civilian Toyota vehicles were taken under fire. Equipment was destroyed.

Approximately 400 prisoners were reported. CW3 Mitcham notified AWACS of the situation on the ground and the Air TAC proceeded to round up the prisoners into a central location. During the egress the Battalion Commander and the S-3 reported the prisoners to a ground unit that had closed to within 20 kilometers of the objective. Pilots encountered hand held RPG and a ZSU 23-4 anti-aircraft gun. Pilot accounts at the debrief report Iraqi soldiers getting out of truck, after being stopped by fire in front of the vehicles. When vehicles did not stop they were destroyed. In one case a pilot reported stopping a Toyota Jeep, the driver getting out and opening the door for " a fat Iraqi officer getting out , raising his hands in surrender, holding a briefcase in the air". The pilot CW2 John Ely was asked how did you get them to surrender? He responded: "Look, when you see a guy in this machine hovering 200 feet in front of you, with a gun turret that moves with the nodding and turn of my head, then you point south, they move south. They've just seen their buddies blown away. What would you do?" CW2 Ely did wonder aloud whether the "fat guy" ever made it to captivity. Many prisoners were taken as a result of this Apache interdiction and obviously the artillery - suspected to be 130mm long range guns - were taken out. Just in the nick of time. LTC John Ward did indicate the mission constraint was not to become decisively engaged. His Division commander wanted his force totally available for the smashing of the other Republican Guard Divisions - specifically the Medina

Epilogue

"Men will not remember what was said here" said Abraham Lincoln at the Gettysburg Cemetery dedication, "but they will not forget what they did here."

The battle was fought with very low United States Army casualties. The very success of the fight gives the perception that it was easy. Nothing could be further from the truth. This was "total chaos" to use PFC Kick's words. This was stark terror. How soldiers prepared for this was easily answered by LTG Franks. "They trained their whole professional life for this battle" Their whole life is the professional dedication of the US Army soldier.

METT analysis to follow by Major Sandridge.

Observations

Preliminary observations:

* There is no historical uncertainty that this was a fight. Onsite evidence and oral interviews substantiate T-72 tank fire, probable 130MM artillery and other fires. Mines were encountered. Superior training, superb equipment and soldier/commander courage, skill and discipline resulted in a victorious engagement. This engagement and battle had operational consequence.

* Troop commanders (G,E,I) fought co-ordinated, mutually supporting attacks. There was no hesitation in pressing the attack. Ghost fought two separate platoon actions because of the terrain. Echo fought an integrated troop level frontal attack while under artillery fire and passing through a mine field. Iron fought by platoon and encountered some of the same defenses as Echo. This was a short action for all three troops. Echo's main action took less than 30 minutes. It took the team 6-8 hours to walk through the action.

* Visibility varied over time due to the sand storm from 200-1400 plus meters.

* The sand storm contributed to complete tactical surprise. The Iraqi soldier was out of his tank because of previous air attacks. When Echo main attack hit Iraqi soldiers had no idea that M-1 tanks were hitting them. Too late for the Iraqi soldiers to jump back in to fight their tanks.

* Effective cross troop communication between Echo and Iron and Ghost insured co-ordination. All three commanders did not hesitate to come up on each others command net to co-ordinate. Since Echo was initially in front of Ghost and Iron this avoided potential fire into each other.

* Amazing discipline. Iraqi casualties were minimized. All units killed equipment, but when Iraqi soldiers even showed the intent to surrender fire discipline was total. During the heat of battle our soldiers disarmed and then treated Iraqi wounded. Psychological warfare teams attached to Echo troop were used to coax one bunker complex into surrender. It could easily have been fired.

* Once T-72 were found and ranges up to 3750m for engagement were used.

* Bradley 25 mm was effectively used against tanks to explode engine and fuel compartments and cause explosion.

* There were double, even triple kills. Troops used the "if its not burning, it hasn't been killed rule" As a result catastrophic kills were common.

Methodology

The team engaged in an onsite data search in Iraq and Saudi Arabia. Rich and varied source material was available. After initial briefings at ARCENT history office the team traveled to King Khalid Military City and VII Corps Main to co-ordinate with Chief of Staff, BG Landry. The 2ACR Commander, Colonel Don Holder received the team with a prepared concept of operations brief and a historical documentation book. The documentation includes operations orders, fragmentary reports, voice recordings of some command and fire support nets, After-Action Reviews by unit commanders and historical data survey of the battlefield site. Positions of enemy positions and equipment was verified by GPS. VII Corps G-2 battlefield reconstruction includes enemy equipment positions verified by engineer battlefield survey data also done by GPS. All troop commanders from M1 and Bradley commanders, to platoon and troop commanders were interviewed and asked to verify plotted positions on the ground and on a map developed from the data. Supporting artillery and air commanders and soldiers were also data searched.

The team went to the 73 Easting battle site. LTG Franks personally briefed the VII Corps concept of operations plan and his key decisions in execution. He provided his own ground and air transportation so the team could survey the battlefield with three troop commanders. LTG Franks was debriefed upon completion of the ground survey.

Most of the team's time was spent with 2 ACR (including movement to the port of Al Jubail) and supporting units. Oral recorded interviews were conducted with three troop commanders (Ghost, Eagle, 2/2 ; and Iron 3/2), their respective platoon commanders, tank and Bradley commanders and gunners and supporting commanders and pilots. The results were plotted on a map which was re-verified by the participants.

This composite map was integrated with the 2ACR historical reports, engineer battlefield survey reports and battlefield reconstruction reports from the Corps G-2.

VII Corps Main and TAC and other organizational elements (supporting aviation came from 2/1 AD) were used to substantiate additional data points.

The above material will be supplemented with Defense Intelligence Agency supplied overhead photography of the 73 Easting site. Material from 23-26 February 1991 is available. The Engineer Topographical Laboratory is integrating this information with the above historical reality to create a topographical map of the area. This map will form the movement basis for the battle. This map will then be computerized so that a soldier can view the battle from any perspective, be that ground or air, friendly or enemy. First the SIMNET computer will allow a total historical re-creation of the battle "as it actually occurred". Next the computer simulation software program will allow variance from the historical reality so that individual commanders and higher level commanders will become trained in desert armored warfare.

Documentation

References in text:

LTG Franks Interview 12 April 1991.
2 ACR Operations Order Extract Dated 201100C Jan 91
Major Doug Lutte Concept of Operations Brief 11 April 1991
Major Steve Lambert Intelligence Briefing 11 April 1991
2 ACR Operations and Intelligence Briefing
2 ACR Operations Log
Colonel Holder Interview 11 April 1991

"Action Front"

Eagle Troop After Action Review conducted 11 April 1991
Captain McMaster Written After Action Review, undated
Eagle Troop written After Action Review submitted to 2ACR
Eagle Troop After Action review conducted 15, 16 April 1991
Captain McMaster on-site account 12 April 1991
Command net voice recording 26 February 1991

Vince Crawley, "Minute by Minute, Death by Death: One unit's battle against the Republican Guard", Stars and Stripes, 9 March 1991.

Ghost Troop After Action Review submitted to 2 ACR
Captain Sartiano After Action Review 11 April 1991
Captain Sartiano on site account 12 April 1991

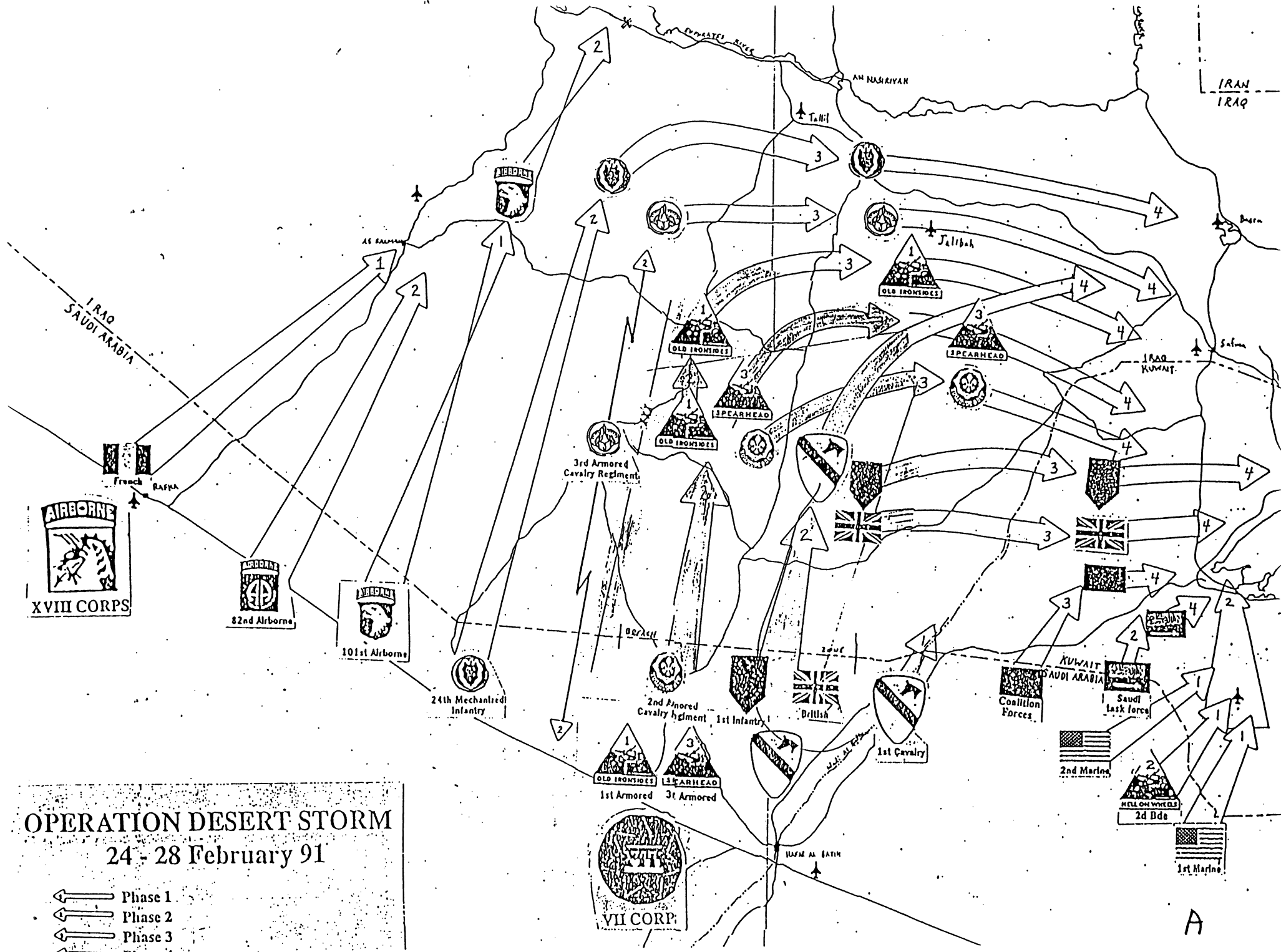
Eagle Troop After Action review conducted 13 April 1991
Eagle Troop written After Action Report submitted to 2 ACR (written by ILT Paydock)
Captain Miller on site account 12 April 1991

Mission Reports from:

2/1 Aviation 003 DTG:261630FEB91
Fourth Squadron Operations LOG 31 Dec 1990 -23 Mar 1991
LTC Ward interview 14 April 1991
2/1 After Action Review 14 April 1991

Other:

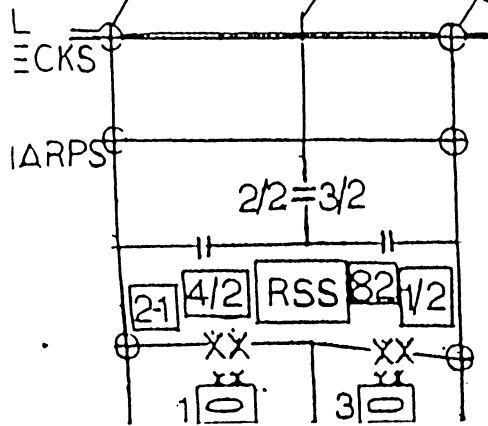
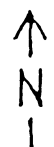
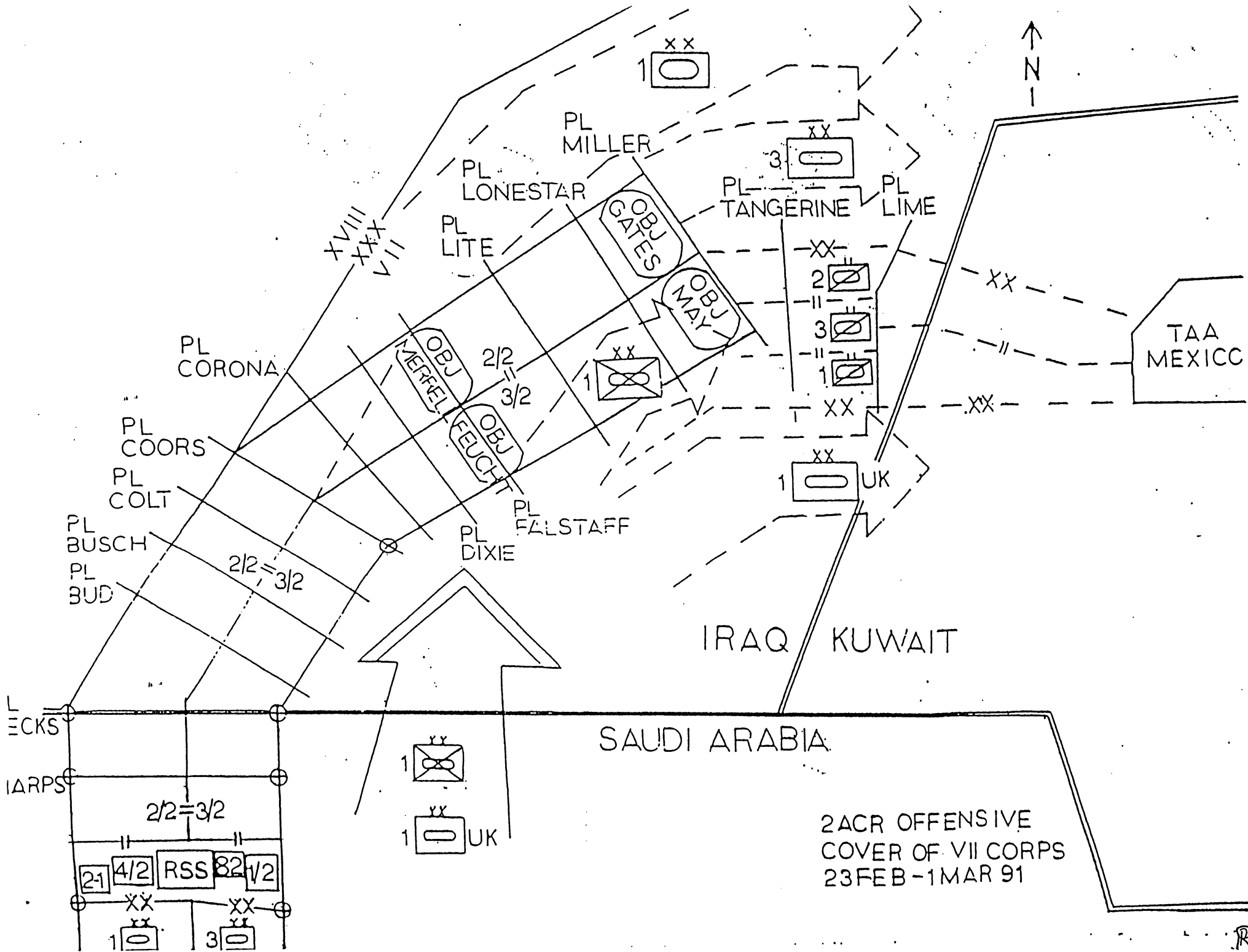
Engineer Survey Data from Battlefield Reconstruction Cell, VII Corps G-2
2 ACR Historical Worksheets
On-site Ground Position System readings 12 April 1991
Photo Log 12 April 1991
ETL map data
DIA map data
On-site survey of battlefield at 73 Easting 12 April 1991

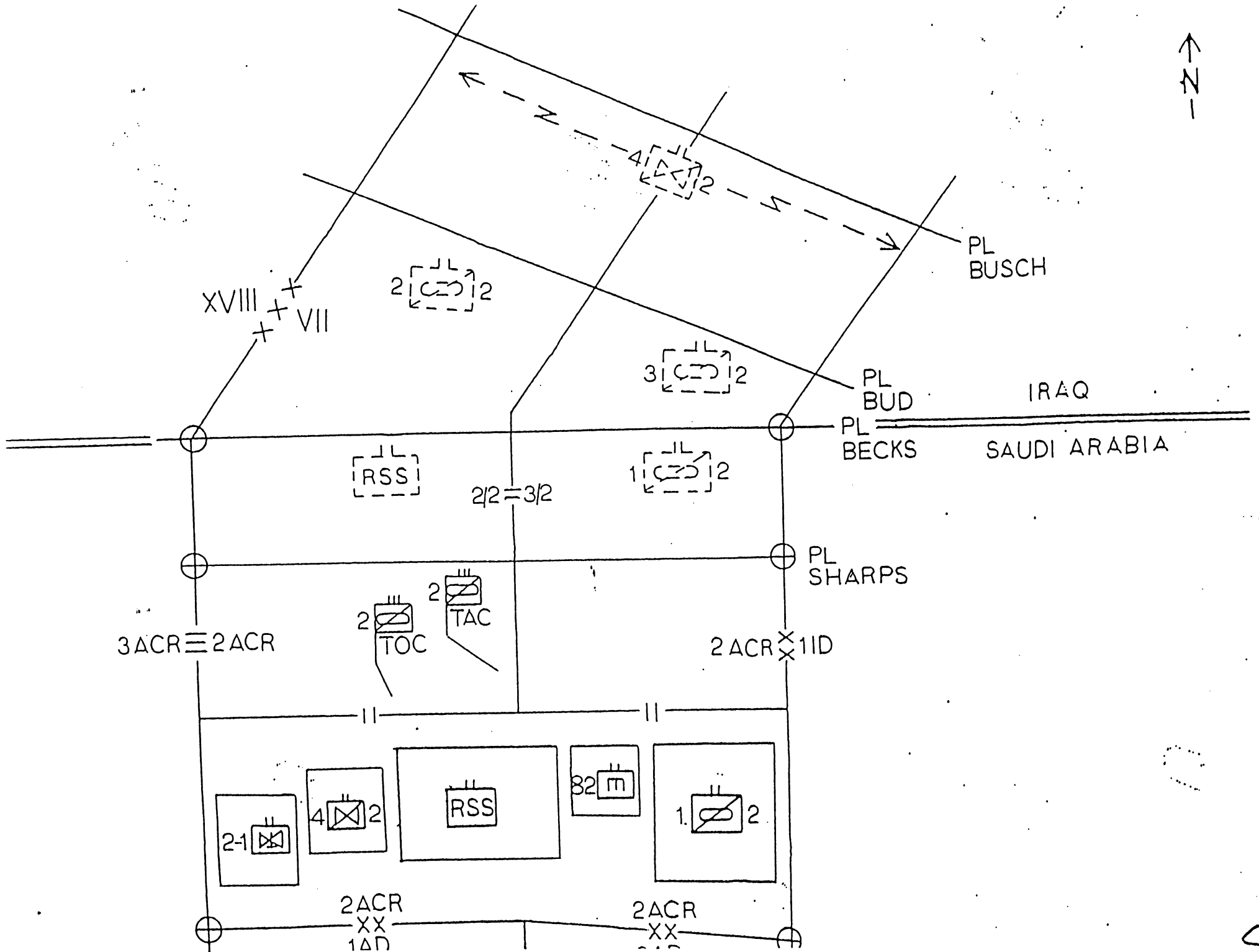
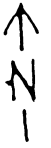


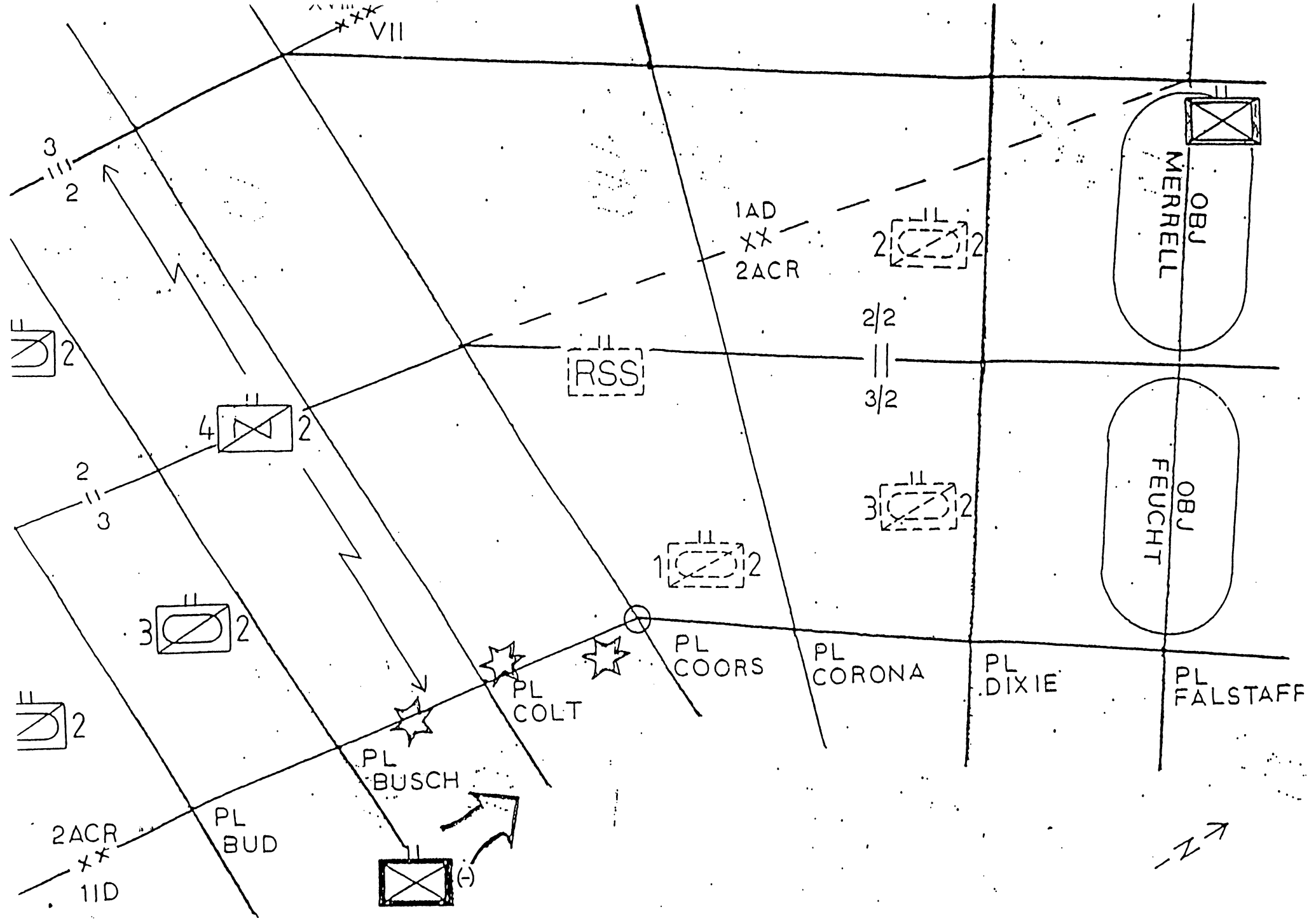
OPERATION DESERT STORM
24 - 28 February 91

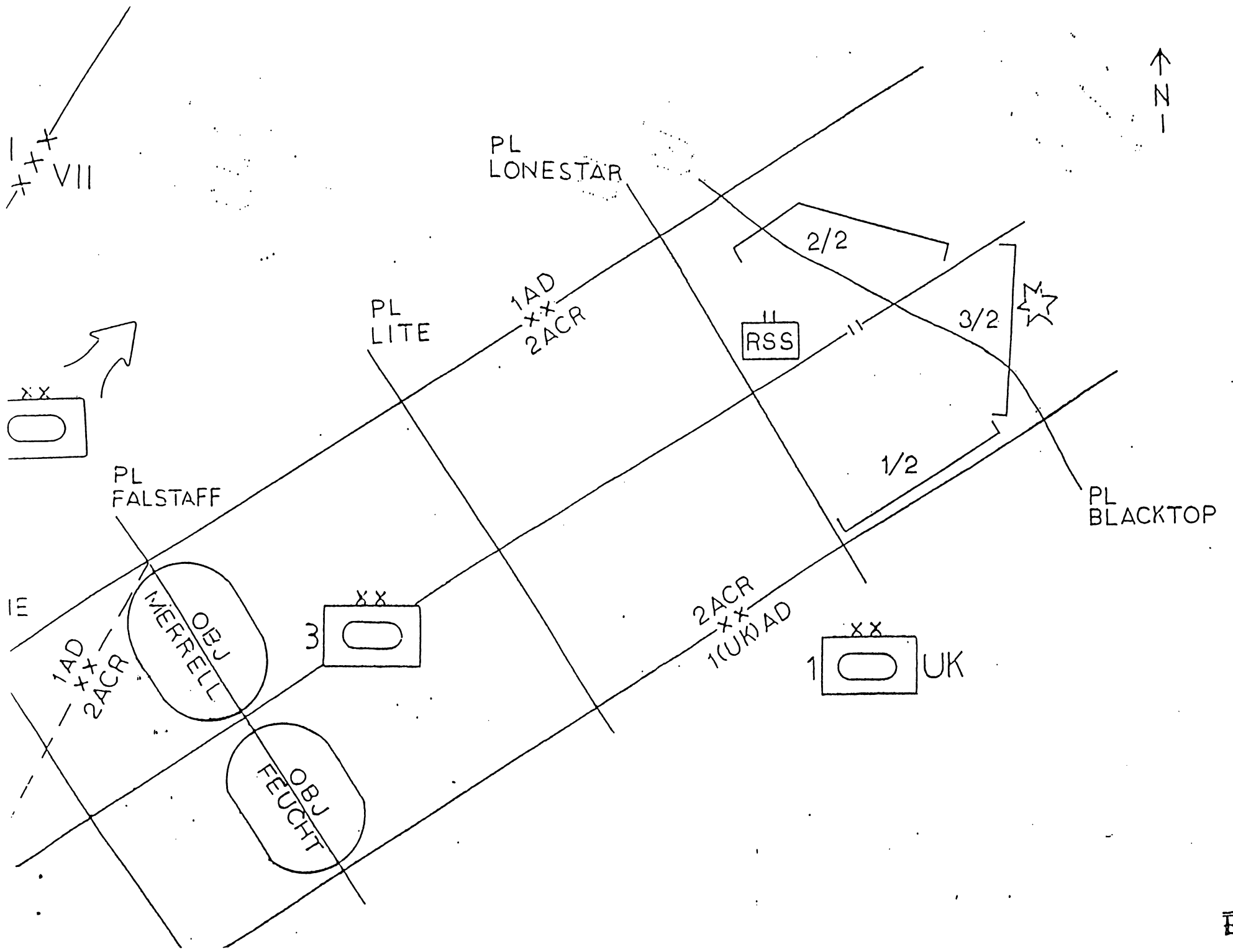
- ← Phase 1
- ← Phase 2
- ← Phase 3
- ← Phase 4

A

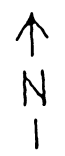








VII



PL LONESTAR

PL LITE

1AD
XX
2ACR

RSS

2/2

3/2



1/2

PL BLACKTOP

PL FALSTAFF

XX

IE

1AD
XX
2ACR

OBJ MERRELL

3

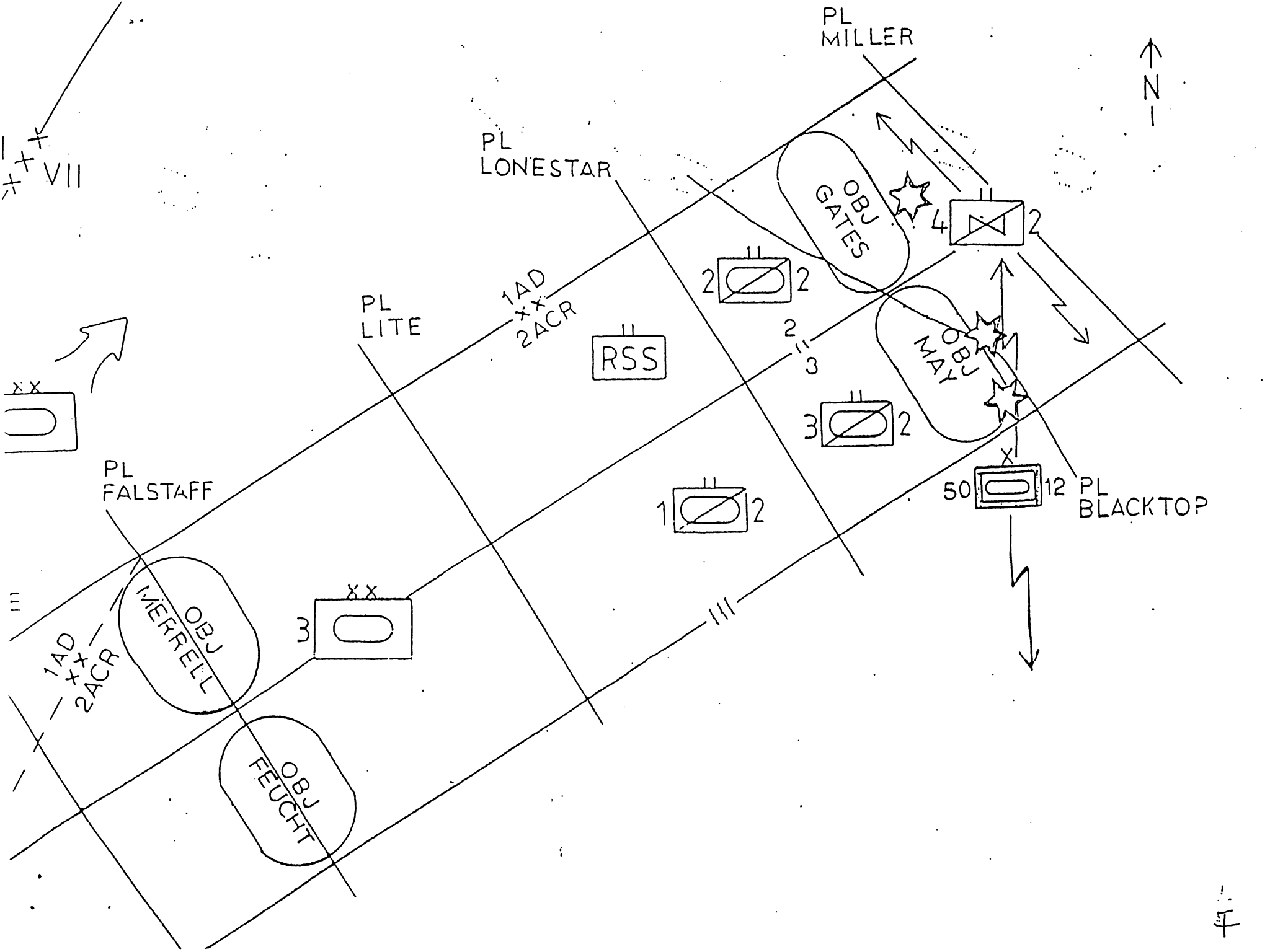
XX

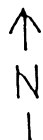
2ACR
XX
1(UK)AD

XX
1 UK

OBJ FEUCHT

E





PL MILLER

NESTAR

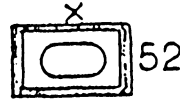
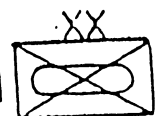
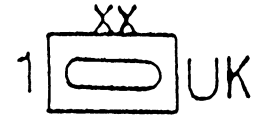
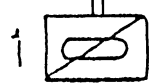
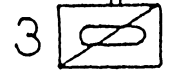
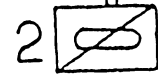
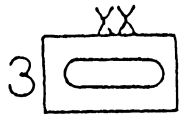
OBJ GATES

PL TANGERINE

PL LIME

OBJ MAYU

XX



L
ONESTAR

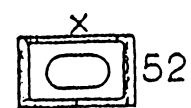
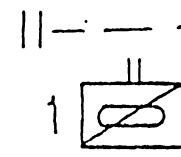
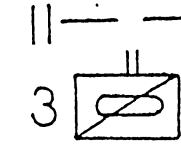
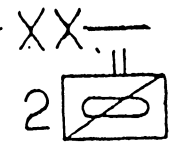
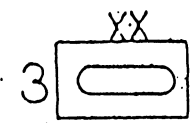
PL
MILLER

OBJ
GATES

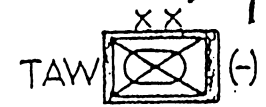
OBJ
YU

PL
TANGERINE

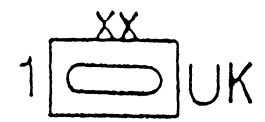
PL
LIME



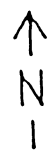
52



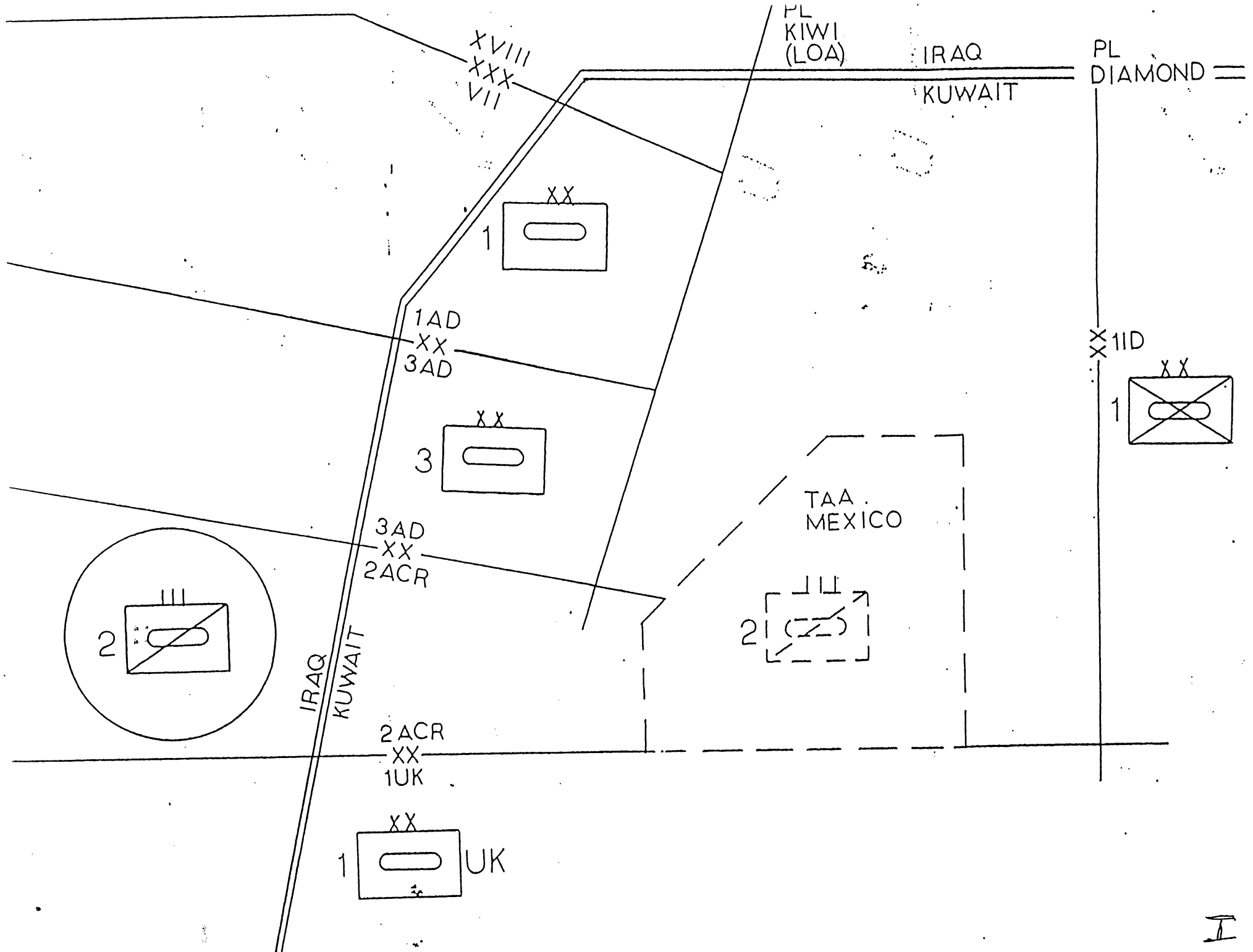
(-)

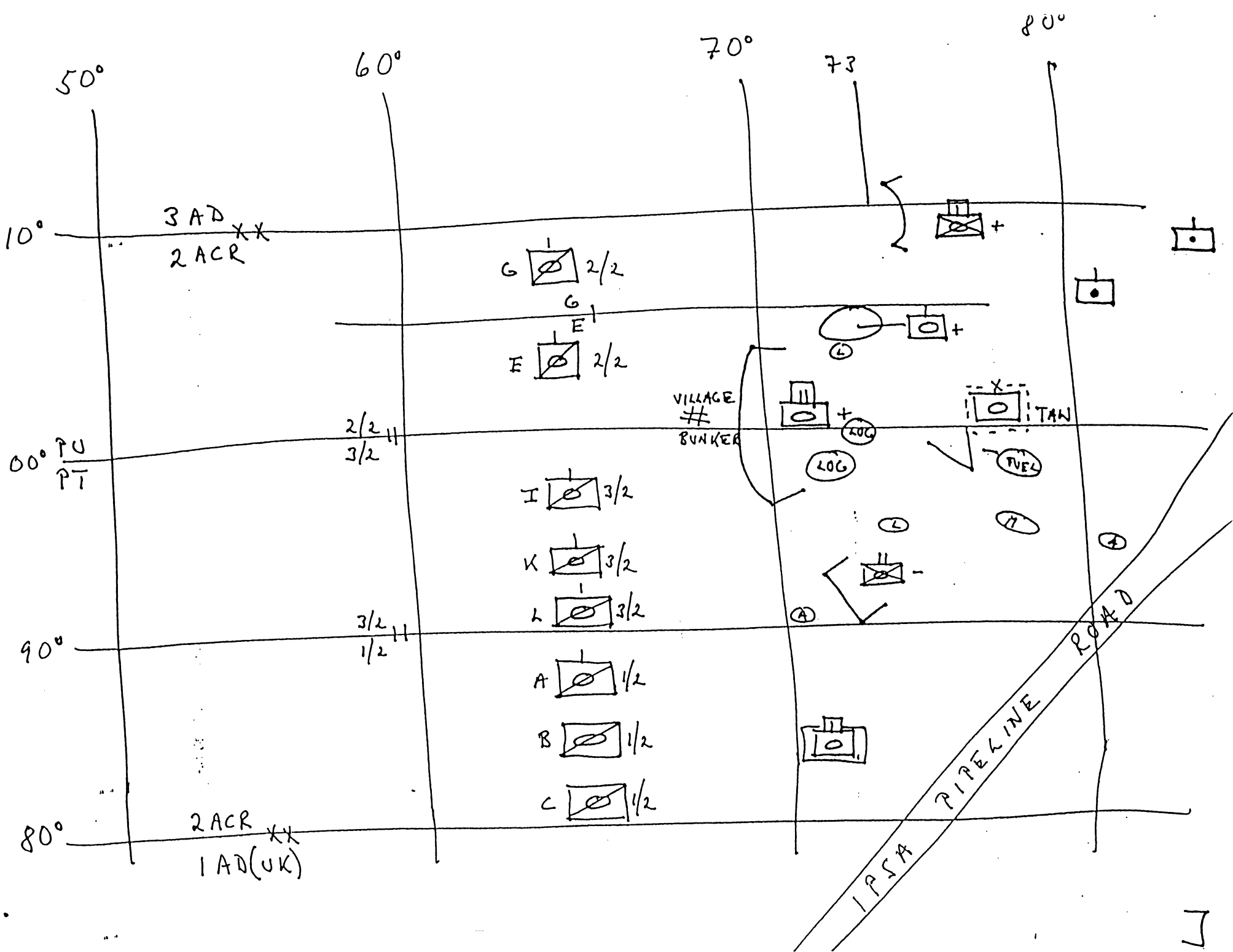


UK



H





C.3

OS

INITIAL CONTACT
AT VILLAGE/
BUNKERS

6000

G
E

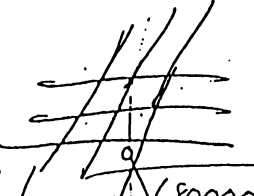
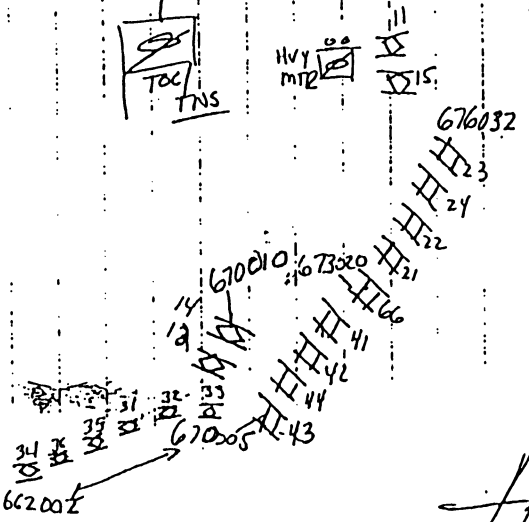
6800/0
13
16

Toc
TNS

Hvy
MTR

15

676032



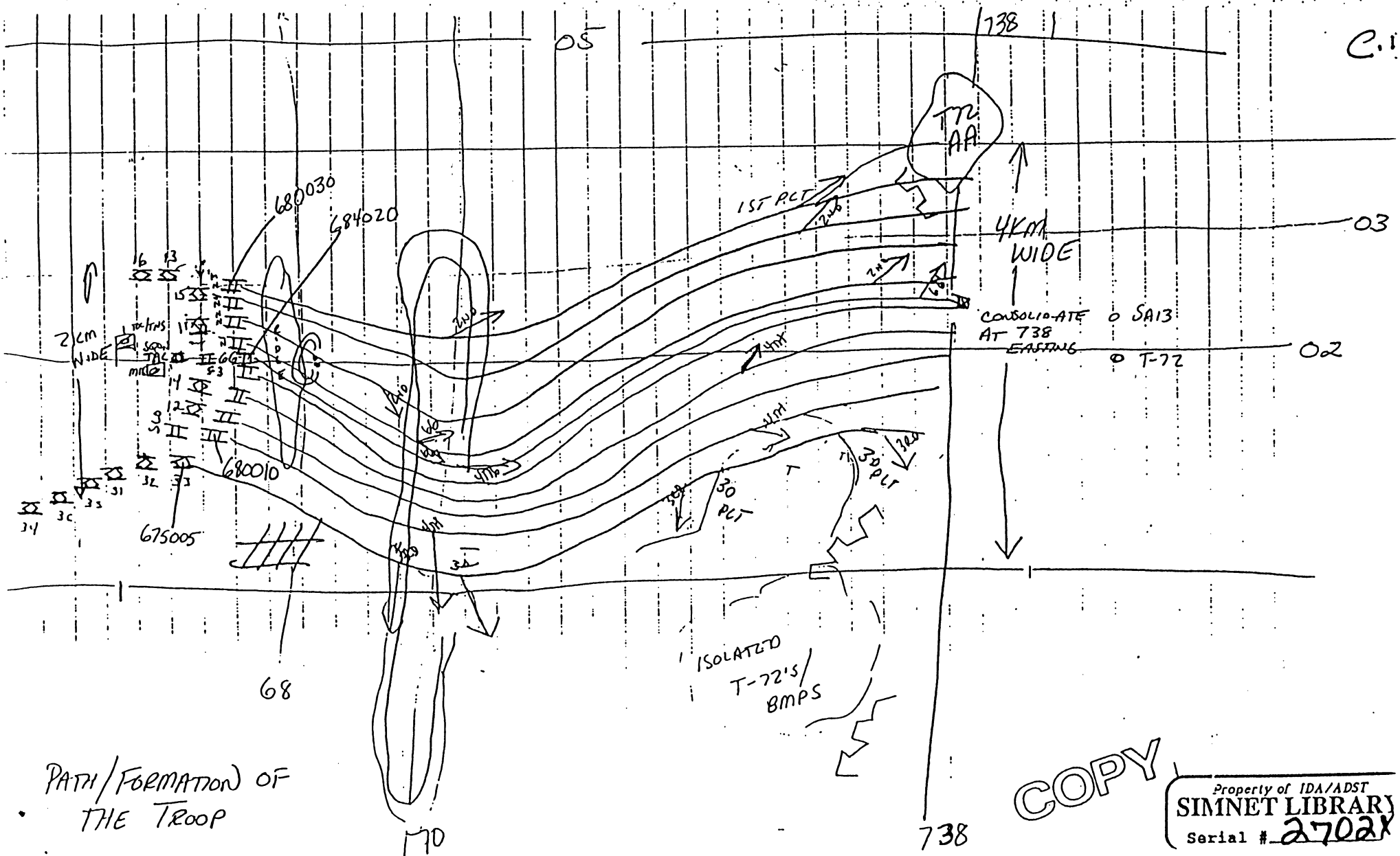
small
bunkers

68

COPY

Property of IDA/ADST
SIMNET LIBRARY
 Serial # 27025

K



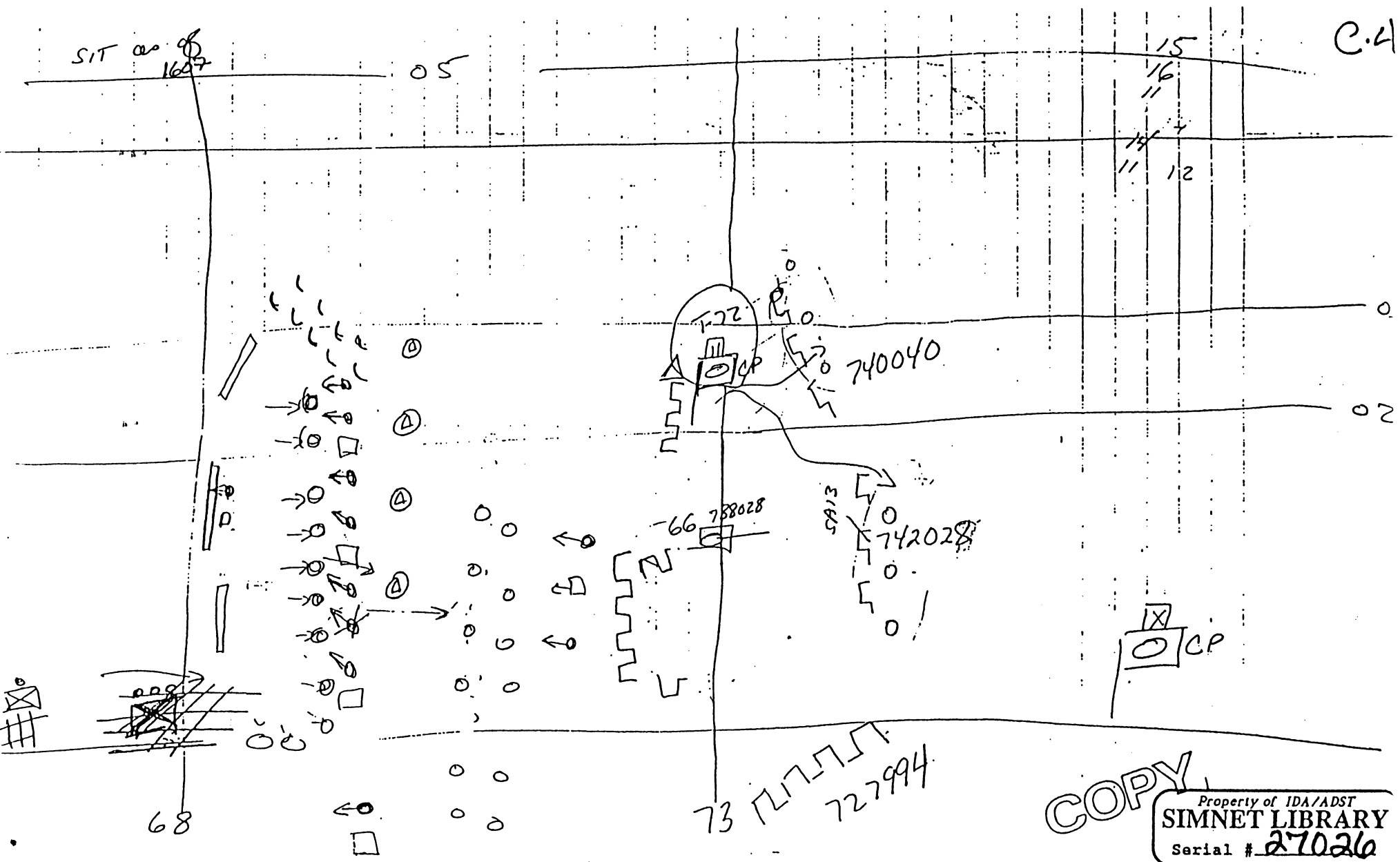
PATH/FORMATION OF THE TROOP

COPY

Property of IDA/ADST
 SIMNET LIBRARY
 Serial # 2702X

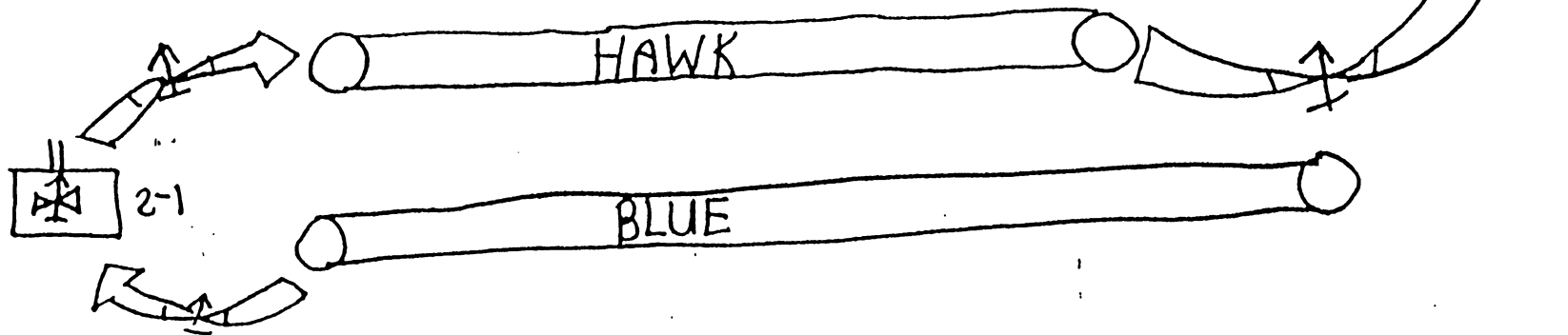
C.4

SIT no 1607



COPY

Property of IDA/ADST
SIMNET LIBRARY
 Serial # 27026



1 1 0 0 1 0

BP 30

BP 31

AP

BP 20

BP 21

AP

BP 10

BP 11

AP

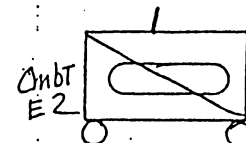
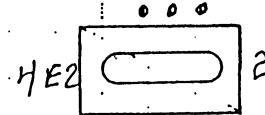
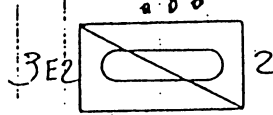
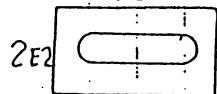
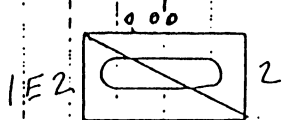
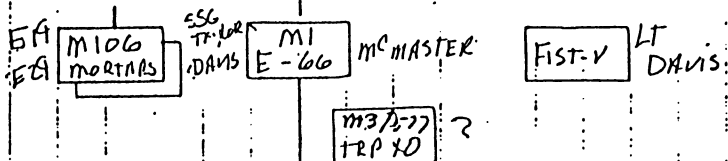
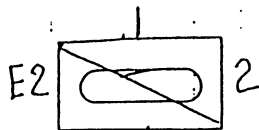
MSN 00



EAGLE TROOP

Captain H.R. McMaster
 E Troop 2/2 ACR Box 15 732
 APO New York 09139

1LT TIMOTHY GAUTHIER
 E TROOP 2/2 ACR BOX 1371
 APO NY 09139



- E11 M3 LT PETZCHECK
- E12 M3 SSG HILL
- E13 M3 SSG LAWRENCE
- E14 M3 SSG PATTERSON
- E15 M3 SSG TORIAN
- E16 M3 SSG MINDEE

- E21 M1 2LT HAMILTON
- E22 M1 SGT BROWN
- E23 M1 SSG WEBSTER
- E24 M1 SFC WALLACE

- E31 M3 1LT GAUTHIER
- E32 M3 SSG MC REYNOLDS
- E33 M3 SGT HARRIS
- E34 M3 SSG CAUDILL
- E35 M3 SGT DIEBIE
- E36 M3 SGT SCHOENMAKER

- E41 M1 2LT DESTAFANO
- E42 M1 SGT RUSS
- E43 M1 SSG WINTSON
- E44 M1 SSG FOY

- M88
- Medic M113
- MANT M113
- 1ST SGT M113

FIC Hummel

13 ←
 FIST-V 150 m behind
 16

2LT MIRAZEL HAMILTON
 E Troop 2/2 ACR Box 15 732
 APO New York 09139

COPY

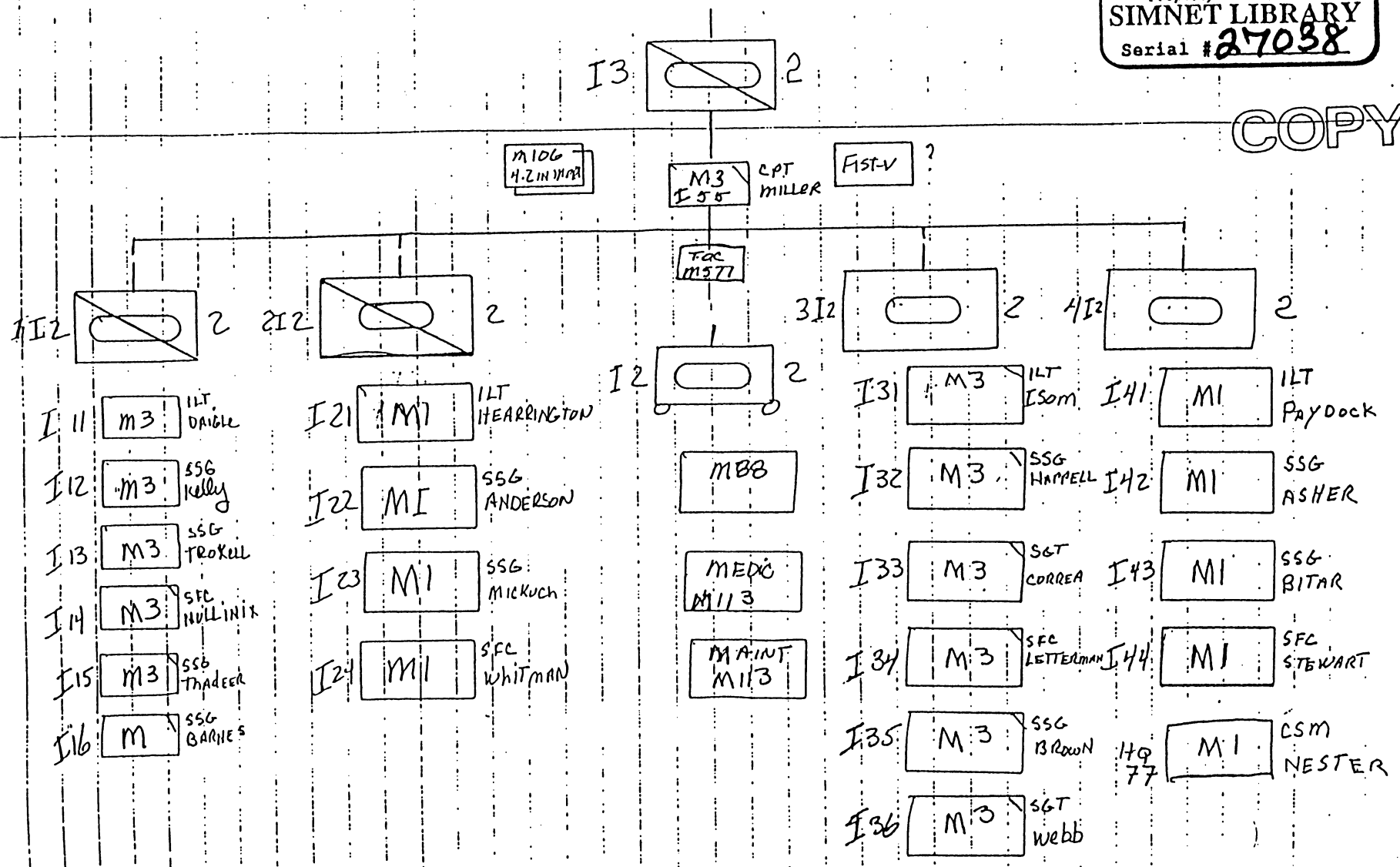
Property of IDA/ADST
 SIMNET LIBRARY
 Serial # 2702

IRON TROOP

Property of IDA/ADST
SIMNET LIBRARY
 Serial # **27038**

D

COPY



Attachment to:

The Battle of 73 Easting

26 February 1991

A Historical Introduction
to a Simulation

(Maps and Locations)

By

Michael D. Krause, Ph.D.

Colonel, U.S. Army
Chief, Logistic Planning Cell
22nd Support Command
Dhahran, Saudi Arabia
APO New York 09616

Formerly
Deputy Chief of Military History
US Army Center for Military History
Washington, D.C. 20374-5088



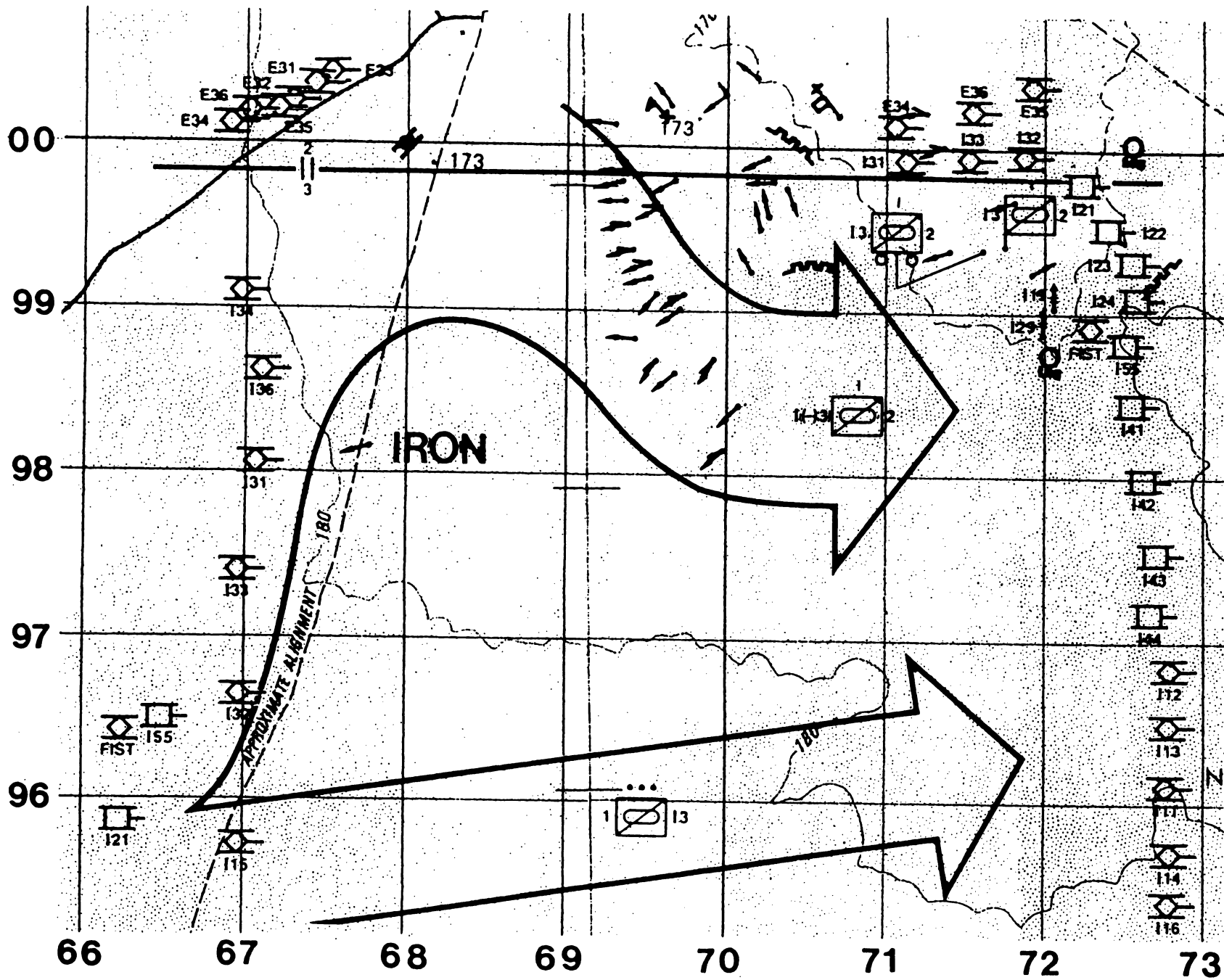
27 August 1991

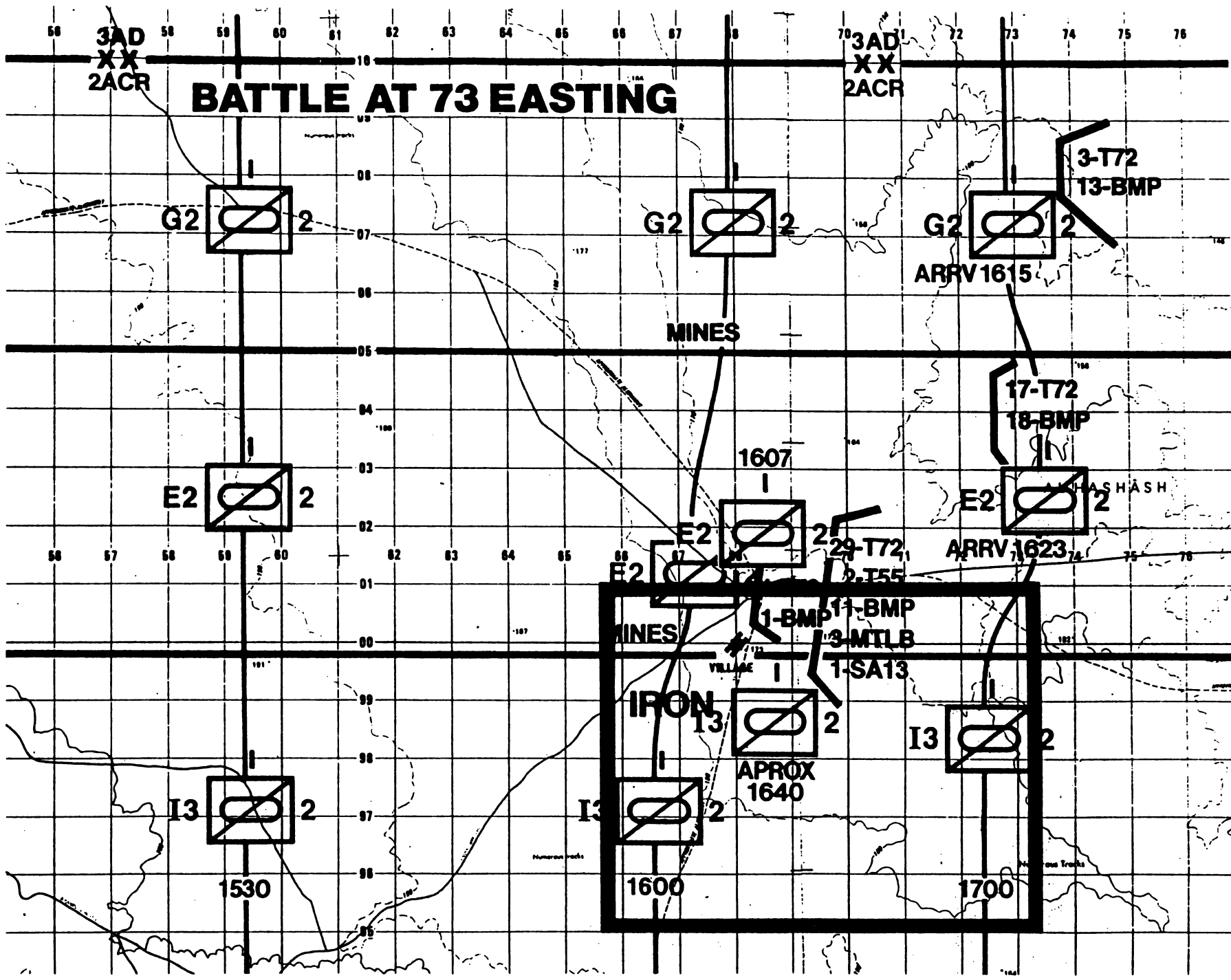
A Joint Project

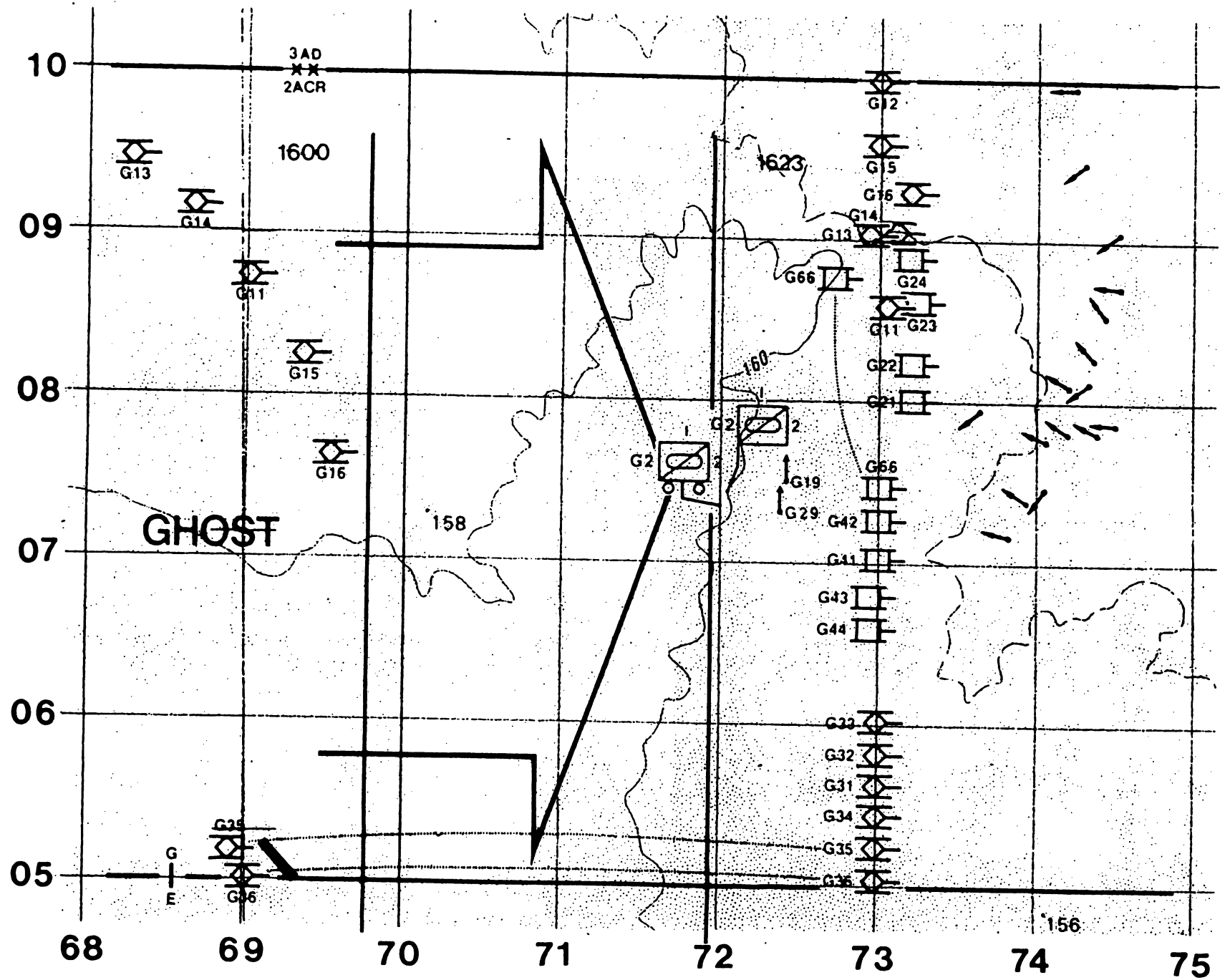
**Center of Military History
&
Defense Advanced Research Projects Agency**

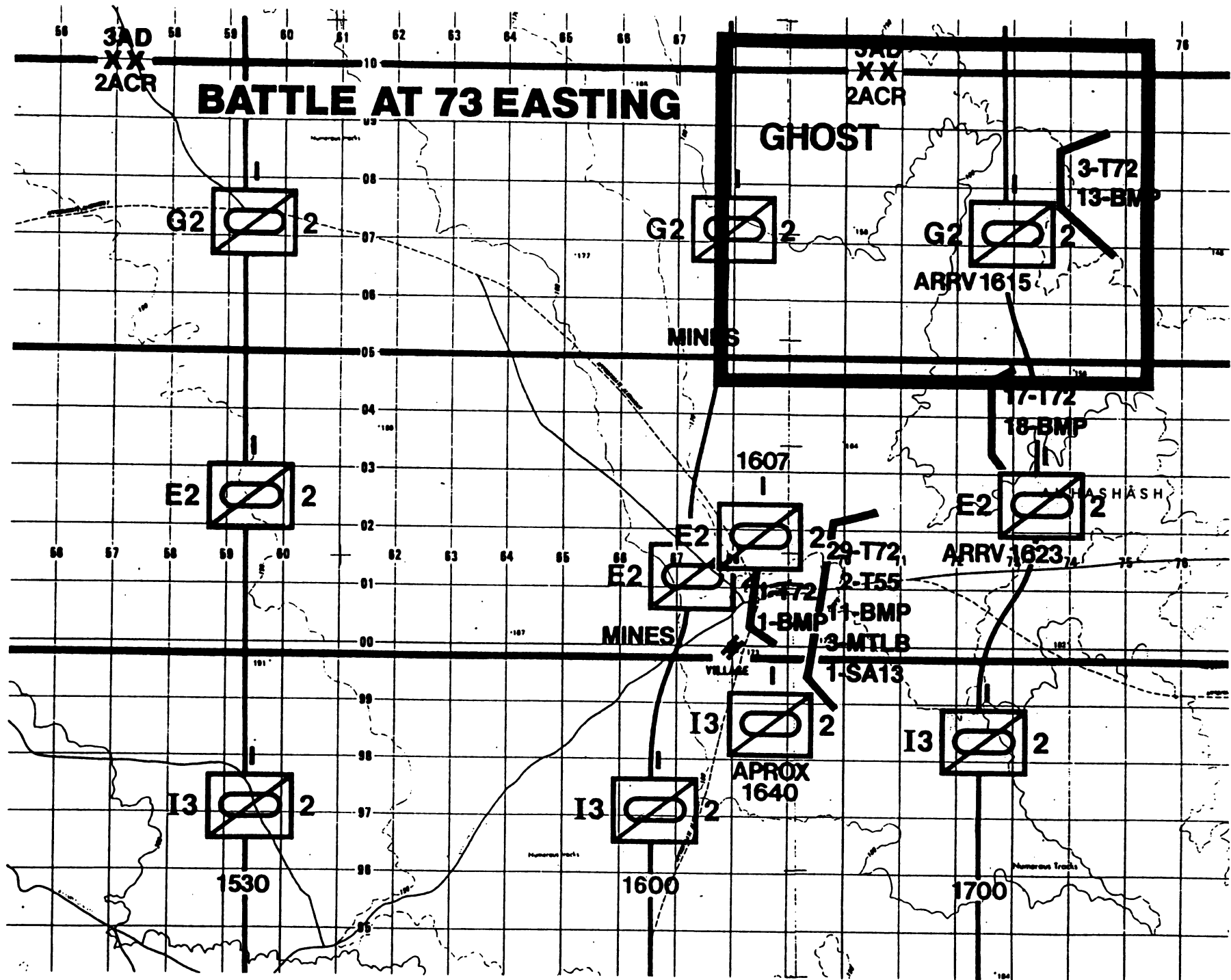
BATTLE OF 73 EASTING AMMUNITION TARGET EFFECT ESTIMATES *S

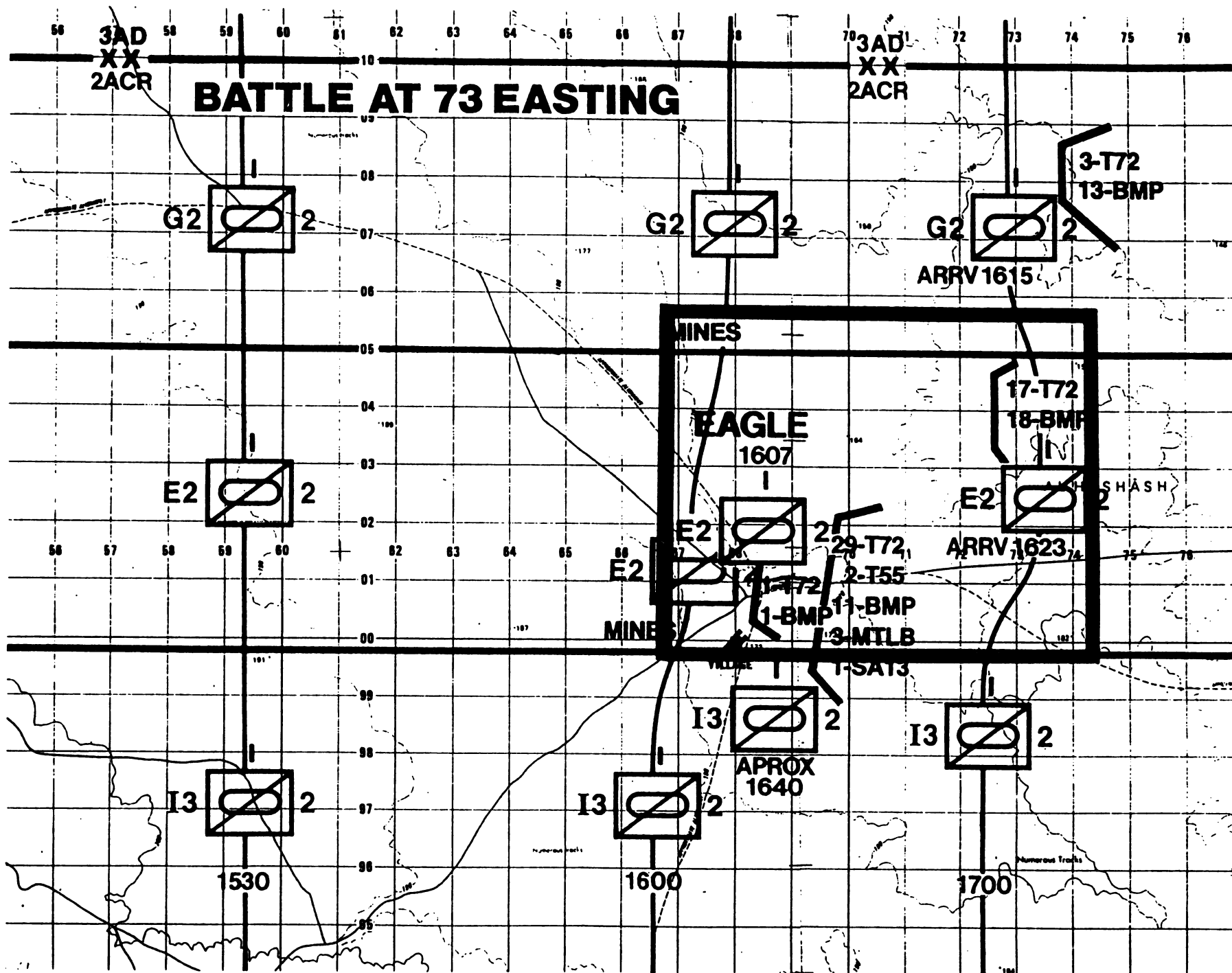
UNIT	120 MM	TOW	25 MM	COAX	4.2 INCH	T72/62	BMP	MTLB	TRUCK	BUNKER	TROOPS	
GHOST TROOP	SABOT - 14	30	AP - 675	380	MT/PD - 248	13	13	2	5	15	140	
	HEAT - 7		HEI-T - 90									
EAGLE TROOP	SABOT - 58	22	API - 113	4050	MT/PD - 60	28	8	8	39	17	300	
	HEAT - 24		HEI-T - 577									
IRON TROOP*	SABOT - 16											
	HEAT - 6	28	API - 38	800	0	9	4	1	1	5	150	
			HEI-T - 365									
TOTALS	SABOT - 88		API - 826									
	HEAT - 37	80	HEI-T - 1032	5230	308	50	25	11	45	37	590	
* ANALYSIS OF DATA INCOMPLETE. REFLECTS RAW COUNT OF BATTLEFIELD SURVEY, ENGINEER DEMOLITION REPORT & INDIVIDUAL VEHICLE COMMANDER ESTIMATES. FIRE/TARGET PAIRING ANALYSIS MAY CHANGE TROOP TOTALS SLIGHTLY.												

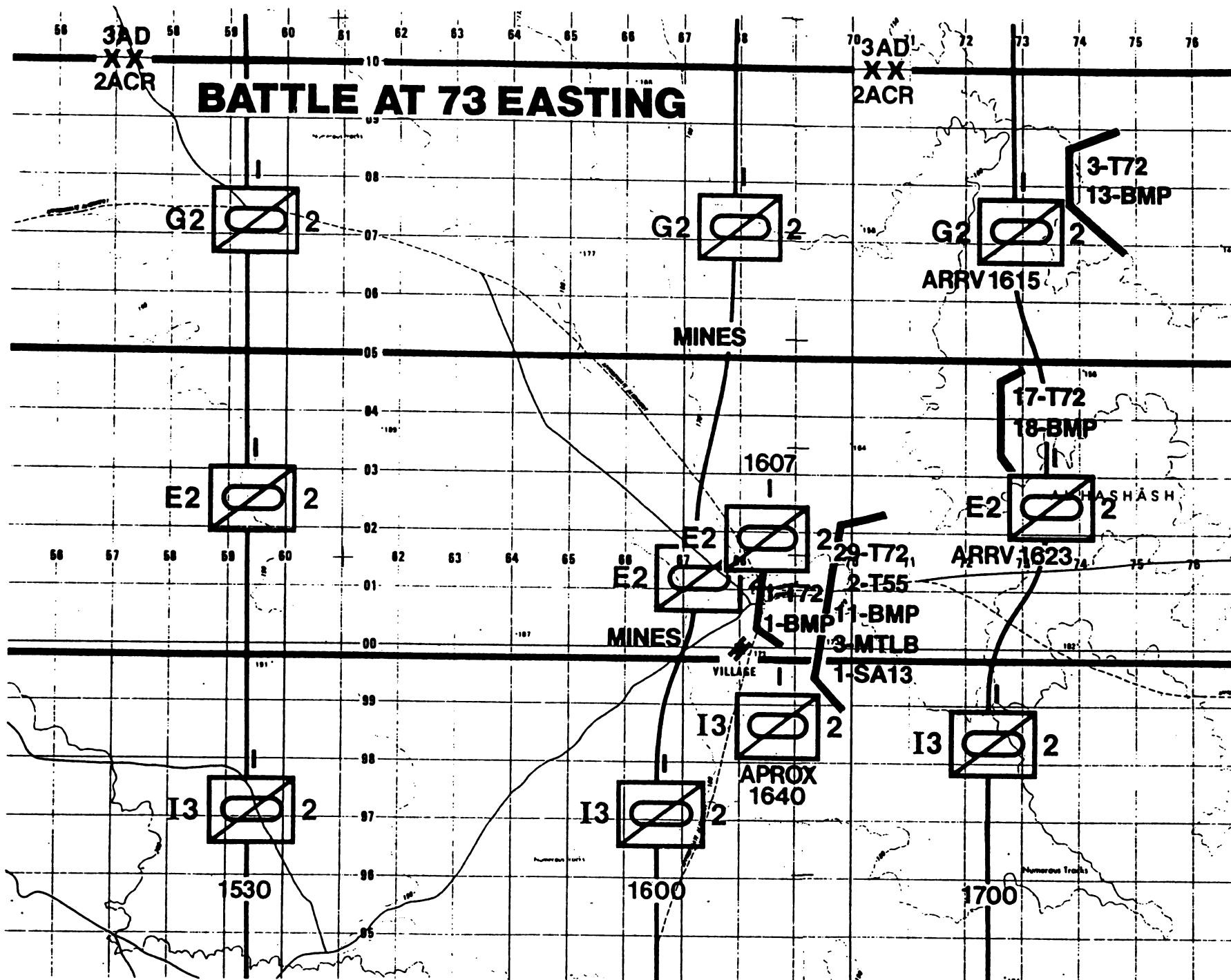


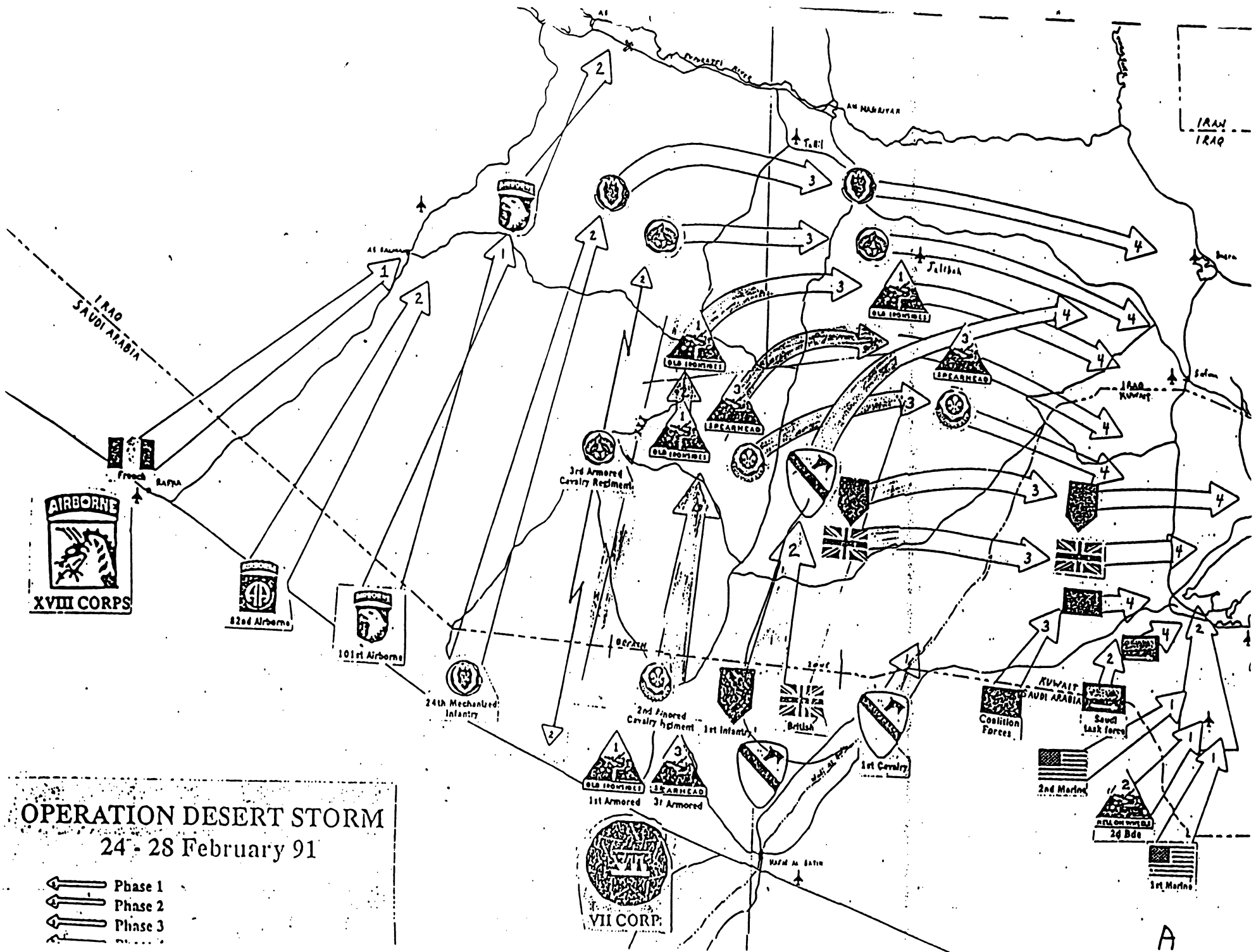






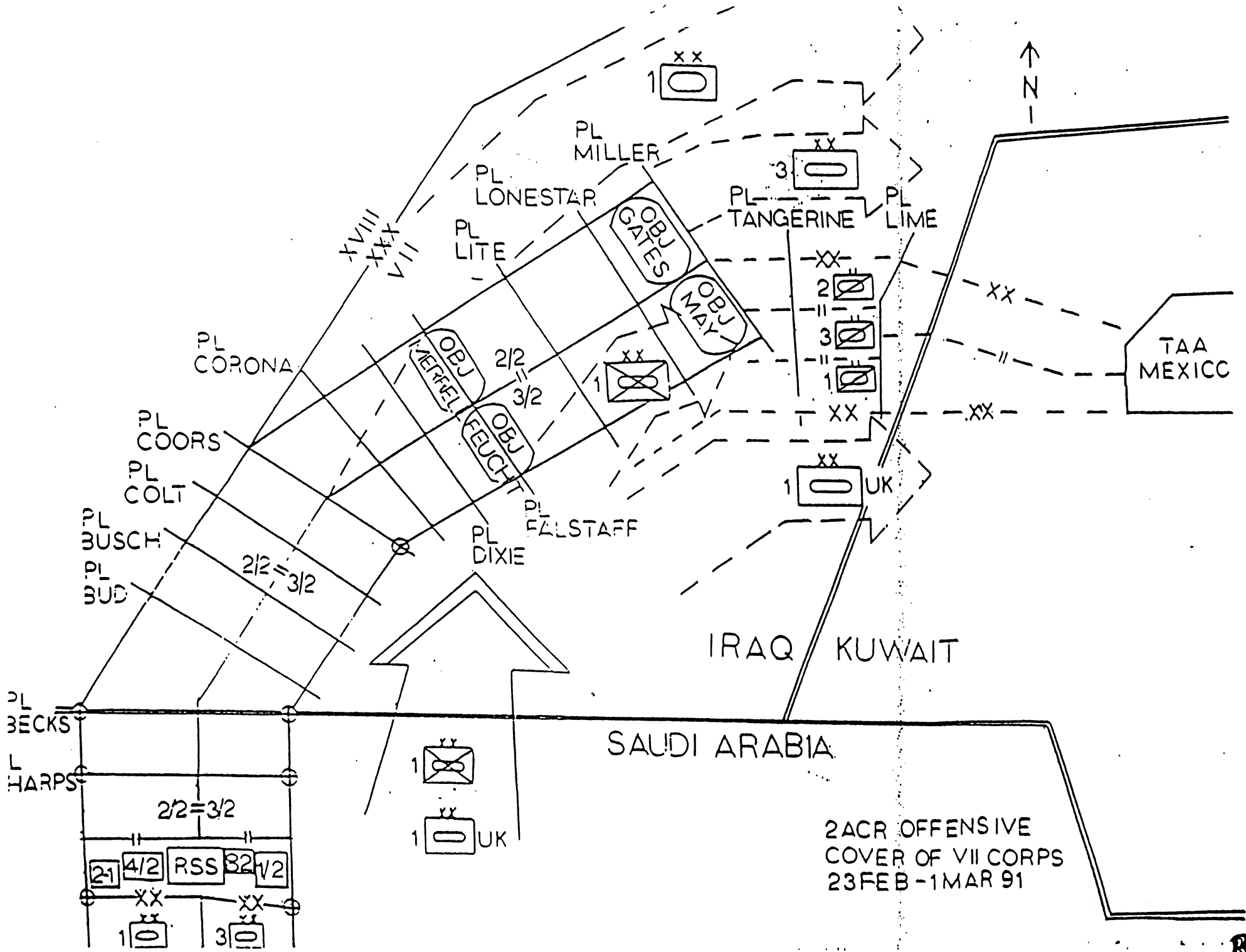




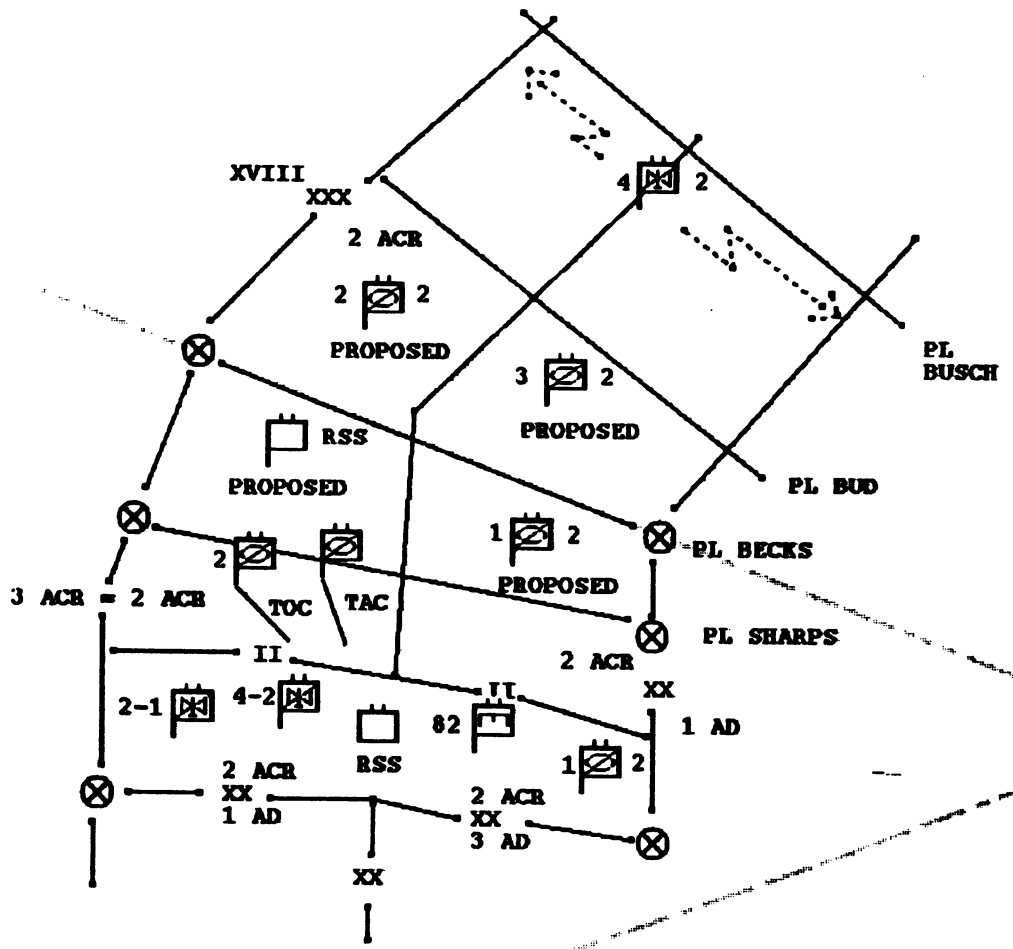
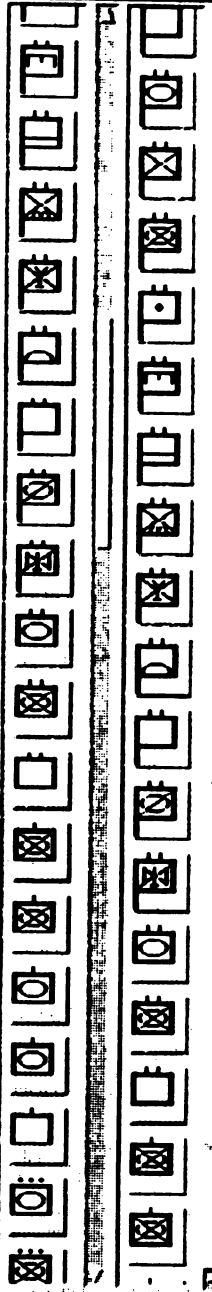


OPERATION DESERT STORM
24 - 28 February 91

- Phase 1
- - - Phase 2
- ... Phase 3



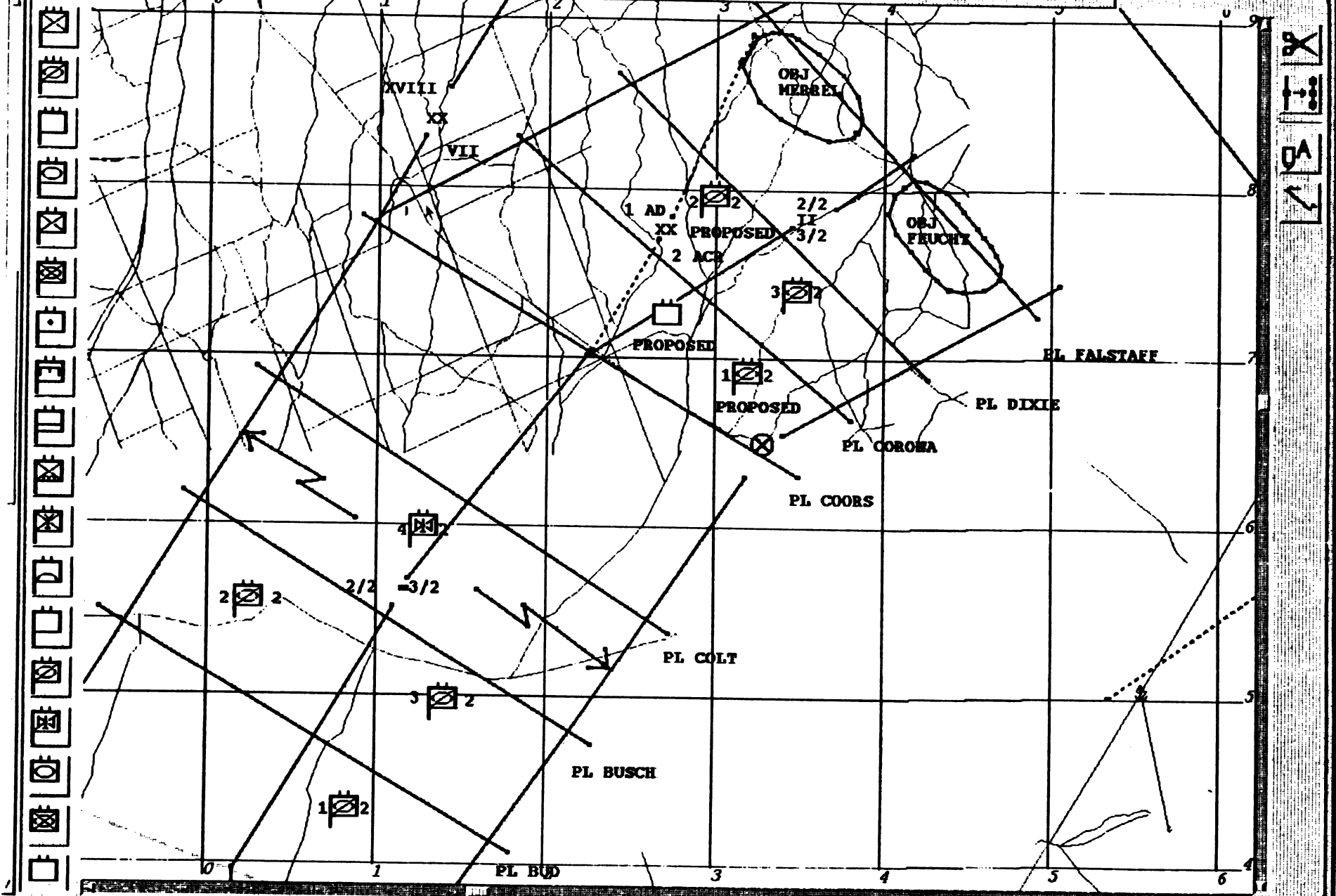
2ACR OFFENSIVE
COVER OF VII CORPS
23 FEB - 1 MAR 91



Scale 1:500,000

- Grids
- Roads
- Buildings
- Powerlines
- Pipelines
- Water
- Trees
- Railroads
- Boundaries
- Contours
- 40/40
- Designations
- 38RNT85303715

System Capacity



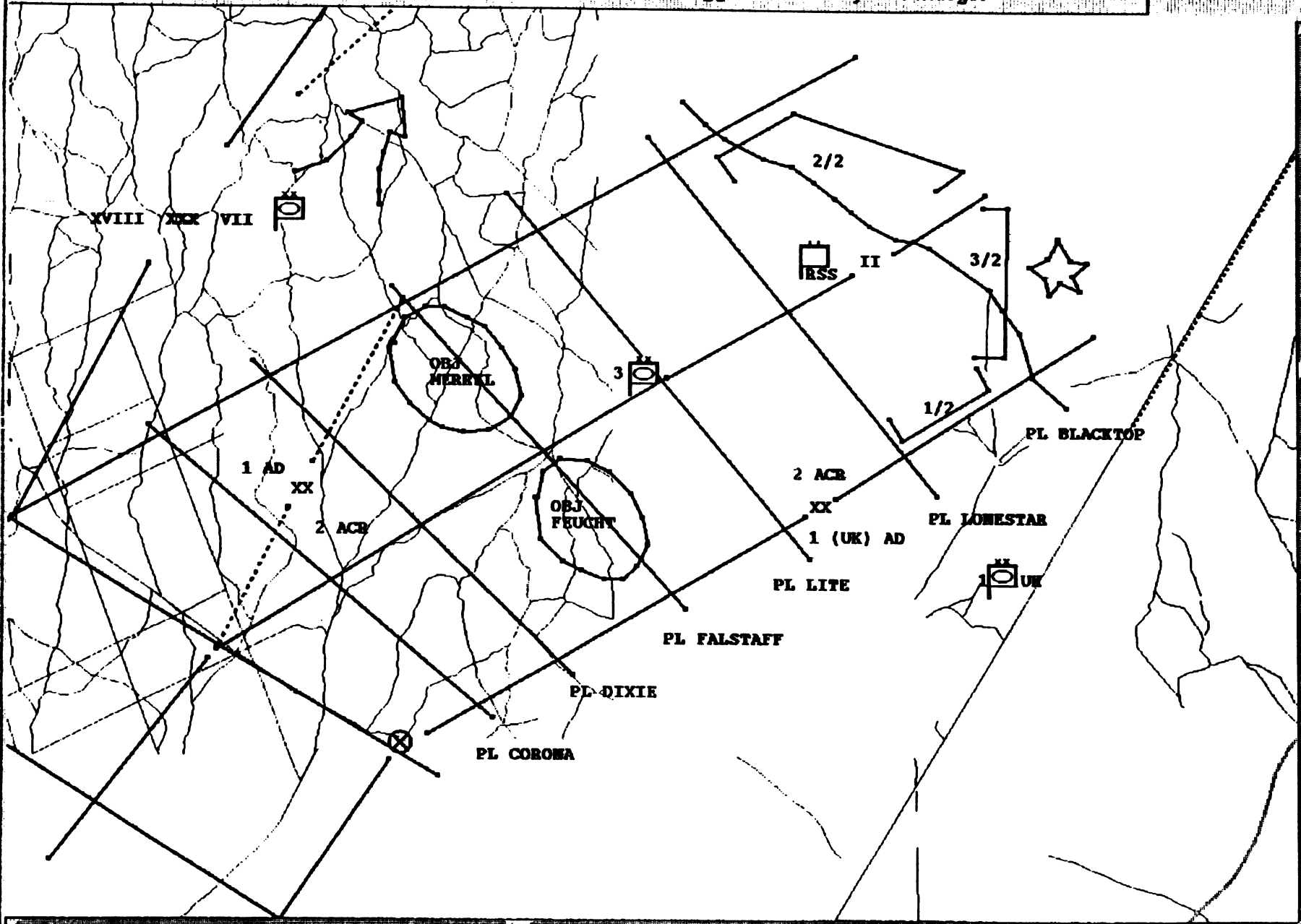
Scale 1:250,000

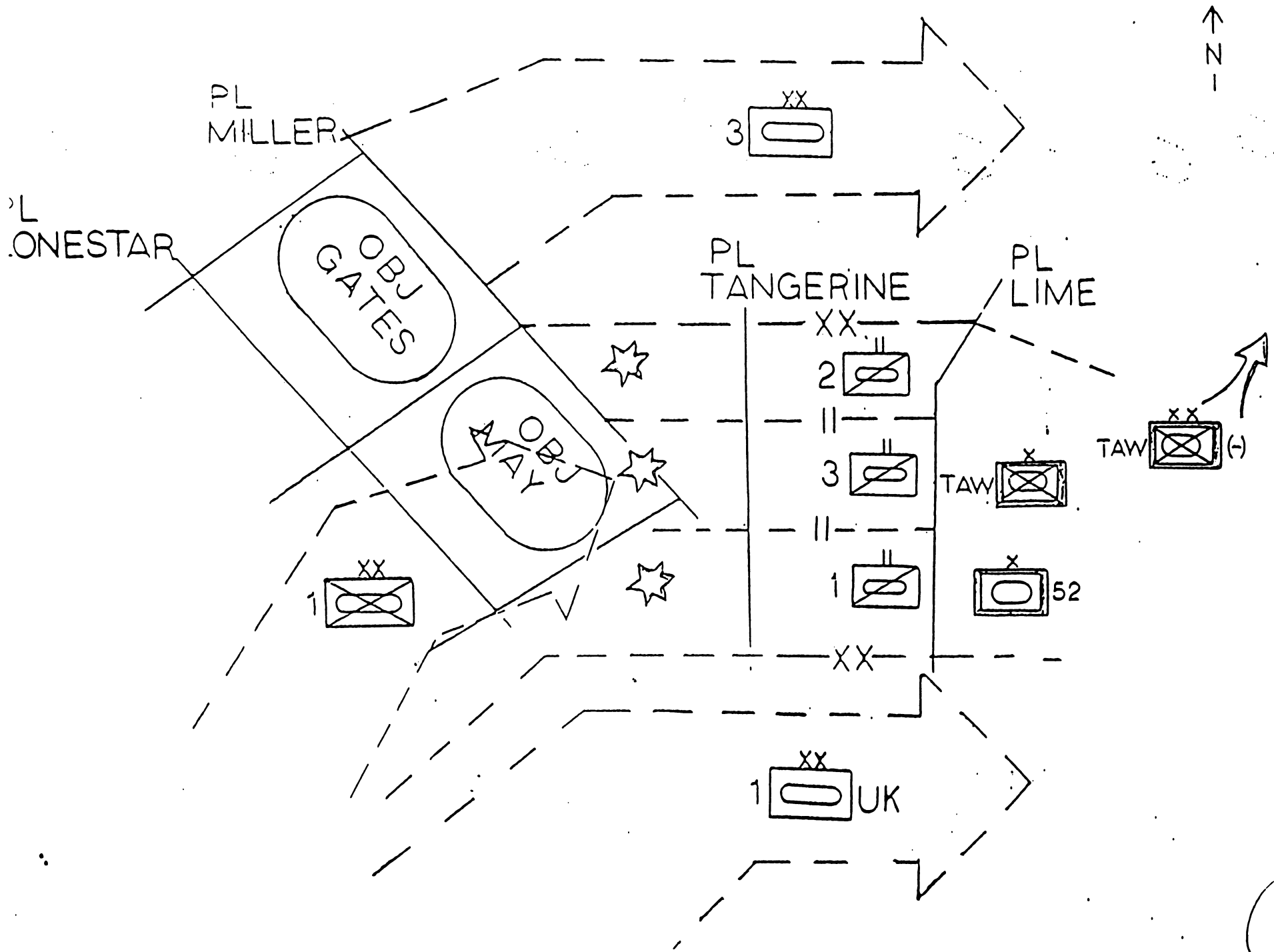
- Grids
- Roads
- Buildings
- Powerlines
- Pipelines
- Water
- Trees
- Railroads
- Boundaries
- Contours

40/40 Designations

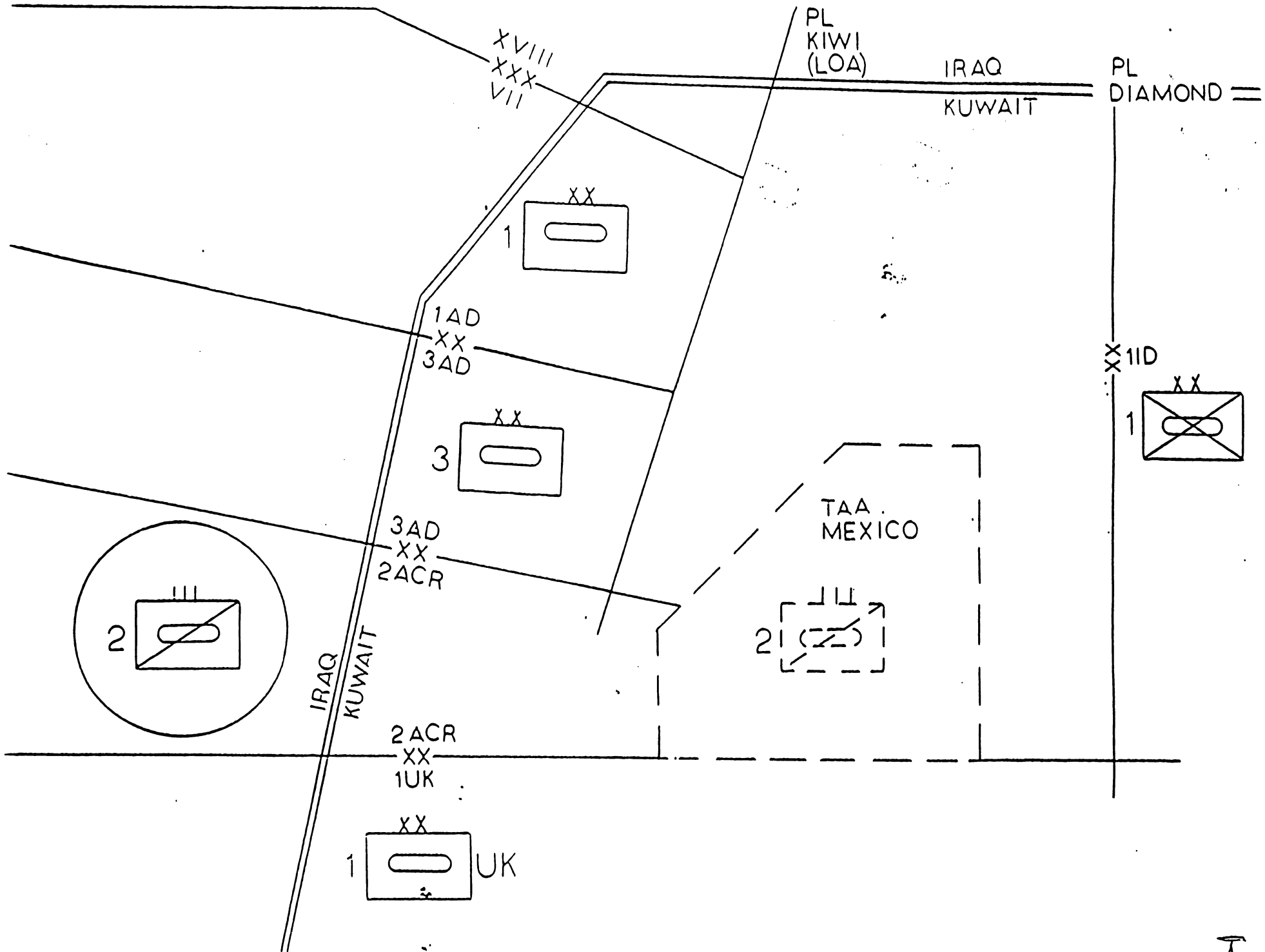
38RPT25016492

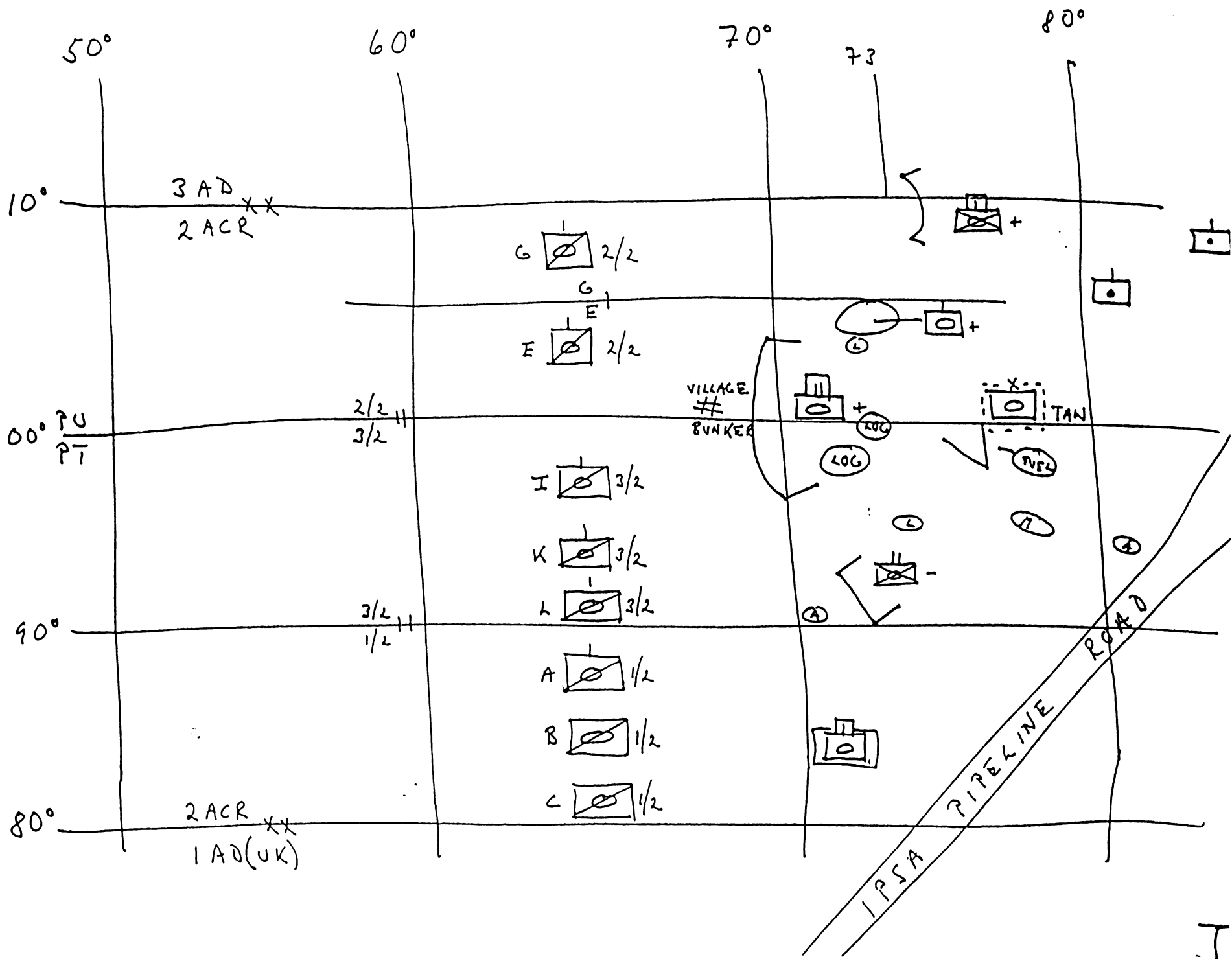
System Capacity





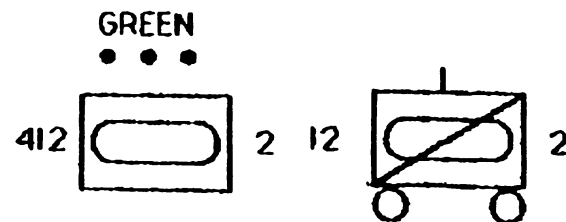
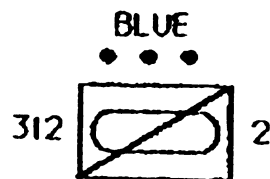
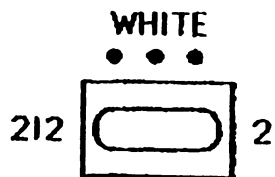
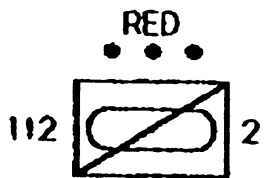
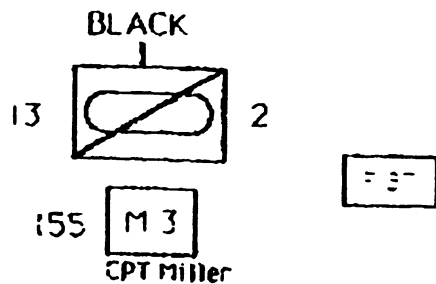
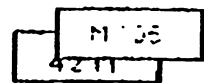






T

JUN - 61 91
THIS
SIDE
OF
THE
LINE
FOR
ENGINEERING
INC
P.O.
#3



111 M3
LT Daigle

121 M1
1LT Hearington

131 M3
1LT Isom

141 M1
1LT Paydock

M577
TOC

112 M3
SSG Kelly

122 M1
SSG Anderson

132 M3
SSG Happell

142 M1
SSG Asher

M88

113 M3
SSG Troxell

123 M1
SSG Mickuch

133 M3
SGT Correa

143 M1
SSG Bitar

MAINT
M113

114 M3
SFC Nullnix

124 M1
SFC Whitman

134 M3
SFC Letterman

144 M1
SFC Stewart

MEDIC
M113

115 M3
SSG Thadeer

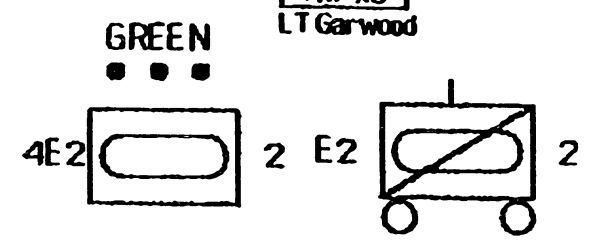
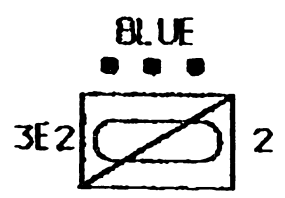
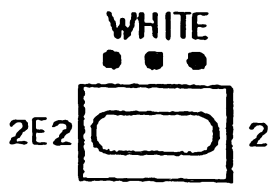
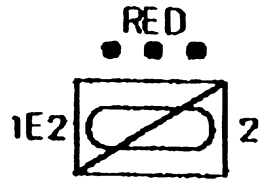
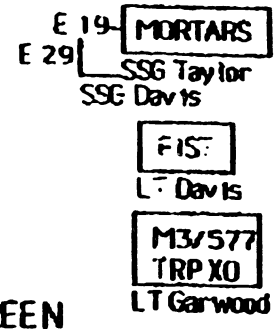
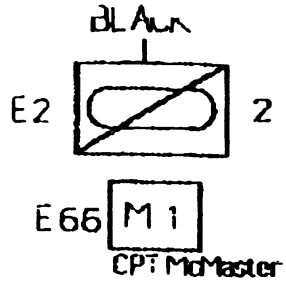
135 M3
SSG Brown

M1
CSM Nester

116 M3
SSG Barnes

136 M3
SGT Webb

JUN - 81 6 - 31 THU 8:58 AM 31 JUL 81 12:58 PM 31 AUG 81 11:58 AM 31 SEP 81 10:58 AM 31 OCT 81 09:58 AM 31 NOV 81 08:58 AM 31 DEC 81 07:58 AM



E11 **M3**
LT Petzchek

E21 **M1**
2LT Hamilton

E31 **M3**
1LT Gauthier

E41 **M1**
2LT Destafano

E12 **M3**
SSG Hill

E22 **M1**
SGT Brown

E32 **M3**
SSG McReynolds

E42 **M1**
SGT Russ

E13 **M3**
SSG Lawrence

E23 **M1**
SSG Webster

E33 **M3**
SGT Harris

E43 **M1**
SSG Watson

E14 **M3**
SSG Patterson

E24 **M1**
SFC Wallace

E34 **M3**
SSG Caudill

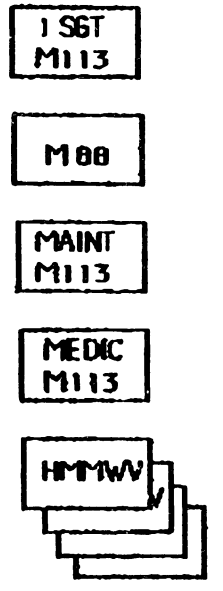
E44 **M1**
SSG Foy

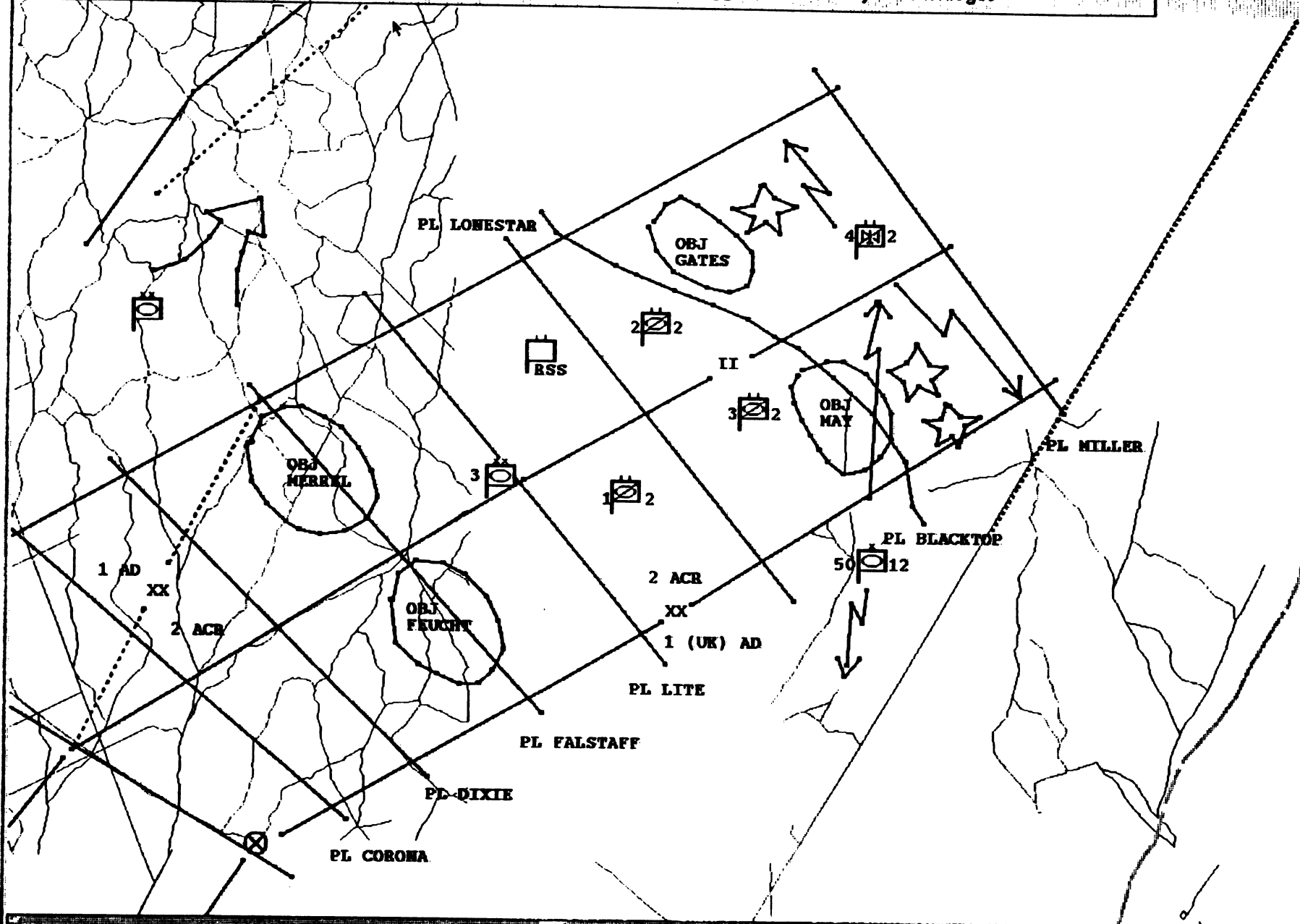
E15 **M3**
SSG Fortan

E35 **M3**
SGT Digby

E16 **M3**
SSG McGee

E36 **M3**
SGT Schoonmaker





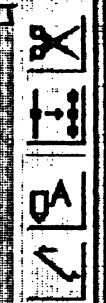
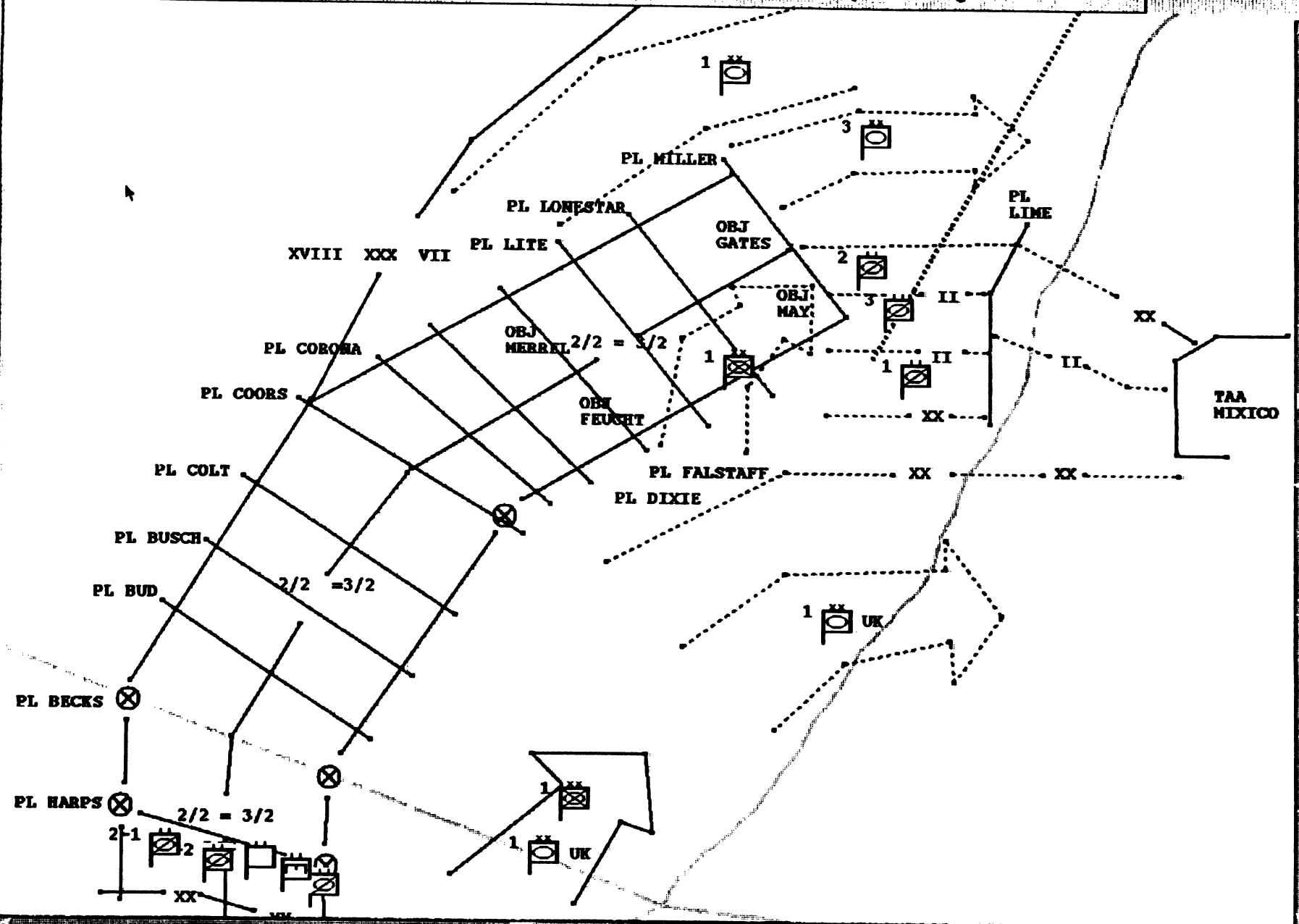
Scale 1:250,000

- Grids
- Roads
- Buildings
- Powerlines
- Pipelines
- Water
- Trees
- Railroads
- Boundaries
- Contours

40/40 Designations

38RPT55788676

System Capacity



Scale 1:500,000

- Grids
- Roads
- Buildings
- Powerlines
- Pipelines
- Water
- Trees
- Railroads
- Boundaries
- Contours

40/40

Designations

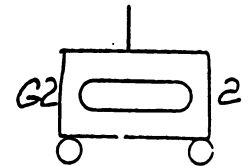
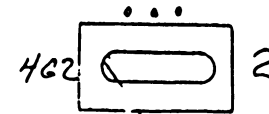
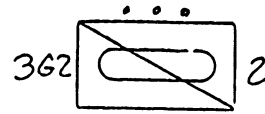
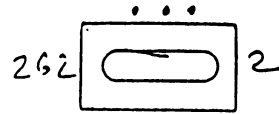
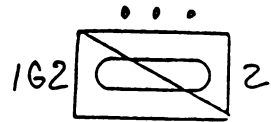
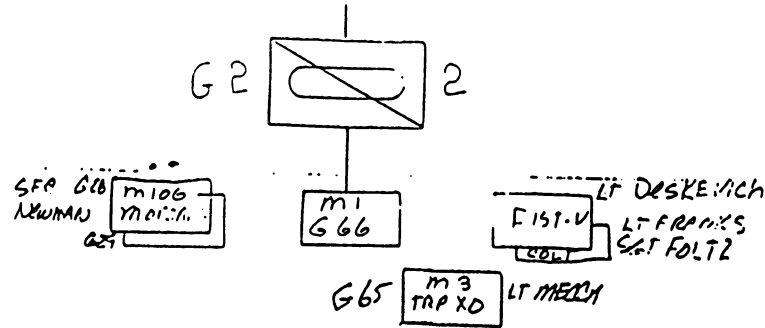
38RPT49467089

System Capacity

GHOST TROOP

SGT JOSEPH F. SARTIANO
 CDR G-ROOF, 2/2 ACR
 PO Box 15961-G
 APO NY 09139

B.



- G11 m3 LT GRANVICK
- G12 m3 SSG GARCIA
- G13 m3 SGT MURPHY
- G14 m3 SFC LAWRENCE
- G15 m3 SSG ROBBINS
- G16 m3 SSG CHAFFEE

- G21 m1 2LT KILGORE
- G22 m1 SSG GUILLERMO
- G23 m1 SSG COOLEY
- G24 m1 SSG LUNDQUIST

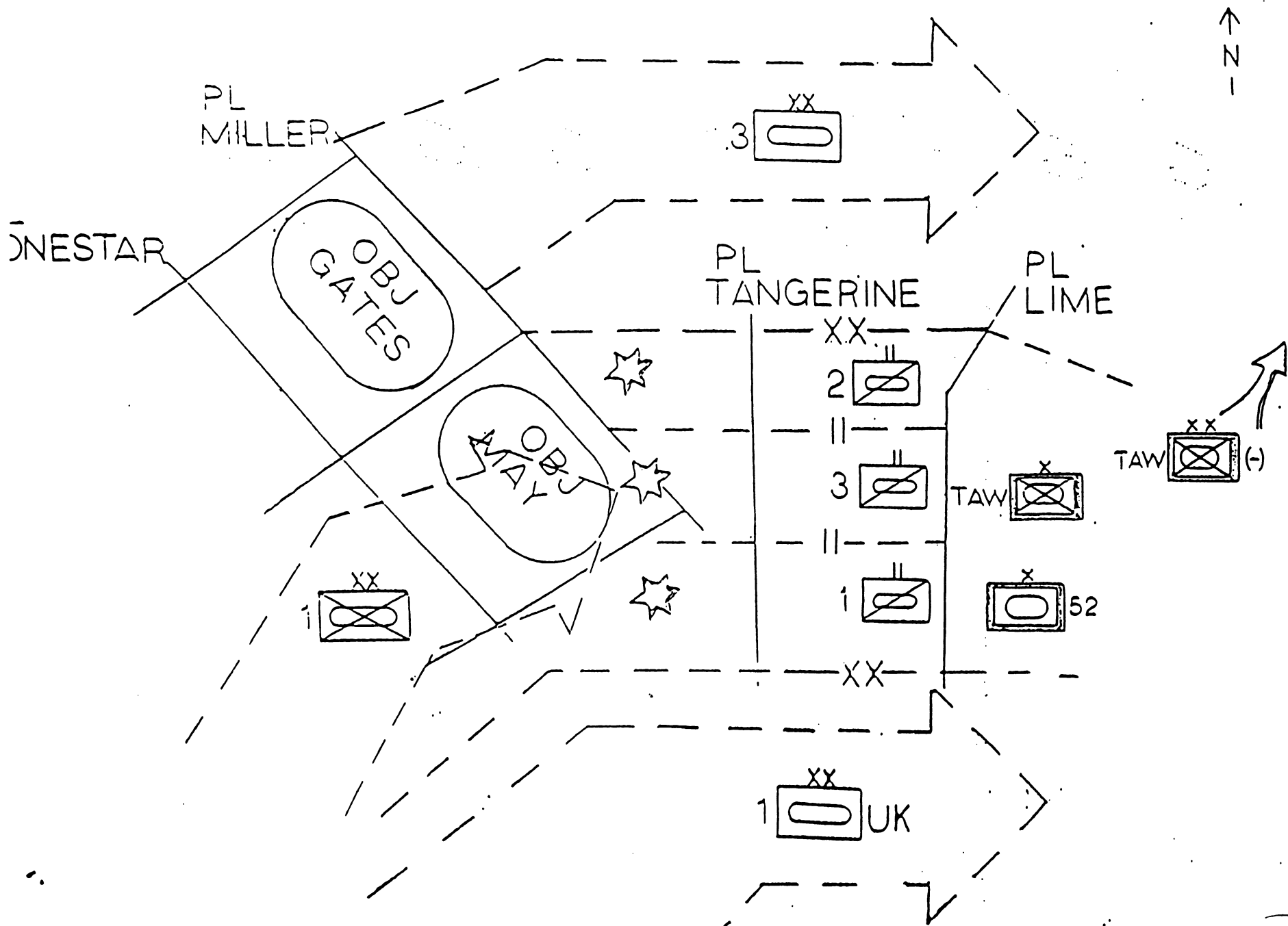
- G31 m3 1LT HAINS
- G32 m3 SSG RODRIGUEZ
- G33 m3 SGT SOLLEY
- G34 m3 SFC WOOTKRO
- G35 m3 SSG MERRIWEATHER
- G36 m3 SGT SIKINS

- G41 m1 LT Geoffrey
- G42 m1 CPL Lee
- G43 m1 SGT CARDOSA
- G44 m1 SFC CURRIER

- M98
- Medic M113
- M113
- 1st M113

COPY

Property of IDA/ADST
 SIMNET LIBRARY
 Serial # 27014



(6)

DRAFT

**The Battle of 73 Easting
26 February 1991**

**A Historical Introduction
to a Simulation**

By

Michael D. Krause, Ph.D
Colonel, US Army
Deputy Chief of Military History
US Army Center of Military History
Washington, DC 20374-5088

2 May 1991

**A JOINT
CENTER OF MILITARY HISTORY
AND
DEFENSE ADVANCED RESEARCH PROJECTS AGENCY
PROJECT**

PROJECT TEAM MEMBERS

Colonel Jack Thorpe, USAF, DARPA, Special Assistant
Lieutenant Commander, USN Dennis McBride, DARPA, Program Manager
Major Mark Chaney, USA, Ft.Knox, SIMNET, OIC
Mr. George Lukes, Engineer Topographical Laboratories, Ft. Belvoir
Dr. Jesse Orlansky, IDA, Task Manager
Mr. Gary Bloedorn, (COL.,Ret.) IDA Consultant
Mr. Chris Turrell, (LTC, Ret.) IDA ODIN Field Boss
Mr. Jim McDonough,(MAJ,Ret) IDA Contractor
Mr. Ulf Helgesson, HA Contractor
Mr. Michael Gilbert, DIA
Mr. Robert Clover, IDA POC
Colonel Michael Krause, USA, US ARMY Center of Military History

SOUTHWEST ASIA TEAM

Colonel Michael Krause, Deputy Chief of Military History
Center of Military History
Team Chief
Mr. Gary Bloedorn, (Colonel, Retired),IDA/DARPA Consultant
Creator SIMNET
Major Michael C. Sandridge, Chief Cavalry Doctrine, USA Armor Center,
Ft. Knox, KY
Veteran of 2ACR Action and CALL Liaison Officer
Captain Richard K. Major, Directorate of Training and Doctrine, USA
Aviation Center, Ft Rucker
Previous 2 ACR Aviation Company Commander
Mr. Michael G. Barwick, Engineer Topographical Laboratories, Terrain
Analysis Center, Ft. Belvoir Physical Scientist with in country
experience

Contents

Executive summary

Purpose

Background

"Toujours Pret"

"Action Front"

Epilogue

Observations

Methodology

Documentation

Maps & Sketches

Appendices (Not Included at this time)

- 1. Operations Orders**
- 2. 2ACR Log extracts**
- 3. Ghost, Eagle, Iron written AAR**
- 4. Transcribed oral AAR's with Ghost, Eagle, Iron (When available)**
- 5. Organization schema (with Names) of Ghost, Eagle, Iron Troop.**

Executive Summary

In early April 1991 the VCSA, General Gordon Sullivan, suggested the examination of the Battle of 73 Easting which occurred on 26 February 1991, to record its history and utility for Simulation Network training.

A team went to Saudi Arabia and Iraq and surveyed the battle site. The VII Corps Commander, LTG Franks and Colonel Holder, the Second Armored Cavalry Commander provided full documentation and support to the joint historical and technical effort. Rich documentation, full logs, oral and written after-action reviews were provided and conducted. Full, on-site battle reconstruction was accomplished. Command net logs or recordings were provided. Soldiers at all levels re-constructed the battle in recorded interviews. In summary, there is no question on the historical fact of this battle and its utility for SIMNET training purposes.

On 25/26 February 1991, 2 ACR had the mission of screening eastward in front of 1 ID. 2ACR was on the right (south) flank of 3AD. 1AD(UK) was to the south. 2ACR was deployed with squadrons abreast with 2/2 in the north, 3/2 in the middle and 1/2 in the south. "To find and fix the enemy".

Contact was made on the 60 Easting in the early afternoon on 26 February against elements of the 50th BDE of the 12 AD. Ghost, Eagle and Iron troops were abreast and moving eastward. Visibility was limited at best with ranges of 200-1400 meters. A *Shamal* was blowing. At about 1530 Eagle was taken under fire from a building at 69 Easting. Fire was returned and movement continued. Enemy artillery was fired. Eagle continued movement. At about 1607 Eagle encountered T-72 tanks in prepared positions at 70 Easting. The troop commander attacked with tank platoons abreast and Bradleys in support. Eagle encountered a mine field pressing the attack. At 1637 the defensive position was taken with numerous T-72 tanks killed. Ghost to the north pressed against the enemy prepared defenses at the 73 Easting at about 1615 with platoon in the north and center. Iron to the south attacked the same fortified building Eagle had encountered and then smashed positioned T-72 tanks and BMP's south of the building complex at the 71 Easting about 1630. Artillery was silenced by 2/1 Apache missions. In the north 13 BMP's, 3 T-72 (more in 3AD sector, but not surveyed), in the center and south 24 T-72, 2 T-55, 11 BMP, 3 MTLB were killed. Numerous bunker positions and vehicles were destroyed. Eagle captured close to 300 EPW and Iron 237 EPW, with unknown numbers from Ghost troop. Action for all three troops stopped at dusk, about 1700-1715. They consolidated their position at the 73 Easting about where the battle took place and waited the night passage of lines. They fought elements of the Tawakalna Division.

In summary, the battle of 73 Easting involved three troops of cavalry. These troops aggressively attacked prepared positions defended by T-72 tanks supported by dismounted infantry and artillery.

Battle of 73 Easting

Purpose

The purpose of this paper is to introduce a battle fought by the Second Armored Cavalry Regiment on the 26th February, 1991 in the Allied effort to liberate Kuwait. By knowing the reality of this battle the reader will be prepared to use the 73 Easting (an Easting is a north south grid line on a map) Battle Simulation (under development). This SIMNET re-creates the historical reality of this battle.

Both, the historical introduction and the simulation itself rely on history. At the VCSA, General Gordon Sullivan's initiative a team of historians, tacticians and SIMNET experts was sent to South West Asia to "capture" the historic reality of this engagement. Every level of command, but especially the VII Corps and the 2ACR, made available all documentation of the event. A series of oral interviews, with commanders from scouts and tanks, to the Corps Commander, and After Action Reviews both written and oral, were used to substantiate the history. Lastly, a series of on-site battle analysis, terrain modeling and reconstructions were executed with troop commander who fought the action. The SIMNET product using state of the art historical techniques therefore recounts as objectively as possible the battle of 73 Easting.

Background

In early January 1991, General Colin Powell, Chairman of the Joint Chiefs of Staff, described the campaign strategy for the liberation of Kuwait and the defeat of Iraqi ground forces. "We are going to cut it off and kill it" exclaimed the General at a widely publicized and televised news conference. Saddam Hussein, the Iraqi President and Commander-in-Chief of the Iraqi Armed Forces would have done well to head those words.

After the 100 hour ground campaign, General Norman Schwarzkopf, commander of all forces engaged against the Iraqi forces would explain the campaign by use of a football stratagem. "This was basically a Hail Mary play" mused General "Stormin' Norman". "We deceived our opponent into thinking that our main attack would be a frontal one against the Iraqi defenses in occupied Kuwait". We held our forces in place until Saddam Hussein could not see as a result of our blinding him. Then at the right moment, General Schwarzkopf moved two Allied Corps to the west - about 400 kilometers, without being discovered. This movement of the XVIII Airborne Corps consisting of the Sixth Light Armor French Division, 82nd Airborne Division, 101st Air Assault Division (Airmobile), 24th Mechanized Infantry Division and the 3rd Armored Cavalry Regiment and the armor heavy VII Corps, consisting of the 2nd Armored Cavalry Regiment, 1st Armored, 3rd Armored, 1st Infantry (Mechanized) Divisions, and the 1st Armored (UK) Division. The 1st Cavalry Division operated under the Theater Commanders immediate control and led the westward attack. As General Schwarzkopf explained, the "Horse Soldiers" of the 1st Cavalry Division led the westward attack up the Wadi al Batin. This attack was expected by the enemy. While the Allied forces attacked against the Iraqi forces manning the trench lines in Kuwait to fix the main Iraqi forces, the 1st Cavalry Division's attack was meant to confirm a westward outflanking movement in the enemy's mind. General Schwarzkopf's intent was to force the best armor units of the Iraqi Army, the Republican Guards to commit against this threat to their flanks.

On G-Day - the beginning of the ground war on 23 February at 0400 Hours - Allied forces consisting of Saudi, and other Arab national forces, Marines of the First and Second Marine Expeditionary Forces and the "Tiger Brigade" of the 2nd Armored Division attacked. Shortly thereafter the 1st Cavalry Division launched forward on its daring deception mission. Once these forces were engaged in bursting the Iraqi trench lines, about 14 hours later, the "Hail Mary" forces crossed the line of departure. XVIII Airborne forces launched simultaneous attacks to the north with the objective of securing the westward flank of VII Corps. The French Light Armored Division axis of advance led to As Salman 80 kilometers inside Iraq. The 82nd Airborne and 101st Air Assault Divisions launched still deeper into Iraq seizing key airfields and establishing logistical bases for their continued drive to the north. The corps main attack was the 24th Infantry Division. The "Victory" Division's mission was to fight to the Euphrates River and establish blocking positions along highway 8 from Basra to Baghdad and used as the Iraqi Army's main supply route. The 3rd Armored Cavalry Regiment (ACR) provided screening on the Corps eastern right flank and established a link to the VII Corps. The XVIII Airborne Corps was to cut any attempt by Iraqi forces to engage from the west and to prevent any enemy forces from retreating out of the theater. (Refer to sketch map A)

The main thrust of General Schwarzkopf's westward outflanking maneuver was the VII Corps. Commanded by LTG Fred Franks, the Corps was plucked out of Europe where it was forward based and redeployed to the theater during the months of November, December (1990) and January 1991. The Corps was re-enforced by the 1st Infantry Division, the "Big Red One" from Fort Riley, Kansas. The 2nd Armored Division (Forward) from Gerlstadt Germany rounded out "The Big Red One". The First Cavalry Division would remain under ARCENT control, that is under the Army Commander LTG Yoesock, for the first phase of the operation.

Deep inside Iraq, LTG Franks stood in a sand terrain "box" outside of his Tactical Area Command (TAC) and explained his Corps campaign plan to a group of historical fact finders. We were sent by the Vice Chief of Staff, General Gordon Sullivan, to establish the historical fact of a series of engagements fought by elements of VII Corps, specifically the 2 ACR. Once the accuracy of the battle was established General Sullivan's intent was to use this historical reality in training simulations using computer driven actions to train future commanders at every level.

Standing in the "sand box" of a giant mock-up map of southern Iraq - labeled with strings and military symbols of the four plus Corps - LTG Franks beamed: "The mission of cavalry is to find, fix and fight the enemy. The action of the 2nd Armored Cavalry Regiment (ACR) at the 73 Easting (a grid locator noting a north south grid axis) is a classic". As a result of their finding and fixing elements of the main Republican Guard Tawakalna Division, LTG Franks made the decision to "clench his fist of combat power" by passing the "Big Red One" through the cavalry regiment, massing his combat power and destroying the Republican Guard divisions: The Tawakalna, Medina, Hammurabi and others.

LTG Franks explained his Corps concept of operations. At G-Day beginning on the Saudi-Iraq border and the line between XVIII Airborne and VII Corps in the west, the 1AD and 3AD were abreast with the 2ACR screening to their north. First Infantry breached the berm line to their east to support the First Cavalry attack still further to the east. The 1AD (UK) backed up the 1ID. General Franks' intent was to strike north, then find the Republican Guards, fix them, mass four armored

divisions as a "clenched fist" and punch the Republican Guards so hard as to "cut them off and kill 'em".

As he walked through the "sand box" explaining his concept of operations, LTG Franks spoke in short descriptive sentences. "Our plan to outflank him was working. Elements of his force were deploying to the south to face the 1st Cavalry. Iraqi forces were also deploying against our most westward forces. We were now deep into Iraq. On 25 February at 0841 I ordered the 1AD to shift northward and pass the 2ACR. 3AD was still behind 2ACR at that time. Early in the morning on 26 February at 0216 I gave a frag order to orient the force to the east. This meant the passing of the 3AD to the north between IAD and 2ACR. By 0918 26 February the force was arrayed as follows: IAD in the north, south of them 3AD, 2ACR and 1AD(UK). First Infantry was in reserve behind 2ACR."

Next LTG Franks detailed some of the 2ACR action. During the morning of 26 February, the 2 ACR began to encounter elements of the Iraqi 12 Armored Division. 2ACR reported seeing movement of T-72 tanks, contact between T-72's were reported at 0754 in vicinity of PC5299. The regiment engaged covering force elements of the Republican Guards beginning at 0820. These we now know to be elements of the 12AD and the Tawakalna Divisions. 2ACR still holds the mission to find and fix the enemy so that First ID can punch through. Then he said: "Take my helicopter, my command armored personnel carrier and Colonel Stan Cherri's (G-3 Operations Officer of the Corps) and see the battle as it developed. Just don't get hurt, there are still mines, cluster bombs and artillery shells out there".

Toujours Pret

The Regimental Commander of the Second Armored Cavalry Regiment, Colonel Don Holder, a Brigadier General designate, personified the motto of the Regiment: *Toujours Pret* - Always Ready. A quiet soft-spoken officer, Colonel Holder was well prepared intellectually and physically to lead his regiment into combat. With a solid background in military history, including tours teaching cadets at the United States Military Academy at West Point and directorship of mid-level officers at the U.S. Army School of Advanced Military Studies in Fort Leavenworth, Kansas, Colonel Holder relived the history and analysis of previous campaigns. As primary author of the U.S. Army's doctrine of Air/Land Battle, field manual FM 100-5 Operations, 1986, Colonel Holder would put doctrine into practice. As he spoke, one could hear the authoritative voice of theory and practice coming together. Known affectionately in Regimental and Corps circles as "E.F." - short for when E.F. Hutton talks everyone listens - Colonel Holder quietly amplified the mission and concept of operations of his Regiment, as his S-3 Major Doug Lute S-3 Operations officer of the Regiment and the S-2 Intelligence Officer, Major Steve Lambert conducted the operations and intelligence briefing for the history team.

With the desert wind blowing into the operations tent Major Lute presented the mission:

At 160531 Feb 91, 2ACR covers the western flank of VII (US) Corps as it occupies FAA Utah. At 250538C Feb 91, 2ACR attacks through the western Flank of enemy defenses and conducts offensive cover operations in order to develop the situation for VII (US) Corps.

Inherent in the covering force mission was to perform reconnaissance along the Corps' axis, to deny enemy information on the Corps main body. The 2ACR would have to defeat enemy security forces in the zone and develop the situation for the Corps commander so as to set the terms of battle. The Regiment was to orient on the main body so as to facilitate maneuver and pass the heavy divisions into the fight. Lastly the Regiment was to find and fix enemy forces so as to exploit opportunities for the main body when committed.

The Regiment was heavily re-enforced according to pre-war doctrine and plans. Engineer, artillery, aviation, chemical units, military police and military intelligence units - including psychological warfare units were attached or under the operational control of the Regiment. Colonel Holder task organized his force as follows:

1 Squadron/2 ACR

84 ENGINEER COMPANY (Opcon)

2 Squadron/2 ACR

6 - 41 FIELD ARTILLERY BATTALION (155mm, Self Propelled)
 (Direct Support)
 A - 82 ENGINEER BATTALION (Opcon)

3 Squadron/2ACR

3 - 17 FIELD ARTILLERY BATTALION (155mm, Self Propelled)
 (Direct Support)
 C - 82 ENGINEER BATTALION (Opcon)

4 Squadron/2ACR

FORCE ARTILLERY
 210 FIELD ARTILLERY BRIGADE (FFA HQ) (Direct Support)
 C/4-27 FIELD ARTILLERY BATTALION (MLRS) (General Support)

Regimental Support Squadron/2ACR

71 LTF (Logistic Task Force) (Direct Support)
 214 MILITARY POLICE COMPANY (Opcon)

Regimental Control

87 CHEMICAL COMPANY
 502 MILITARY INTELLIGENCE COMPANY
 B/511 MILITARY INTELLIGENCE BATTALION/207 MI BRIGADE
 2-1 AVIATION BATTALION (Opcon)
 82 ENGINEER BATTALION (Opcon)
 172 CHEMICAL COMPANY (SG) (Mechanized)

This task organization held the maximum flexibility for maneuver and fire support. The combat power of the Regiment is reflected in these assets:

Tanks	M1A1 (Abrams)	123
Infantry Fighting Vehicle	M2A2/M3A2 (Bradley)	116
Attack Helicopter	AH-1 (Apache)	26
Scout Helicopter	OH-58C/D (?)	34/5
Utility Helicopter	AH-64 (Blackhawk)	18
Self Propelled Artillery	155mm	72

Major Lambert presented the intelligence briefing. He divided the enemy theater of operations into the Kuwait Theater of Operations (KTO) and the Western Iraq Theater of Operations (WTO). The KTO embraced all of occupied Kuwait with up to 31 Divisions in the theater. He identified the Republican Guards as being the operational reserves for the Iraqi Army. In the Western Iraqi Theater of Operations (WTO) intelligence identified two enemy armored divisions, the 12AD and 54AD (?) and 8 to 11 Republican Guards divisions. These divisions were distinguished from the regular force armored division by the best Soviet made for export tank, the formidable T-72. Other forces were equipped with older and less capable T-55 and T-62 tanks. The Republican Guard named their more selected divisions based on home areas or famous historical personages. Thus the Tawakalna Division of the Republican Guard hailed from this town in Iraq. Others, the Medina and the Hammurabi were named after famous religious towns or historical leaders. Best equipped, best trained, best paid of the Iraqi Armed Forces these divisions grew from praetorian guard to effective combat veterans in the eight years of the Iran-Iraq war. The S-2 focused upon these forces as the main stay of the Iraqi Army. He indicated the focus of essential elements of intelligence would be applied to finding this Republican Guard force.

Colonel Holder recounted his concept of operations. Before the beginning of the ground campaign (G+ or -DAY) the regiment was to cover in sector (refer to sketch map B) with two squadrons abreast in front of the two armored divisions, 1AD and 3AD. Because of the overall deception plan inherent in the movement of forces westward, this occupation of sector was to be done "quietly". Essentially this meant little if any radio communications, no fires, no cooking, smoking or any other hint that a major brigade and larger element was in the area. For soldiers this meant lots of discomfort and lots of Meals Ready to Eat (MRE's). Next Colonel Holder authorized reconnaissance of the line of departure (LD) to identify the enemy security zone in the area.

Before the start of the ground campaign, (on G-1), 2ACR was to conduct reconnaissance, use field artillery to destroy high pay-off targets, to defeat any enemy security forces in the zone and attack to seize key terrain so as to facilitate the attack on G+1. On H+26 i.e. on G+1 after heavy fire support by air and artillery the Regiment was to envelop the enemy forward defenses and conduct offensive cover operations forward of the two armored divisions. Regimental aviation assets were to be approximately 20 kilometers forward of the two Squadrons conducting the cover operation abreast. One Squadron and attack helicopters were to be held in reserve. The main effort during this cover operation was aviation. During the covering force operation long-range detection of enemy forces and early attack with close air support (CAS), multiple rocket launch systems (MLRS) and electronic warfare (EW) was emphasized, with hasty attack and defense being the rule.

The Regimental Commander categorized the Regiment's main mission: "The Regiment will set the terms for battle for the Corps and serve as the base of fire and observation. If the enemy is moving, the Regiment destroys the advance guard battalions and develops the situation. If the enemy is stationary, the Regiment fixes the enemy, finds his flanks and assists in getting the divisions into the fight".

The Operations Officer, Major Lute next recounted the Regiments execution of the concept of operations. For five days before the start of the ground campaign - during the "quiet" period - long range scouts were observing the Saudi-Iraq border

and finding locations to breach the berm. As Major Lambert explained, this berm was nowhere near the extensive fortification and obstacle built by the Iraqi Army around Kuwait, but rather it was a high wall of sand which the Saudi Government had previously constructed to keep out desert smugglers. The key obstacle was that tanks and infantry fighting vehicles going over the top of the berm would be dangerously exposed to fire. Hence the breaching operation was conducted by Engineers of the 82nd and 84th Engineer Battalions under the operational control of the Regiment. These breach points were then passed through by the squadrons and subsequently enlarged to enable the armored divisions to pass through.

At 0400 23 February VII Corps announced the start of the ground campaign by radio transmission. That afternoon, at 1330 the Regiment prepared fires and then assaulted the berm. This assault was completed by 1406. Air Scouts were launched to Phase Line Bud. Keeping with Cavalry tradition of thirst in the desert, each of the 2ACR phase lines were code named after brands of beer. Thus the initial observation line was Sharps, the Saudi-Iraqi berm line Becks, the initial post breach line Bud etc. (See sketch map C). For the Regiment, the mission to secure the Corps Line of Departure was important for the future Corps operational conduct. Hence the Regiment moved very quickly and by 1540 two squadrons - 2/2 and 3/2 reported reaching phase line Bud, having linked left and right and secured the left flank with the XVIII Airborne Corps flank holder of the 3ACR. No contact with enemy forces was reported at this time. The Air Squadron - 4/2 - reported an all clear to phase line Busch. At 1900 3/2 reported enemy infantry contact. Major Lambert, the Regimental Intelligence Officer, diagnosed this contact as elements of the Iraqi 26th Infantry Division.

By now 60 (?) kilometers deep into Iraq, on 24 February, the Regiment continued its push to cover well forward of the 1AD and 3AD. By 0700 on 24 February it had pushed its reconnaissance to phase line Busch. At 0841 a Regimental fragmentary order indicated to the 4/2 Air Squadron should screen along phase line Colt, with 2/2 and 3/2 Squadrons continuing to cover in zone. 1/2 Squadron was to continue in reserve as the Regimental Support Squadron (RSS) was brought north of the border berm. At 1110 the Regiment processes its first enemy prisoners of war (EPW). At 1304 the Regiment receives a warning order from the Corps. "The attack of VII Corps is moved forward to 241500 Feb 91; MOPP (Mission Oriented Protective Posture) 4 in effect at 1445". This order was meant to expect the movement of the Corps main force through the berm area and the precaution of wearing the highest level of chemical suit protection was judged to be warranted because of the high probability of enemy chemical attack. The Corps attack was moved up to 1430 with another frag order at 1345. Phase line Coors was crossed by the lead squadrons by 1530. By early evening, at 1800 all M1A1 Abrams tanks were refueled. The Regiment used a forced fueling method. Units were periodically topped off with fuel essentially before they reached half a tank. This meant that only rear fuel tanks would be fueled and re-fueling and Log-Pack could go faster. Scouts reached forward to conduct reconnaissance and fires on objectives Merrell and Feucht at about the same time. By 2133 the Regiment was oriented to defend on phase line Dixie while the Corps formed for attack in mass. During the afternoon and evening, from 1430 to 2330 L Troop of 3/2 fought nine engagements over 20 kilometers on the Regiments eastern flank. This flank was to connect with the 1 AD (UK).

(See sketch map D).

The next day, 25 February, 1AD shifted to the north of 2ACR, with the Regiment continuing to provide cover northeast of 3AD. The day was to see the first

series of actions. The Regimental operations log held the following entries: " 0152 25 February 2/1 Aviation Battalion attacks into Objective Merrell; Battle Damage Assessment: Building with antennas and Bunkers, 1 BMP and 6 Trucks. 0630- Artillery preparation on Objective Merrell and Feucht; Regiment attacks Northeast. 0841- 1AD begins shift north. 4/2 (Air Squadron) reports Objective Gates clear, contact on Objective May." Major Lambert's assessment was elements of 50th Brigade of the 12th Armored Division in vicinity of Objective May. The Regiment reported engagement of a reinforced mechanized infantry battalion with tanks at 1240. The location was given by 3/2 Squadron with tanks revetted in locations along phase line Blacktop. Nomad (Air) Troop reported a bunker or building complex in the vicinity of 68 Easting and 00 Northing. This was not recorded in the regimental operations log and in turn was not passed to the 2/2 or 3/2 squadrons. However, close air support (CAS) and 4/2 Air Squadron, engaged enemy armor approximately 10 kilometers forward of 2/2 and 3/2. Regimental reports are made to Corps: "The Regiment has found the security zone of the Tawakalna Division". (See sketch map E + F).

By the end of the morning, the Corps was arrayed with 1AD to the north, 2ACR and 1AD(UK) in the south. 3AD and 1ID were trailing 2ACR. LTG Franks advised 2 ACR at 1250 to develop the situation but not to become decisively engaged. Major Lambert's intelligence assessment of the situation indicated the Regiment was about to engage the Tawakalna's security zone along the 65 Easting with the main defenses about 8 kilometers to the east along the 73 Easting. The S-2 concluded that the Tawakalna's mission was to cover the withdrawal of the Iraqi Army from Kuwait. Weather precluded air operations due to sand storm and rain. Squadron scouts are ordered to phase line Miller to defeat enemy observation posts and take prisoners. At 1500 the 2ACR orders its squadrons to establish a hasty defense line along phase line Blacktop so as to interdict the Iraqi line of communications, fix the Tawakalna division with fire and CAS. For three hours the Tawakalna is pounded by CAS. An Apache raid by 2/1 Aviation Battalion led by LTC John Ward is aborted due to weather. Late in the evening, at 2230 MLRS fires begin with unknown effect. (See sketch map F).

In the early morning of 26 February at 0216, the Regiment, now 120 kilometers (?) deep into Iraq, received the Corps frag order to orient to the east. The Regiment's zone of operations was adjusted somewhat to the south to prepare to pass the 3AD through the Regiment's rear. The 3AD would take up position between 1AD to the extreme north and the Regiment. The co-ordination for this movement was accomplished at 0455 with the actual commitment of 3AD to the left and north of the Regiment beginning on 0918. The Corps frag order to the Regiment also gave an "on order" mission: "Be prepared to pass 1ID and assume Corps Reserve role". Colonel Holder, because of the increased cover zone ordered 3 squadrons abreast.

Sporadic fighting continued. Use of MLRS against enemy positions enabled 3/2 Squadron to defeat Motorized Rifle Company. First Squadron reported contact at 0400 with artillery impacting. By 0713 L Troop of First Squadron reported engaging T-72 tanks. Confirmed reports came to the Regimental TOC of T-72 tanks moving in the vicinity of PT5299. By 0820 the Regiment reported to Corps it was engaging covering force elements of the Republican Guards. Major Lambert, the S-2, reported these elements as defenses from the 12AD, the 52 AD and the Tawakalna located between 50 and 60 Eastings. Meanwhile visibility due to fog and later blowing sand dropped to below 1000 meters. This fog dissipated to be replaced with a blowing sandstorm - a *Shamal* - which reduced visibility to between 200 to

1400 meters. For the morning and part of the afternoon helicopters were grounded. By 1147 the GSM (?) reported enemy vehicles moving north. (See sketch map G).

Shortly afternoon, at 1250 LTG Franks came to the Regimental Tactical Operations Center (TOC) to receive a first hand assessment from the Regimental Commander, Colonel Holder. Both agreed the Regiment had found the Tawakalna Division and that it was moving north. The Regimental Commander ordered his squadrons to conduct reconnaissance forward of phase line Blacktop in order to fix the main body of the Tawakalna. The Corps Commander's order to not become decisively engaged and be prepared to pass the IID remained in effect.

Beginning at 1500 26 February 1991 elements of the Regiment, particularly from the Second and Third Squadron would find, and fix elements of the Tawakalna and of the 12th AD. Continuous CAS was arrayed against the Tawakalna and forces in depth along the IPSA pipeline road. This road was a hard asphalt road, inexplicably not shown on 2ACR maps. The history team did not ascertain whether the road showed on other, notably Corps maps. The battle with the Tawakalna was supported by two successive Apache raids against artillery positions along the 75, 80 and 85 Easting. (See sketch map H) After approximately six hours of battle by the Regiment the Corps Commander ordered the passage of IID at 2311 while 210 Field Artillery Brigade passed to IID operational control. On 0012 27 February 2ACR held all weapons fire for the IID passage and prepared to go into Corps reserve at 0235 following IID to the east. This action was confirmed by a Corps frag order on 1255 indicating 2 ACR movement to 85 Easting. At 1830 2ACR was ordered to remain west of 87 Easting. At 2400 hours the Regiment was informed of a possible cease-fire commencing at 0500 28 February. Shortly before the cease-fire implementation the time was changed to 0800. A stand-down was ordered at 0956 with orders to continue to follow IID into Kuwait and Tactical Assembly Area (TAA) Mexico on 1 March 1991. (See sketch map I).

In 82 hours the Regiment covered close to 200 kilometers, fought elements of five enemy divisions, while covering for three divisions of the VII Corps. It integrated CAS with ground maneuver and operational fires to destroy enemy security forces. The Regiment fixed and disabled the Tawakalna Division and developed the situation for the Corps Commander. It fought in some of the worst conditions: 50% of the fight was conducted in limited visibility and no-fly weather. The battle effects speak for themselves: Over 300 Iraqi armored vehicles were destroyed, over 2000 EPW's captured. The losses to the Regiment were: 6 killed in action and 17 wounded; with 4 M2 Bradley's and 2 M113 armored personnel carriers destroyed. The operational readiness rates exceeded 95% during the course of the battle. The 2 ACR had indeed executed a classic cavalry action: "Find, fix and fight". The Regimental Commander, Colonel Holder concluded the recounting of the 2ACR fight: "The Regiment is *Always Ready* -all of its brothers are brave".

"Action Front"

It was close to two months since Ghost, Eagle and Iron troops had fought the battle. Now they were standing with historians recording the detail of the battle at 73 Easting. It was dark in the tent and a bit confining. Captain Hebert R. "H.R." McMaster, from Philadelphia Pennsylvania, moved his platoon commanders and tank and scout commanders outside the tent, put up a map, shined jeep lights on the blow-up of the battle area and started to recount the battle. "We were anxious to see action" he began slowly and deliberately, ever since we crossed the berm.

Spirits were high." Movement into Iraq was fast and furious. Eagle troop encountered "countless groups of enemy soldiers surrendering. Scout quickly searched them, gave them food and water, and reported their location for the trains to collect them." Part of the first sergeants and cooks duties was to police up these EPW's. At the end of the day Eagle troop halted and formed a hasty defense position and re-fueled. They had covered another fifty kilometers in less than four hours.

During the night of 25 February, the weather turned sour again and the skies opened up with a deluge. The Troop had seen some of the most gruesome sights of war: enemy dead. In the morning Eagle was shifted south somewhat so that Iron troop commanded by Captain Daniel B. Miller from Maumee, Ohio, who was "HR's" plebe roommate at West Point was on Eagle's right flank. Iron troop was from 3/2 Squadron so co-ordination would need to be tight. "The night rain had yielded to heavy fog" in the morning of 26 February. Eagle troop encountered three enemy MTLB's. Ghost Troop, commanded by Captain Joseph Sartiano from San Francisco, California, was oriented to Eagle's north. Captain Sartiano's scout saw the MTLB's and took them under Bradley 25mm fire destroying two. The third took evasive action. Eagle troop commander shot the third.

"About 1000 hours on 26 February, the troops mission changed slightly. We were to move forward having tied in with Iron to the south and Ghost to the north." Captain McMaster continued in almost a familial way. The excited chatter of other commanders now giving way to a respectful silence. *"At noon, the fog cleared only to be replaced by high winds and blowing sand."* Captain Dan Miller called this a real Shamal - visibility down to 200 meters. Eagle troop refueled and waited.

"At 1500 hours the long awaited order came". Captain McMaster told his men *"We attack in five minutes to the 70 Easting. (An 'Easting' is a north to south running grid line on a military map) This is the moment we have all awaited."* Captain McMaster reflected that he had not received detailed intelligence forward in his zone. Lieutenant Tim Gauthier, the Third Platoon Leader, chewing tobacco, dead panned, *"What kind of contact can we expect?"* "H.R." shot back the reply: *"enemy contact"*. Even the radio communications disciplined *"Roger"* as a reply could not hide the laughter of the Troop as it rolled forward. This laughter was spontaneously rekindled for the historians recording the event.

"As the troop crested a slight rise, at about 1530 hours air burst artillery fell on SSG Lawrence's scout section. " Without breaking stride the troop closed their hatches, diverted south and drove around the impact area. After re-orienting to the east, the third platoon scouts under LT Tim Gauthier reported taking small arms fire from a building complex just north of the troops southern boundary at the 00 Northing (A northing is an east west grid line on a military map). LT Gauthier's scouts attacked the building complex with 25mm high explosive fire. There was also a berm which concealed enemy fighting positions adjacent to the buildings. Captain McMaster ordered both tank platoons to come on line, fire one round of HEAT into the building complex and then by-pass to the north. Near simultaneous fire from nine tanks "impacted into the buildings and blew gaping holes in them. Subsequently, fires started and the blowing smoke obscured the Troop from the enemy. The Troop would take no more enemy fire from that position." Later scout reports indicated the site was an enemy logistics compound consisting of ammunition, fuel, food and water supplies."

"The Troop resumed eastward movement at about 1600 hours. LT Mike Petschek's scout platoon moved deliberately when it sighted an enemy armored vehicle to the east. Before this was reported, Captain McMaster leading in front had ordered his tank platoons to follow. "I took the point and the tanks passed through the scouts in a nine tank wedge. The scouts now moved to secure the flanks and rear of the tanks." Because of the greater height of the Bradley scout vehicle over the Abrams tank it could see and acquire the target earlier. Captains Sartiano, McMaster and Miller would comment on the imperceptible rise in terrain when we returned with them to the battle site. They confirmed the expert terrain utilization by the Iraqi forces. Ten feet rise in ground over 500 meters did make the difference between being seen and unseen. When Eagle troop commander came up on one of these imperceptible "crests" his gunner, Staff Sergeant Koch yelled in the intercom "Tanks, direct front". Immediately finding the range through the laser-range finder at 1420 meters Koch was ready for the Captain's fire command "Fire SABOT". Emptying the HE round in the chamber, SSG Koch quickly responded with a trigger pull. Still moving, but with the tank's stabilization system working, the gun kept its target and the enemy tank "exploded in a huge fire ball". As SSG Koch swung the turret to another T-72 Soviet built tank, "two enemy tank rounds impacted next to my tank" recorded McMaster. As the Captain continued to give engagement instructions to the rest of the platoons, his gunner laid on another round and fired. It too found its mark: "The enemy tank's turret separated from its hull in a hail of sparks. It burst into flames as the round penetrated the fuel and ammunition compartments. The next shot from SSG Koch got equal results. What seemed like an eternity for this solo performance was less than a minute. The time was 1607 hours. LT Mike Hamilton, a Norwich University, Northfield, Vermont graduate, and LT Jeffrey DeStafano charged their tank platoons across the "crest" and into action. "All of the Troops tanks and scouts were now in the action. The enemy felt the full shock effect and firepower of our armor. Enemy tanks and BMP's erupted into innumerable fire balls. The troop was cutting a five kilometer wide swath of destruction through the enemy's defense."

Traffic on the troop radio net was relatively calm in the face of battle. Captain McMaster directed *"the tanks to keep formation and assault through the enemy positions as the scouts fired to the flanks and "scratched the back" of the tanks with small arms fire to clear pockets of enemy dismounted resistance. Bradley's pumped HEAT and AP rounds into enemy personnel carriers and bunkers along the flanks and occasionally stopped to fire TOW's at tanks in the depth of the enemy position. The tanks continued to press forward. No one was missing the target and fire distribution was perfect. No opposing vehicle escaped destruction. The enemy position was reduced to a spectacular array of burning armored vehicles."*

Captain McMaster's continued the account of the battle. *"We pressed the attack east. The enemy had established a U shaped defense and the troop had moved into the center of their position. The scouts to the flanks, reduced enemy vehicles and bunkers to either side, At one point, 3rd platoon (LT Gauthier) received effective fire from a ZSU-23-4, dug into a bunker. The platoon launched two TOW missiles against the target, the first collapsed the bunker and the second hit the ZSU gun. In a particularly tense moment. LT Gauthier swung his Bradley turret onto a T-62 tank just as it fired at him. The enemy tank missed throwing dirt into the air." What LT Gauthier added "was after we fired a TOW at the tank and destroyed it, we had to get out and clean off our weapons optics so that we could continue. " Eagles "tanks were now even with the enemy's first line of defense. Now indirect fires fell behind the enemy's position which the troop FIST LT Davis had*

called. " 1LT John Gifford, the troop executive officer called the Eagle Troop commander to remind him the Troop limited of advance was the 70 Easting. Captain McMaster replied "We're still in heavy contact, advancing to the 73 Easting, tell them I'm sorry". Major Douglas MacGregor, the 2 Squadron Executive Officer monitored the transmission since he was well forward of the Squadron's TOC and practically with Eagle's tanks he fully concurred with the pressing of the attack."

Eagles tanks and Bradley's "were now cutting down hundreds of infantry fleeing to subsequent positions. Some tried to play dead and pop up behind the tanks with rocket propelled grenades. They fell prey to the Bradley 25mm and coaxial machine guns. " Captain McMaster "finally found a position at which I could halt the troop. It was just beyond the 73 Easting. Dominant terrain is difficult to discern in a relatively featureless desert, but this was it. It consisted of a small hill which allowed observation out to several kilometers in all directions. It was an apparent gap in the enemy's defense between the position through which the troop had assaulted and positions further to the east." Eagle troop reported no casualties. The time was 1630 hours. This action of punching through the defenses took just 23 minutes.

But the fight was far from over. Eagle troop's "tanks fired main guns and Bradley's fired TOW missiles at enemy tanks and personnel carriers forward of the 73 grid line. Violent explosions followed the impact of the perfectly aimed and guided fires. All vehicles were suppressing enemy infantry to the front who fired machine guns at us and scurried back and forth among the endless sea of berms which comprised the enemy position."

"The enemy attempted a futile counterattack just before dark. Enemy tanks, BMP's, and MTLB's weaved between the berms to the troop's front attempting to close within range of their weapons capability. Tanks and Bradley's to the flanks, however, had relatively clear shots through the berms and the enemy effort was soon thwarted as, one by one, the enemy vehicles erupted into flames.

TOW anti-tank missiles pursued and caught truck loads of enemy soldiers fleeing to the east. The Troop's mortar section was well into action now; dropping high explosive variable timed rounds which explode in mid-air and spray shrapnel down on the enemy infantry. We could see through the thermal sights that the mortars were exacting a heavy toll."

"The sun was setting. Continuous machine-gun and 25mm high explosive fire kept the enemy at bay and prevented him from organizing an effective counter-attack. Enemy vehicles and bunkers continued to burn and the fire engulfed the troop in an eerie reddish glow which reflected off the heavy, low clouds. Occasionally, an enemy vehicle's ammunition or fuel compartment erupted in a secondary, violent explosion. An enemy truck full of soldiers approached to within two hundred meters of Staff Sergeant Henry Foy's tank; apparently unaware of their proximity to the Troop's position. SSG Foy's crew demonstrated great compassion and discipline as I (Captain McMaster) ordered all to hold fire until the enemy's intention were known. Upon detecting the Troop's perimeter, the enemy truck halted and, the Iraqis jumped down from the truck brandishing assault rifles and RPG's. SSG Foy's machine-gun opened up, setting the truck's engine on fire and wounding one enemy soldier. The others quickly dropped their weapons and surrendered. Scouts searched the enemy soldiers, treated the wounded one and moved them to a collection point."

"The Troop was now only receiving sporadic machine-gun fire. The enemy forward [momentum] appeared broken. Major McGregor [the 2 Squadron Executive Officer] ordered the HUMVEE mounted psychological operations loudspeaker team to come forward. The Kuwaiti interpreter blasted a surrender appeal forward of the Troop's position. I ordered all to hold fire. What seemed to be countless enemy soldiers came forward as the Kuwaiti gave them instructions in Arabic. The lead enemy soldier carried a white bag affixed to a wooden staff. The prisoners fell into a single file with their hands up. It was strange watching those who had fired at us come humbly forward. A scout squad guarded the enemy with M16 rifles and began searching them. Every inch of their body and clothing was covered to include the inside of boots and wallets. The scouts had rehearsed POW procedures and did a fine job. After the search, we directed them to sit in rows."

" One could see the surprise with which the enemy regarded their humane treatment. They had been told that American would shoot them. The Troop's medic, Sergeant Pivetz, bandaged their wounds. We returned to them all personal items and provided them food and water. There were forty-two in the first batch and over two hundred more would surrender later that night and the next morning."

" William Virrill, the Troop's first sergeant had weaved through friendly units to the rear and brought up a re-supply of fuel and ammunition. Several vehicles at a time rotated back to the re-supply point while others maintained security."

H.R. McMaster continued: "I reluctantly ordered a scout section from first platoon to move north and make contact with an adjacent troop. Ghost and Eagle had fought similar battles and the area between us had been covered with observation and fire. It was still a dangerous mission, however, as no one had physically cleared the ground between us. 1LT Mike Petschek and another Bradley moved north out of the Troop's defense. Shortly after he left, Mike yelled [into the radio] "contact tanks". My heart sank. Before I could send LT Hamilton's tanks north to support, LT Petschek reported killing two T-72 tanks at close range with TOW missiles. The section made contact with Ghost and the troop's northern flank was secure."

"Similarly, the squadron to the Troop's south was linked in with Third Platoon. Iron Troop had progressed to the 70 grid line and halted there. LT Gauthier advised the troop not to fire south of a 120 degree magnetic azimuth to prevent fires from impacting on our neighbor. I and the Iron Troop commander had been roommates at West Point, and, as the battle ebbed, we coordinated our positions with each other over the radio". Captain Dan Miller, the Iron troop Commander commented: " Many times H.R. would come up on my command net and give me his positions as the battle raged. We were about three kilometers behind Eagle and he was worried about us shooting into his formation. We tracked him. A number of times I had to tell H.R. to get off the command net. I did assure him 'Don't worry we know where you are'." Captain McMaster's concluded his account:" Scouts now reported more enemy vehicles to the east. Two BMP's attempted to probe the perimeter. They had no chance at night. The thermal sights allowed us to pick them up early and Sergeant Hevermale of Third Platoon destroyed them with 25mm fire. Moments later, he detected an Iraqi attempting to start one of the BMP's. A TOW missile ensured that the vehicle was unusable."

"The battle waned as the First Infantry Division's column approached. They would continue the attack to the east. Dan Davis called an artillery strike along the

75 Easting; the area from which the enemy counter-attacks and probes had come . Secondary explosions were all the encouragement the artillerymen needed. A massive strike ensued. Artillery rounds and rockets burst in the air sprinkling armor and infantry defeating bomblets across the ground. The visual effect was that of a large sparkler spread across several kilometers. The numerous explosions must have devastated the enemy."

"The Troop's battle was almost over. One could hear the whine of First Infantry Division tank engines and the rattle of their tracks as they moved forward of the Troop. The rest of the night was relatively quiet with only occasional machine-gun fire in both directions."

"As the sun rose the next morning [27 February], the true extent of the damage inflicted on the enemy became apparent to us. I had grossly underestimated enemy losses. Countless enemy tanks, personnel carriers, trucks, and bunkers were still smoking or in flames. We had , in fact, destroyed over 35 enemy tanks and over 30 BMP's and other personnel carriers. About 10 enemy trucks were burning. We were faced with the gruesome sight of a battlefield covered with enemy dead...."

"Most importantly, Eagle Troop took no casualties. As the sun rose on the morning after the battle, I and the other soldiers offered prayers of thanks to God. We did not gloat over our victory. We had simply done our part"....

"A certain part of you just dies" said 1LT Keith Garwick of Ghost Troop's First Platoon, Eagle's northern flank partner. "Somebody trying to kill you so desperately for so many hours, and coming so close. We just couldn't understand it. I still don't understand it. Those guys were insane. They wouldn't stop," Garwick said of the Iraqi Army's Republican Guard, which hurled wave after wave of tanks at him. Ghost Troop's gunners, like Eagle Troop, would blow up oncoming vehicles. "They kept dying and dying and dying," said the 25-year old Garwick, a West Point graduate from Santa Monica, California. (The Ghost Troop account quotes, Vince Crawley, "Minute by Minute" Stars and Strikes, 9 March 1991)

PFC Jason E. Kick, 18 from Pembroke, Georgia was a Bradley driver in 1LT Garwick's scout platoon and carried a tape recorder into action. Captain Joseph Sartiano's Ghost Troop received small arms fire beginning on the morning of 26 February. At 0630 Ghost moved out in Squadron box with Eagle Troop to its right flank. Captain Sartiano's scout acquired 4 MTLB's and destroyed them with TOW's and mortar fire. Ghost's scouts took four EPW's including an Iraqi captain schooled at Fort Benning, Georgia. Ghost continued movement to the 56 Easting. After this halt, both Ghost and Eagle moved out abreast of each other due east. Time was about 1200. By about 1300 the fog was replaced by the ferocious winds of the Shamal. Ghost blew through the observation posts of the Iraqi 12th Armored Division on the 60 Easting, reporting only light contact but calling in fire support in their zone. At around 1530 Ghost encountered several personnel carriers and three enemy tanks which were destroyed.

" I had a feeling," said Captain Sartiano, "Everybody else was making contact so I kicked all my scouts back and put my tanks up front." Ghost encountered enemy vehicles dug in at the 73 Easting which was the northern extension of the Tawakalna elements which Eagle was battling to the south. Captain Sartiano's instincts were right. His tanks would battle dug in Iraqi T-72 tanks supported by

infantry. Captain Sartiano fought two actions. First he encountered the dug in forces. And second he would battle the forces which were trying to retreat.

1LT Keith Garwick indicated most of the troop was behind a small ridge, overlooking a wide shallow valley about 1 kilometer which the Arabs call a wadi. It was very shallow but enemy vehicles were well positioned on the reverse slope of the wadi facing west. PFC Kick would record the time as 1642. *"We've pulled up on the line right now. We're engaged in a pretty decent firefight right now... we're shooting again. I can see where we're shooting at, but I can't see of victor [vehicle]."*

"This is chaos here," Kick shouted in his tape-recorder. *"This is total chaos".* Battle commands can be heard on the radio. *"I see smoke on the horizon, that means I killed something. What it is I don't know."* He comments on his platoon leader. *"White One, he's the platoon leader. You can hear it in his voice, he's all shook up. Time 4:54....this is the co-ax [machine gun] firing. Time 5:10 P.M. We're still in contact... there's a few P.C.'s [personnel carriers] here and there, mostly infantry. I just spotted the biggest damned explosion at about 12 o'clock. I don't know what the hell it was..."*

1LT Garwick's platoon had already killed nine personnel carriers alone. The enemy shooting back around 1700. Artillery began falling around the Bradley's and the tanks. Keith Garwick reported *"A tremendous volume of small arms fire and shrapnel hit the berm to my front"*. Iraqi infantrymen ran forward and were mowed down. Enemy fire increased and air-burst artillery began exploding over Ghost, peppering LT Garwick's platoon. Two Bradley's in Garwick's platoon were positioned on his right wing. At 1740 LT Garwick saw three tank rounds hit the imperceptible ridge in his front, each shot closer to the Bradleys on his right. The last shot hit. *"One just got one of our guys"* shouted Kick into his recorder.

Specialist Patrick Bledsoe, from Oxnard, California was driving Bradley number G-16 in First Platoon. All he saw was shooting. *"We were in a little wadi"* he said, but the top of his Bradley looked out over the extended "valley". The difference of 10-20 feet in elevation over a distance of 500-1000 meters is crucial. *"We were kind of 'skylined' and could easily be seen by the enemy gunners. The Bradley's gunner was Sergeant Lars Moller. Just at this moment the coaxial machine gun jammed and the track commander was trying to fix it. The track commander saw Iraqi infantrymen running toward them and asked SGT Moller" You got the troops to the front?" Suddenly there was an explosion. From his seat at the gunsights, down inside the Bradley turret, SGT Moller couldn't see the area right outside of the fighting vehicle. There was a second explosion which showered sparks across the front of the Bradley. "It was just like somebody hit us with a sledgehammer"* Bledsoe said. He jumped out and ran behind the Bradley, SGT Moller was dead and the Bradley commander was wounded. Friendly tanks were shooting over Bledsoe's head as he jumped down from the Bradley after yet another explosion. Bledsoe tried to get away. *"I low-crawled up to the track",* he said. *"Knocked on the back door but they didn't hear me. I went up and knocked on the driver's hatch. The driver opened it. I said, "We just got hit. I think SGT Moller's dead". Bradley G-16 was just smoking.*

At 1747 PFC Kick spoke into his tape recorder *"It was one-six that got hit"*. A few minutes later he continued, his voice steadier. *"The gunner of one-six who was SGT Moller, is dead. The Track Commander and observer are on one-five right now. SGT Moller, SGT Moller was killed.... time about 5:49."* He paused a moment, then

added, "Can't let this... can't let this affect us or get us down or we're all gonna die. And he wouldn't want that. He don't want that. But I'm scared."

1LT Garwick told his men to keep fighting. Artillery, tanks and machine guns were firing all around them on the hill. More were destroyed. More fired. *"This is chaos,"* Kick reported at 1804, *"Total chaos... got nine victors to our front. Enemy victors and more coming."* Night had worsened the reduced visibility of the sand storm. LT Garwick reported seeing two enemy tanks coming at him. This was part of a concerted enemy counterattack from the north. LT Garwick's scouts reported that 12 tanks and more - possibly 25 - were coming from a northern direction. Captain Sartiano ordered his tank platoon into action and artillery. Staff Sergeant Guliomo saw tanks through his thermal sights. He put the laser range finder to work, shot and hit at 3750 meters. This was but one example. Captain Sartiano was directing action into the adjacent northern flank held by element of 3AD. Because Ghost had moved so rapidly eastward there were no friendly 3AD elements there. Artillery fire was called in. Tank fire and TOWS took their toll.

All PFC Kick could see was rounds going down-range. It went on like this - *total chaos* - for nearly four more hours. At one point a forward artillery observers track driven by Specialist Chris Harvey from Virginia Beach looked out: *"All I could see were things burning for 360 degrees, nothing but action."* Wave upon wave of tanks and infantry would come at Ghost only to be destroyed. PFC Kick watched and recorded. *"Boom. Hit. Hit and kill. He hit. That's revenge for SGT Moller. You sonuvabitching Iraqis. God, I hate them. SGT Moller was a good guy. We killed them. That's four Iraqi PC's for this track alone."*

Major Steven Lambert the Regimental Intelligence officer explained the ferocity of the attacks. Elements of the Iraqi 12 Armored Division and the Republican Guards Tawakalna Division had gotten tangled up trying to retreat. The Tawakalna Division was attacking. Some Iraqi units were in prepared positions and were defending. Others attacked from the northwest in order to allow defending units time to pull out. They fought fiercely in order to get out. They knew the terrain well. This was their maneuver area.

Captain Sartiano orchestrated the fight to the north while attacking the northern edge of the position which Eagle had attacked earlier. Ghost was primarily involved to the north. After Eagles main action at 1630 Captain McMaster ordered his scout section to make positive ground verification with Ghost. This was done by fixing a time for two scout sections to meet at a distinct GPS (Ground Position System) verified location. Eagle's scouts were already beyond the 01 northing and had to back-track. While doing so they had fought into the rear of the Iraqi position. Ghost came at it from the northeast. The physical link-up was accomplished at about 1740. (?)

More than once, the artillery and helicopters helped kill tanks and saved Ghost and, Eagle and Iron. At the end of the action Ghost Troop ran desperately short of ammunition. The 2 Squadron decided to place its Hawk tank company in sector so that Ghost could be re-supplied between 2230-2300 hours.

After the Ghost's battle there was reflection. *"No one, however, really knew what to call the battle... And none of them could judge how important it had been. They didn't know how hard they had fought or any one else. They still don't. It might take months or years before people who write history books will decide*

whether Ghost Troop , or Eagle, or Iron, is worth a page or not". And they may decide on a name: The Battle of 73 Easting.

For Iron Troop commanded by Captain Dan Miller, day three 25 February again began with an artillery preparation and MLRS fire. Iron Troop was to the south of Eagle troop, and part of 3 Squadron maintained its flank.

Captain Miller' assembled his platoon commanders for the historical team and he began his account with the crossing of the "SP" at 0630 to continue our movement to contact. The sunrise gave way to overcast skies and falling temperatures. By 0800 the rain began to fall and it would be on and off for the next 24 hours; mostly 'on' seemed to be the order of the day."

"As the Troop continued north there was a real sense that today our training would culminate with enemy contact. In the afternoon the scouts reported dismounts to our front, they opened fire and again the enemy surrendered. As the ten or so surrendered many more began coming out of their bunkers with arms raised high over their heads, waving white flags or white papers. It turned out that we had stumbled on to an infantry company and they all surrendered. The scouts quickly disarmed the prisoners and gathered them together in one large group. There wasn't time to search them all, so they left a guard force and continued to move. Later reports revealed that a lot of surrendering Iraqis were overwhelmed by the amount of firepower we possessed. The EPW's had slowed our move, so we picked up the pace. As we went forward we came across dozens of revetted positions and infantry fighting positions. These positions are difficult to see unless you're right on top of them. In the next day and a half, we would see a lot more of these revetted positions and they wouldn't all be empty."

"Intelligence reports provided by fourth squadron revealed a lot of enemy activity to our front. Our graphics showed that we had already covered a lot of ground, close to 100 km. PL Blacktop, which we were quickly approaching, was to be the end of Phase II. The operations order indicated a good chance of contact. The Troop had long since altered its course from due north to a mostly eastern azimuth. Our mission was to find and fix the Republican Guard, but we expected to find other units before them. As we approached Blacktop it seemed that Phase II would end without a fight - we were wrong!"

"At around 1430 third platoon reported on the command net that they had dismounts to their front again. First platoon reported artillery piece and more dismounts. As the scouts approached, it didn't take long to figure out that the flashes they were seeing were those of AK-47's . Third platoon followed suit a few seconds later."

"The scouts laid a heavy base of fire as they advanced to develop the situation. The command net buzzed with spot reports as CPT Miller demanded clarification of the situation: How many? Where are they? What do they have? etc.. Third platoon responded with a TOW missile launch into an MTLB that had emerged from a revetted position."

"The MTLB exploded as if it were made of plastic. The metal armor shot up into the air accompanied by a fire ball and it seemed to rise and fall in slow motion. In the blink of an eye, a perfectly functional vehicle had become a burning heap of metal."

"With that shot and the report by first platoon that they found themselves in the middle of about 25 unmanned MTLBs in revetted positions, the Commander called for 'Action Front'! We had rehearsed this drill a hundred times in the past couple of months. It was as if 'The Commander' had hit a switch and set in motion a machine of destruction. The scouts immediately went to a split vee formation and the tankers burst forward on line, utilizing the 1500 HP Turbo Engine to hurl their 63 tons of steel destruction forward. Fourth platoon shot up between third platoons Bradleys and Second Platoon, along with I-66, shot through First Platoon and actioned rights on a T-55 and an MTLB. I-66 quickly took out the artillery piece by pumping a 120 mm SABOT round through it. Second Platoon immediately opened fire and annihilated the other two vehicles. After passing through Third Platoon remained on line and devastated MTLBs in revetted positions at close range and snagged a couple of long range moving MTLBs. Fifty caliber rounds ripped into bunkers and soon the white flags of surrender rose from the bunkers. Iraqi soldiers emerged with hands held high and a look of relief - their lives would be spared."

"When the enemy guns were silenced and the prisoners were gathered together we found that we had just destroyed an Infantry Battalion. There were at least 180 prisoners and the fires of burning vehicles were everywhere. Iron Troop had found the enemy and in their first taste of combat, they were overwhelmingly successful. We ended the battle as we started it with 12 Bradleys, 9 tanks a mortar section, an engineer platoon, GSR, the Fist and all trains. We suffered no injuries and no deaths. The training had paid off. We had tasted combat and all walked away to fight another day. As the day grew old, the familiar sound of rain drops started, Iron Troop reconstituted."

"That night, as we sat on the screen line and in hasty defensive positions, the sound of artillery rumbled at a constant tone. The rumbling could not only be heard, but you could feel it in the pit of your stomach in the same way you feel the bass on a good sound systems, only this wasn't a good feeling. The sounds would roll closer and then start to fade; only to return a little louder and a little more intense. The artillery, accompanied with a constant rain, made for a long, miserable night. The artillery would never really find I Troop, but some enemy dismounts and an MTLB would."

"The dismounts that probed our screen line were quickly eliminated by some alert scouts. LT Daigle called for and adjusted artillery on an MTLB and more dismounts to the front of his sector. After adjustment, HE and DPICM were fired on the targets and Red One [the artillery forward observer] reported 'End of mission, target destroyed'."

"A second MTLB found its way through the seam between Iron Troop and Killer Troop to the south. The scanning by the tanks ended the early morning stroll of the enemy vehicles. Second platoon reported vehicle movement to their front and fourth platoon confirmed. Those who had taken a few hours to rest were rudely awoken by fellow crew members who were watching over the sector. The report and flash announced the departure of a tank main gun round from a gun tube in second platoon. The receiver was the MTLB that had infiltrated the sector. A second round delivered by Fourth Platoon with a fiery splash announced a HEAT round. Second Platoon then swept the sector and took care of any dismounts that remained. Except for more artillery rumbles, the remainder of the morning was

calm. Some managed to get a little sleep, others just tried to stay dry, still others remained wired and alert knowing that our enemy doesn't sleep."

"As the light of morning started to show through the heavy overcast skies, Iron Troop prepared to move."

"As expected, Phase III was a frag order. We would continue movement to contact heading due east towards Basra. As far as we could tell, the Republican Guard Divisions still lay in waiting and "the Cavalry" had to find them."

"By 0600 26 February, Iron Troop had formed the familiar Vee formation, SP was at 0630 so we set and waited. There was a report that someone was shooting flares from the Troops northern flank. A quick look to our left rear confirmed the report and CPT Miller called on Fourth Platoon to turn their sights to the direction of the flares. Scanning the area revealed a BTR-50 and an MTLB with Iraqi soldiers apparently trying to signal someone. At less than 1500 meters, the two stationary targets were easy prey for the MIA1. With an order to destroy the target, Fourth Platoon's SFC Stewart 'ripped two rounds in the direction of the flares. Both rounds were center mass hits and the now familiar flying debris and fire balls followed. There wasn't time for further observation; it was 0630 and the scouts reported SP."

"About 10 or 15 kilometers into the march, we stopped. Fourth Squadron had reported tanks and personnel carriers advancing in our direction. The decision was made to allow the combat multipliers to handle the situation. A-10 Thunderbolts circled overhead like a hawk eyeing its prey. The aircraft were mostly hidden from sight because of cloud cover, but explosions that we observed about 5 km to our front assured us the Air Force was close by and eliminated our troubles. Artillery was also called in after close air support departed."

"Early that afternoon we back stepped about 3 or 4 km and shifted our boundary to the south. By this time the winds out of the south started gaining intensity. Soon the sand started blowing and we had a definite Shamal to contend with. Visibility was reduced to less than 1000 meters and the sand became unbearable as it pelted all exposed skin. Soon after the storm began we received orders to begin movement. The war wouldn't wait for the weather to cooperate."

"Our move would take us about 20 km east to the 60 Easting where we would set the screen line again. We reached the screen line about two hours later at about 1530 and CPT Miller surveyed the terrain to find a place for his tanks to overwatch the scouts. The tank platoons cheated forward a bit because of reduced visibility. CSM Tommy Nester had brought his tank forward to replace I-66 which had thrown a track and needed a sprocket. Before the transition could be made, we were ordered to move and CSM Nestor took up position on the left flank of fourth platoon, CPT Miller had jumped to I-55, the XO's Bradley, and it was from I-55 that he fought Iron Troop on 26 February. With all positions confirmed the Troop began occupation procedure, only to be interrupted by another frag order. . Reports stated that the Iraqi Army that was in Kuwait was breaking north heading toward Baghdad. Our mission was to push hard and fast to the East to intercept a retreating army."

"After a somewhat misoriented start, the troop re-grouped and pushed forward. The sand storm continued with no loss of intensity; the visibility remained poor at best."

"Third Platoon, commanded by 1LT Thomas H. Isom from Miami, Florida, reported contact with an enemy observation post (OP), and called for indirect fire. The spotting rounds came in, but the reduced visibility made it impossible to adjust fire. 1LT Butner, the FIST was forced to cancel the mission because of lack of observation. A few minutes later, Third Platoon again reported an OP with a BTR-50 and a BMP1. While the artillery prepared to fire, Iron Troop mortar men came up on the command net and advised Third Platoon they could range the mission. Within a few seconds, the first round was out of the tube. SFC Letterman called for an adjustment. SFC Letterman called for "Add 50, fire for affect." The mortars dropped ten rounds per tube right on target. With speed and accuracy the mortars took out their first OP, and the Troop continued to move."

"Two to three kilometers past the OP, First Platoon commanded by 1LT Steve Daigle, reported numerous revetted positions and berms to their front. Immediately following the report came the familiar sound and flash of AK-47s. These positions were occupied with an enemy that was looking for a fight. The enemy seemed to be scrambling to their positions as small arms fire increased with the addition of RPGs whipping toward the scouts. The scouts responded with 25mm fire and put up their TOW launchers. Third Platoon report small arms fire on their left flank from a group of buildings. They suppressed and continued to advance."

"The sand storm had forced Iron Troop to advance closer then they cared, to develop the situation. The reports of armored vehicles and tanks in revetted positions, hurled the tanks into action. Again this day Captain Dan Miller commanded; "Action front". and Iron Troop lunged forward with cold steel."

"Third Platoon reported receiving small arms fire coming from the buildings they had just passed, now to their left rear. Fourth Platoon commanded by 1LT Joseph Paydock, of Oak Harbor Ohio, answered the call with 50 caliber suppression fire and 120mm destruction main tank gun HE rounds. The buildings no longer proposed a threat to Iron Troop. This was the same building complex that Eagle had fired into with two tank platoons earlier, by about 30 minutes. The tanks of the platoon were attacking the southern flank of the positions Eagle slammed into half an hour earlier."

"The tankers soon found themselves passing just in front of the scouts and didn't hesitate to announce their arrival with main gun rounds, 50 cal. and coax. The scouts had already done in a good portion of the enemy tanks and PC's, but the target environment remained rich. The scouts had crushed the initial resistance and the tanks would ensure there wouldn't be a counter attack."

"Enemy tank turrets were hurled skyward as 120mm SABOT rounds ripped through T-55's and T-72's. The fire balls that followed hurled debris one hundred feet into the air. Secondary explosions destroyed the vehicles beyond recognition. Resistance was sporadic. The small arms fire continued and the RPGs were following short or just plain missing their mark. EPWs started to emerge from yet unexploded bunkers. The tankers and scouts continued to lay down a high volume of fire passed the surrendering enemy. With the precision and control of a surgeon's scalpel, the troopers cut away at the enemy who continued to resist and

spared those who surrendered. Iron Troop had fought elements of the Tawakalna Division, which were on Eagle's right flank earlier. By arriving several minutes - about 30 - later than Eagle Troop, Iron Troop rolled the tactical flank of these elements. It was as an oblique movement in a classical sense."

"The annihilation of this Iraqi Armor Battalion continued with the Troop found itself surrounded by burning hulls and exploding ammo bunkers. The unforgettable odor of burning diesel, melting metal and plastics, expended munitions and anything else that happened to be burning in bunkers, hung heavy in the air. For a moment there was an abrupt calm. An occasional shot from a TOW or a tank kept us alert. The scouts were told to continue their advance as the tanks held the line and overwatched. The report of advancing T-72s from the east, told us the battle wasn't over."

"Seven T-72s had managed to crawl out of their revetted positions and attempted a counter attack. The enemy was advancing at about 2500 meters to our front. The flash from their gun tubes confirmed that they had a fix on us. The scouts were in no position to continue the advance on T-72s. The T-72s, 125mm main gun splashed short and kicked up a wall of dirt. Indeed SFC Minilix (?) stated: They hit so close we were covered with dirt and had to get out and clean the optics." In seconds they would have us in range and a Bradley was not build for such a hit."

"Again the tanks quickly bound forward. At 2100 meters the inferior T-72 didn't stand a chance against the Abrams' M1A1. The depleted uranium, long rod penetrators from the SABOT round passed through the T-72s like a hot knife through butter. The TOW missiles also had no problem with the range on penetration and the counterattack was squelched like a match in a cup of water."

"The battle had come upon us without warning and now it was over, I Troop had come upon a dug-in Armor Battalion of the elite Republican Guard. The time of the fight - from 1530 to 1700 was short but intense. The sand storm had worked to our advantage as it concealed our advance and left the enemy seeking shelter from the blowing sand. After we extinguished the OPs, we expected contact, but what and how much was uncertain. The Commander continued the advance of the Troop to clarify the situation. As the engagement began, CPT Miller quickly evaluated the situation. If he halted, he would give the enemy a chance to react and initiate their defense. If he continued to advance, he could find himself committing the Troop to a well defined fire sac. The Troop advance and CPT Miller capitalized on the element of surprise and limited visibility to overwhelm an Armor Battalion that had given us a flank to exploit. The Battalion was oriented to the Southwest and unaware of our advance."

"A cavalry troop does not fight an Armor Battalion by itself,.Realistically, this was at least a Squadron fight. But once the troop had committed to the fight there was no way to call for reinforcements or pull out. I Troop had taken a gluttonous bite into the enemy. It was their fight and their fight alone. The bite needed to be devoured quickly, and without hesitation, the Troop swallowed it

"The Troop again reconstituted and set the screen line to begin resupply operations. Darkness had fallen quickly and once again the night sky was illuminated by the fires from burning vehicles and bunkers. On occasional secondary explosion blinded the observer. The artillery started again, as the prep began for the forward passage of the rest of VII Corps."

As Captain Miller ordered his men into a defensive position, he awaited the passing of the IID. The Iron troop casualties were 3 (?) wounded in action, and one Bradley destroyed. The casualties were due to "friendly fire".

After the Eagle , Ghost and Iron Troop action - that is after the war - Captains McMaster, Sartiano, and Miller returned to the 73 Easting battlefield. The Regiment bivouacked in the area enroute to other missions. During this time Regimental project officers Captains Dan White and Don Calvert returned to the battle area to verify the enemy positions, equipment and bunkers and account for the equipment destroyed. These officers went to each position or item of destroyed equipment, recorded its exact location using the Ground Positioning System (GPS) and logged this on a worksheet. This worksheet was then placed on a large scale map to accurately determine the extent of enemy positions. Next, the VII Corps Engineers working for the Corps G-2 Intelligence section called a Battlefield Reconstruction Section, headed by LTC ---? Kirk plotted the actual map. Captains Smith and Maldonano verified the position locations and the extent of the enemy equipment destroyed.

With this homework completed, the Troop Commanders surveyed the battle site once again with the historical team. With LTG Franks' full support, Troop commanders spent a full day with the team on the battle site. Once again positions were verified as troop commanders indicated where they were and when in relation to the enemy. Ground positions were verified, azimuths of shots were determined, and effectiveness was ascertained. Further, the time sequence of attacks was walked through by the commanders and historians and other experts. This was an illuminating experience for both, the commanders and the team members. Certain questions, particularly of timing were cleared up.

Another part of the battle action concerned fire support. Organic mortar and artillery fires and their effect have been described in the commanders written after action reviews and the oral recorded interviews described in excerpt form above. What has not been considered is aviation fire support. Nomad Troop reported the "village" bunker complex at the 68 Easting and 00 Northing to Regiment of 25 February. Unfortunately this report did not reach Eagle or Iron troop. Regiment did co-ordinate an aviation strike by Apache helicopters of 2/1 Aviation Battalion commanded by LTC John Ward. This strike on 26 February was to attack suspected enemy positions on the 73 Easting and enemy artillery positions at the 82/83 Easting. These artillery positions were identified to be in support of the advance elements of the Tawakalna Division. The first mission was aborted because of weather. The second mission was planned for a 1600 26 February start time. His officers planned an ingress route flying over elements of First Squadron on route Blue, rallied over the hard black top road - the elusive IPSA pipeline road not on the Regimental maps - and flew north. In a recorded after action review with 2/1 Aviation pilots indicated that the planned egress route which the Regiment wanted could not be used because this meant flying over engaged units at the 73 Easting. Hence 2/1 Aviation planned to return by a southern route termed Hawk. Visibility was limited to less than 1000 meters. Platoon elements could only see each other not the entire company attack. The unit's mission of attacking the artillery position was executed by two Apaches firing Hellfire missiles and destroying six guns. The time was about 1630. This was obviously to the advantage of Eagle and Iron Troop who either had come through the artillery fire or were encountering it at that time. The Apaches continued their attack mission by strafing the myriad of vehicles moving on the IPSA pipeline road with 30mm cannon. Tanks, BMP's, trucks and civilian Toyota vehicles were taken under fire. Equipment was destroyed.

Approximately 400 prisoners were reported. CW3 Mitcham notified AWACS of the situation on the ground and the Air TAC proceeded to round up the prisoners into a central location. During the egress the Battalion Commander and the S-3 reported the prisoners to a ground unit that had closed to within 20 kilometers of the objective. Pilots encountered hand held RPG and a ZSU 23-4 anti-aircraft gun. Pilot accounts at the debrief report Iraqi soldiers getting out of truck, after being stopped by fire in front of the vehicles. When vehicles did not stop they were destroyed. In one case a pilot reported stopping a Toyota Jeep, the driver getting out and opening the door for " a fat Iraqi officer getting out , raising his hands in surrender, holding a briefcase in the air". The pilot CW2 John Ely was asked how did you get them to surrender? He responded: "Look, when you see a guy in this machine hovering 200 feet in front of you, with a gun turret that moves with the nodding and turn of my head, then you point south, they move south. They've just seen their buddies blown away. What would you do?" CW2 Ely did wonder aloud whether the "fat guy" ever made it to captivity. Many prisoners were taken as a result of this Apache interdiction and obviously the artillery - suspected to be 130mm long range guns - were taken out. Just in the nick of time. LTC John Ward did indicate the mission constraint was not to become decisively engaged. His Division commander wanted his force totally available for the smashing of the other Republican Guard Divisions - specifically the Medina

Epilogue

"Men will not remember what was said here" said Abraham Lincoln at the Gettysburg Cemetery dedication, "but they will not forget what they did here."

The battle was fought with very low United States Army casualties. The very success of the fight gives the perception that it was easy. Nothing could be further from the truth. This was "total chaos" to use PFC Kick's words. This was stark terror. How soldiers prepared for this was easily answered by LTG Franks. "They trained their whole professional life for this battle" Their whole life is the professional dedication of the US Army soldier.

METT analysis to follow by Major Sandridge.

Observations

Preliminary observations:

* There is no historical uncertainty that this was a fight. Onsite evidence and oral interviews substantiate T-72 tank fire, probable 130MM artillery and other fires. Mines were encountered. Superior training, superb equipment and soldier/commander courage, skill and discipline resulted in a victorious engagement. This engagement and battle had operational consequence.

* Troop commanders (G,E,I) fought co-ordinated, mutually supporting attacks. There was no hesitation in pressing the attack. Ghost fought two separate platoon actions because of the terrain. Echo fought an integrated troop level frontal attack while under artillery fire and passing through a mine field. Iron fought by platoon and encountered some of the same defenses as Echo. This was a short action for all three troops. Echo's main action took less than 30 minutes. It took the team 6-8 hours to walk through the action.

* Visibility varied over time due to the sand storm from 200-1400 plus meters.

* The sand storm contributed to complete tactical surprise. The Iraqi soldier was out of his tank because of previous air attacks. When Echo main attack hit Iraqi soldiers had no idea that M-1 tanks were hitting them. Too late for the Iraqi soldiers to jump back in to fight their tanks.

* Effective cross troop communication between Echo and Iron and Ghost insured co-ordination. All three commanders did not hesitate to come up on each others command net to co-ordinate. Since Echo was initially in front of Ghost and Iron this avoided potential fire into each other.

* Amazing discipline. Iraqi casualties were minimized. All units killed equipment, but when Iraqi soldiers even showed the intent to surrender fire discipline was total. During the heat of battle our soldiers disarmed and then treated Iraqi wounded. Psychological warfare teams attached to Echo troop were used to coax one bunker complex into surrender. It could easily have been fired.

* Once T-72 were found and ranges up to 3750m for engagement were used.

* Bradley 25 mm was effectively used against tanks to explode engine and fuel compartments and cause explosion.

* There were double, even triple kills. Troops used the "if its not burning, it hasn't been killed rule" As a result catastrophic kills were common.

Methodology

The team engaged in an onsite data search in Iraq and Saudi Arabia. Rich and varied source material was available. After initial briefings at ARCENT history office the team traveled to King Khalid Military City and VII Corps Main to co-ordinate with Chief of Staff, BG Landry. The 2ACR Commander, Colonel Don Holder received the team with a prepared concept of operations brief and a historical documentation book. The documentation includes operations orders, fragmentary reports, voice recordings of some command and fire support nets, After-Action Reviews by unit commanders and historical data survey of the battlefield site. Positions of enemy positions and equipment was verified by GPS. VII Corps G-2 battlefield reconstruction includes enemy equipment positions verified by engineer battlefield survey data also done by GPS. All troop commanders from M1 and Bradley commanders, to platoon and troop commanders were interviewed and asked to verify plotted positions on the ground and on a map developed from the data. Supporting artillery and air commanders and soldiers were also data searched.

The team went to the 73 Easting battle site. LTG Franks personally briefed the VII Corps concept of operations plan and his key decisions in execution. He provided his own ground and air transportation so the team could survey the battlefield with three troop commanders. LTG Franks was debriefed upon completion of the ground survey.

Most of the team's time was spent with 2 ACR (including movement to the port of Al Jubail) and supporting units. Oral recorded interviews were conducted with three troop commanders (Ghost, Eagle, 2/2 ; and Iron 3/2), their respective platoon commanders, tank and Bradley commanders and gunners and supporting commanders and pilots. The results were plotted on a map which was re-verified by the participants.

This composite map was integrated with the 2ACR historical reports, engineer battlefield survey reports and battlefield reconstruction reports from the Corps G-2.

VII Corps Main and TAC and other organizational elements (supporting aviation came from 2/1 AD) were used to substantiate additional data points.

The above material will be supplemented with Defense Intelligence Agency supplied overhead photography of the 73 Easting site. Material from 23-26 February 1991 is available. The Engineer Topographical Laboratory is integrating this information with the above historical reality to create a topographical map of the area. This map will form the movement basis for the battle. This map will then be computerized so that a soldier can view the battle from any perspective, be that ground or air, friendly or enemy. First the SIMNET computer will allow a total historical re-creation of the battle "as it actually occurred". Next the computer simulation software program will allow variance from the historical reality so that individual commanders and higher level commanders will become trained in desert armored warfare.

Documentation

References in text:

LTG Franks Interview 12 April 1991.
2 ACR Operations Order Extract Dated 201100C Jan 91
Major Doug Lutte Concept of Operations Brief 11 April 1991
Major Steve Lambert Intelligence Briefing 11 April 1991
2 ACR Operations and Intelligence Briefing
2 ACR Operations Log
Colonel Holder Interview 11 April 1991

"Action Front"

Eagle Troop After Action Review conducted 11 April 1991
Captain McMaster Written After Action Review, undated
Eagle Troop written After Action Review submitted to 2ACR
Eagle Troop After Action review conducted 15, 16 April 1991
Captain McMaster on-site account 12 April 1991
Command net voice recording 26 February 1991

Vince Crawley, "Minute by Minute, Death by Death: One unit's battle against the Republican Guard", *Stars and Stripes*, 9 March 1991.

Ghost Troop After Action Review submitted to 2 ACR
Captain Sartiano After Action Review 11 April 1991
Captain Sartiano on site account 12 April 1991

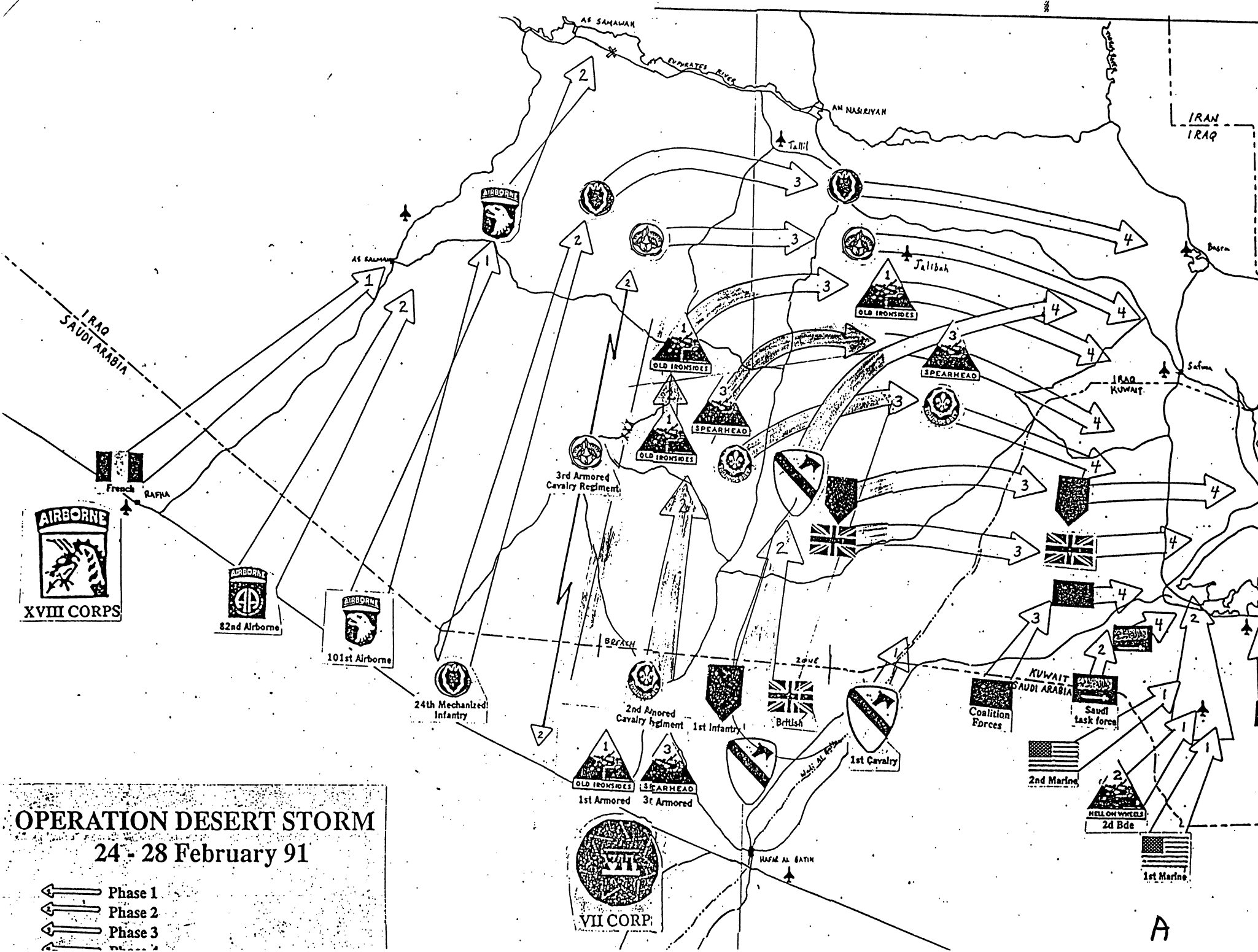
Eagle Troop After Action review conducted 13 April 1991
Eagle Troop written After Action Report submitted to 2 ACR (written by 1LT Paydock)
Captain Miller on site account 12 April 1991

Mission Reports from:

2/1 Aviation 003 DTG:261630FEB91
Fourth Squadron Operations LOG 31 Dec 1990 -23 Mar 1991
LTC Ward interview 14 April 1991
2/1 After Action Review 14 April 1991

Other:

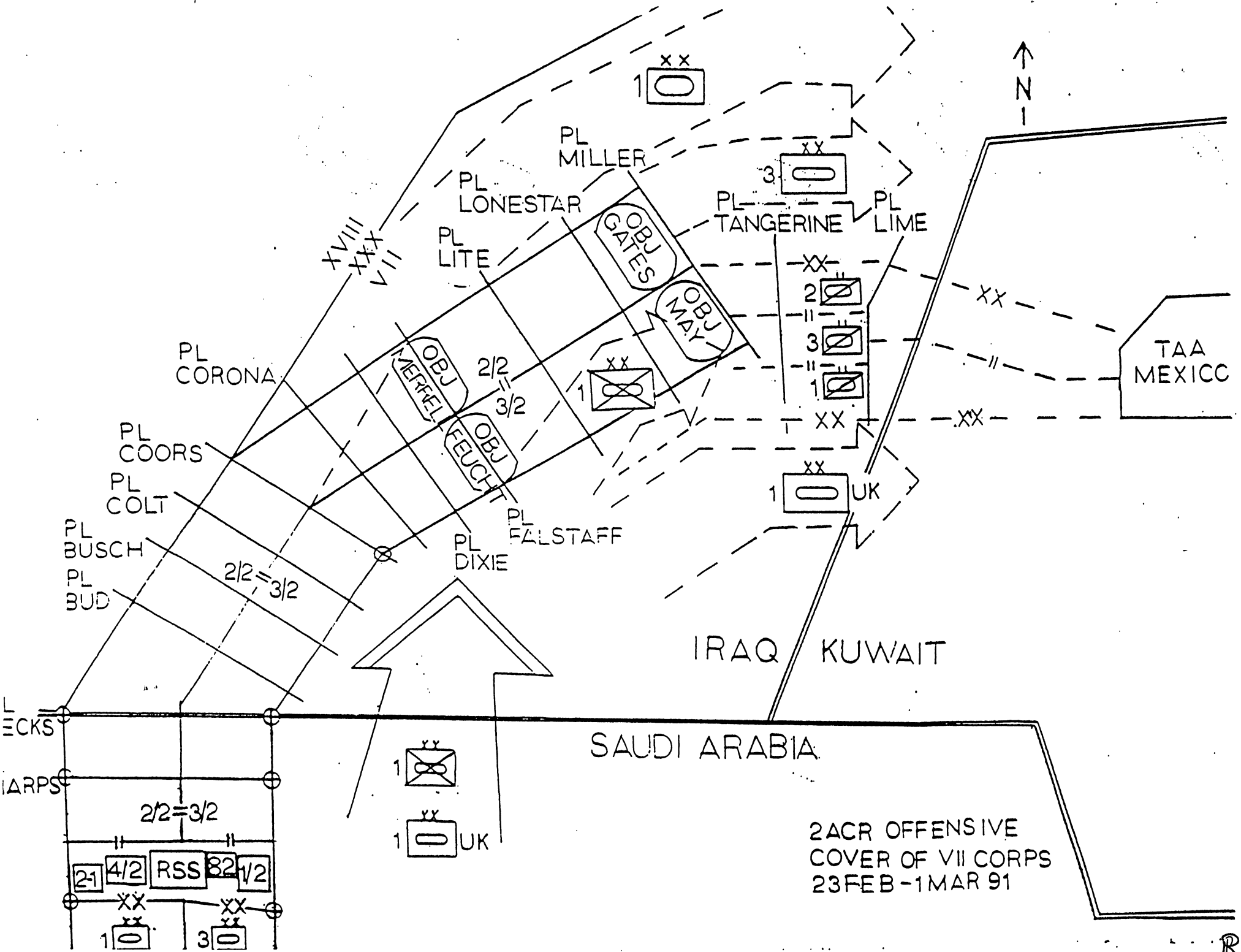
Engineer Survey Data from Battlefield Reconstruction Cell, VII Corps G-2
2 ACR Historical Worksheets
On-site Ground Position System readings 12 April 1991
Photo Log 12 April 1991
ETL map data
DIA map data
On-site survey of battlefield at 73 Easting 12 April 1991



OPERATION DESERT STORM
 24 - 28 February 91

- ← Phase 1
- ← Phase 2
- ← Phase 3
- ← Phase 4

A

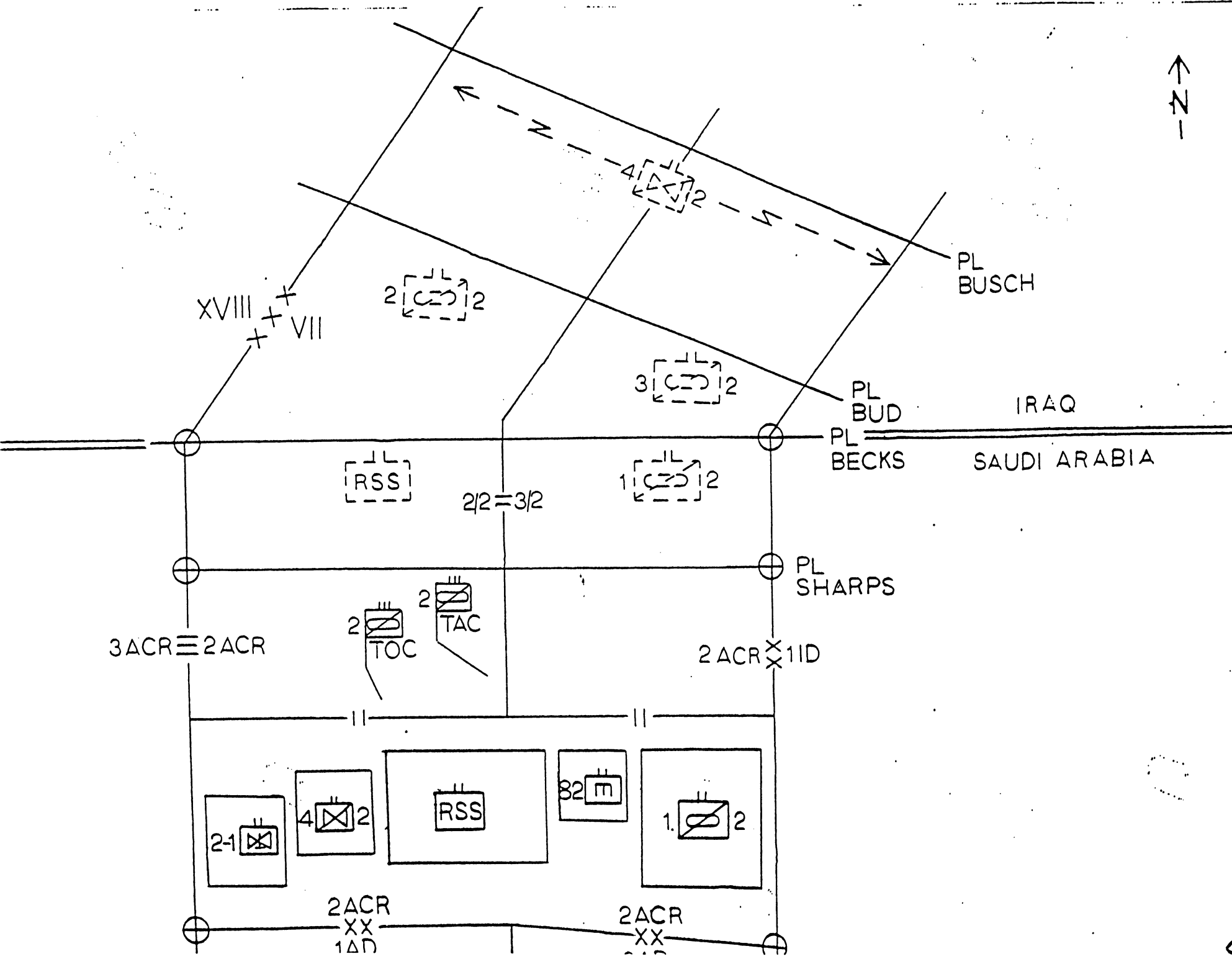
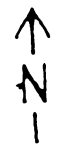


SAUDI ARABIA

IRAQ KUWAIT

TAA MEXICCO

2ACR OFFENSIVE
COVER OF VII CORPS
23FEB-1MAR 91



XVIII + VII

2 [RSS] 2

4 [RSS] 2

3 [RSS] 2

PL BUSCH

IRAQ

PL BUD

SAUDI ARABIA

PL BECKS

1 [RSS] 2

2/2 = 3/2

PL SHARPS

2 TAC

2 ACR X 11D

3 ACR ≡ 2 ACR

2-1

4

RSS

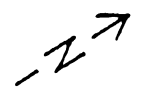
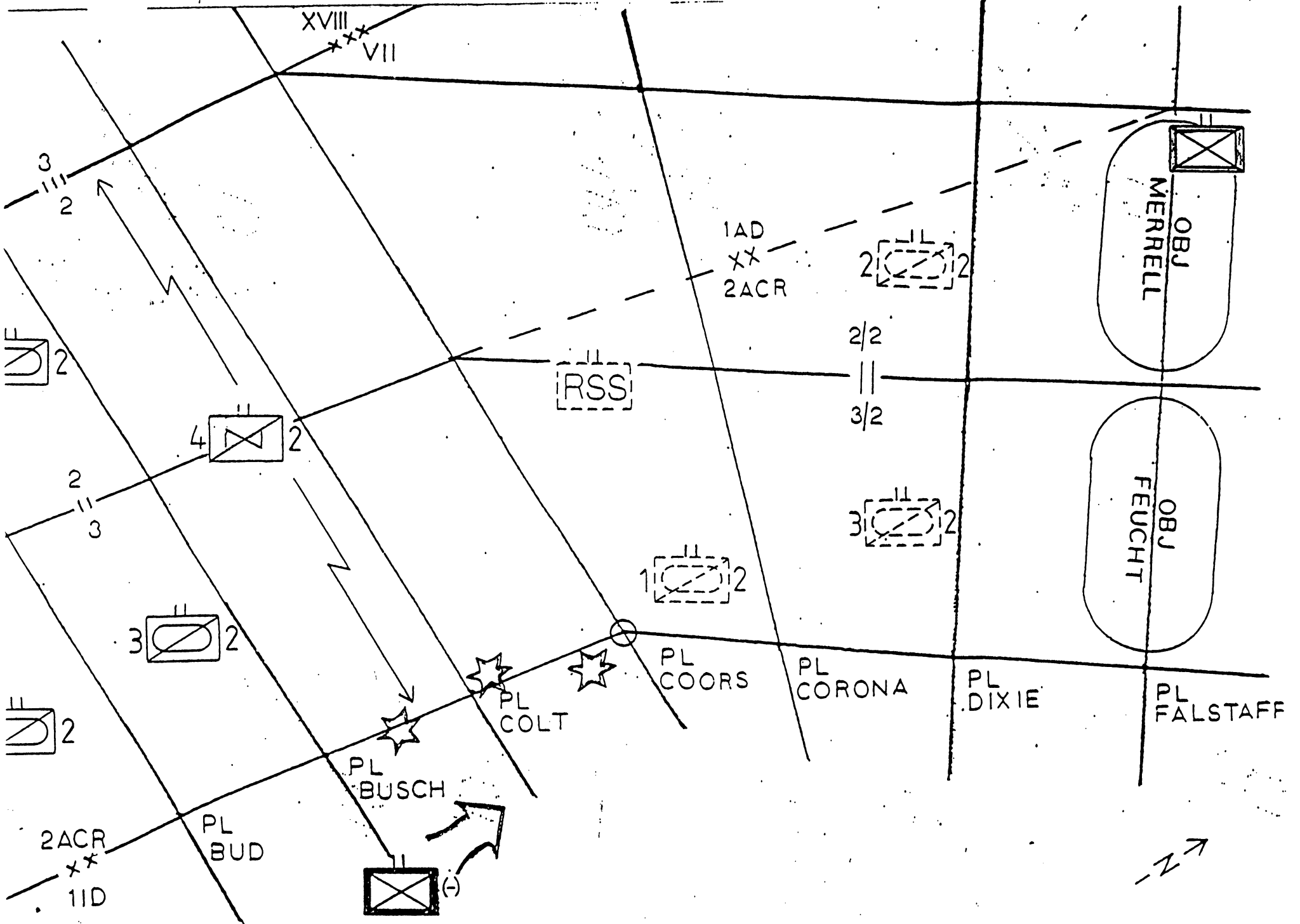
32 m

1

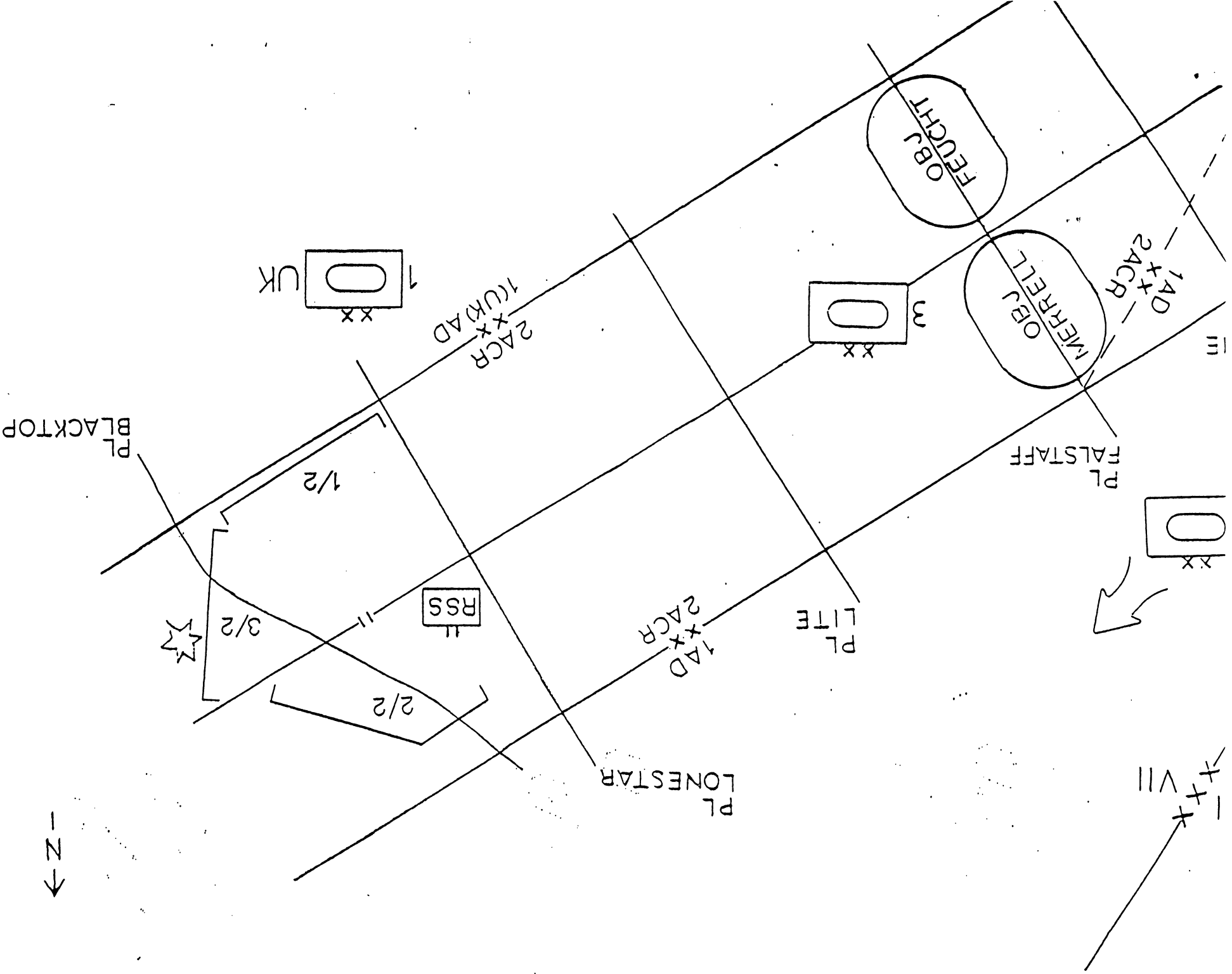
2 ACR
XX
1ΔD

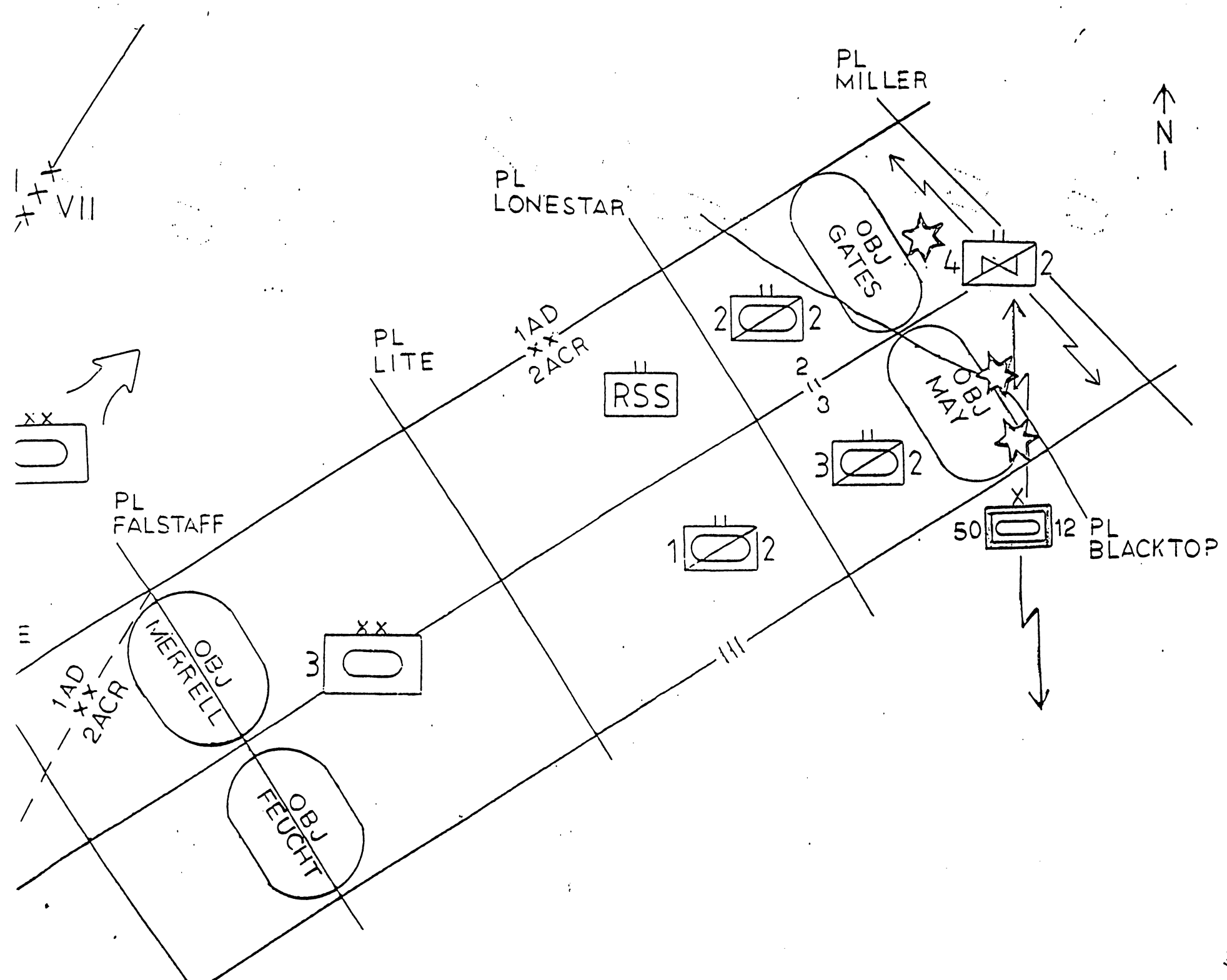
2 ACR
XX

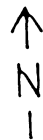




D







PL MILLER

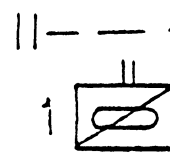
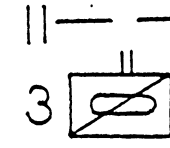
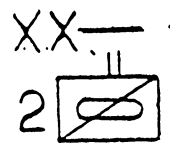
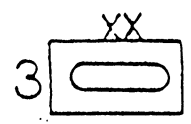
NESTAR

OBJ GATES

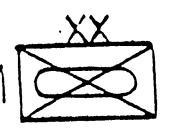
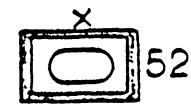
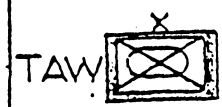
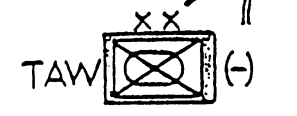
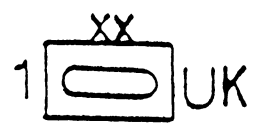
PL TANGERINE

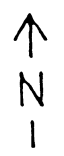
PL LIME

OBJ MAYU

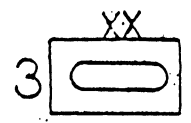


XX

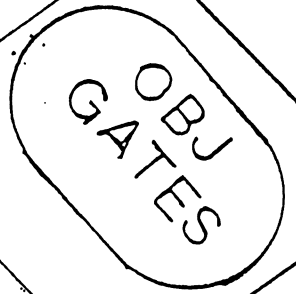




PL MILLER

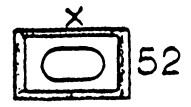
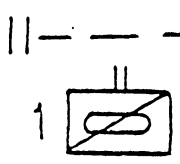
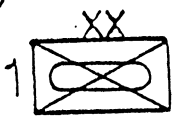
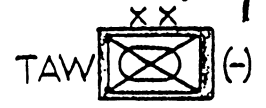
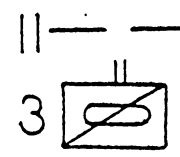
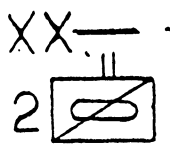


L ONESTAR

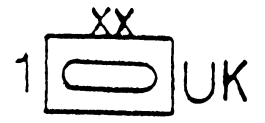


PL TANGERINE

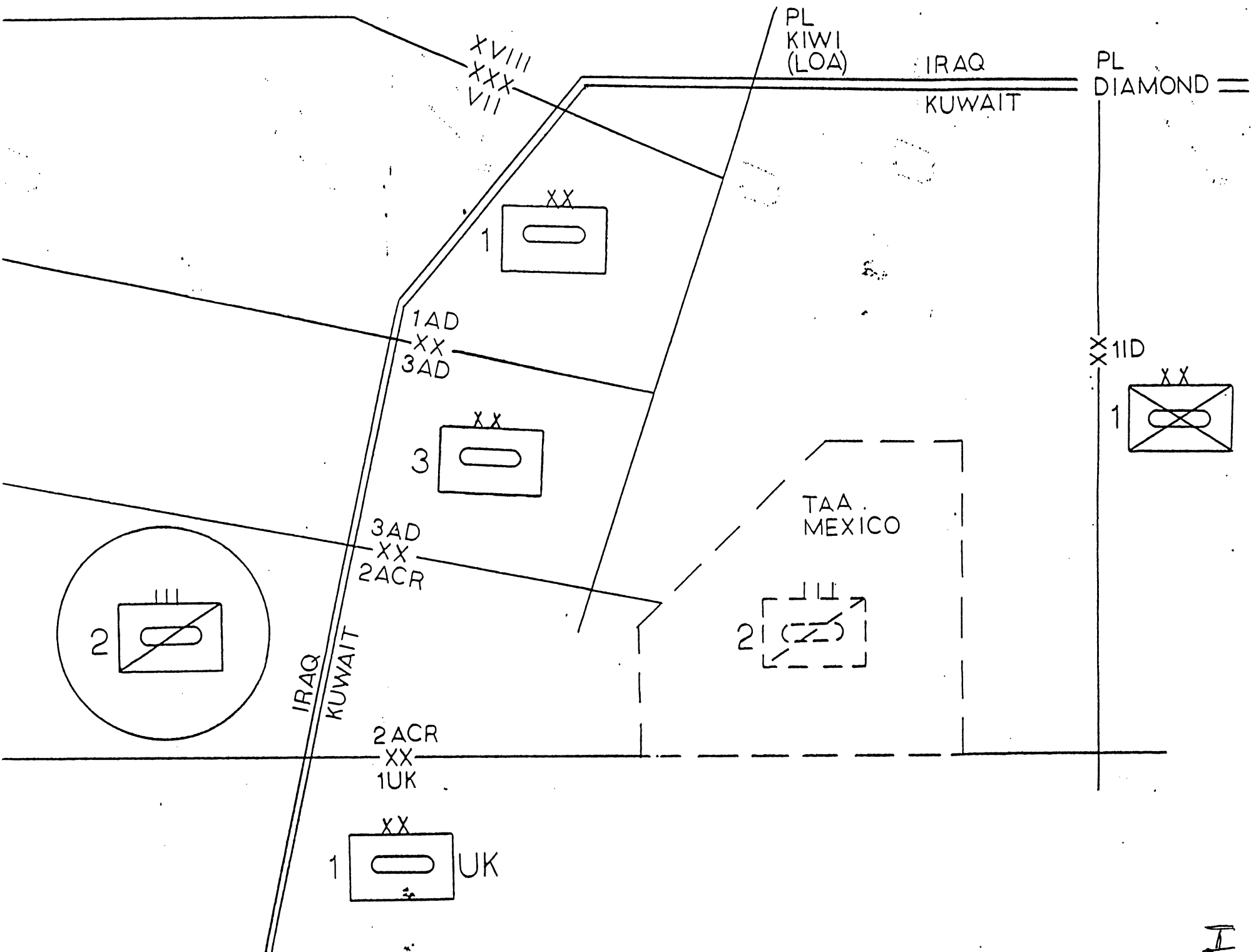
PL LIME

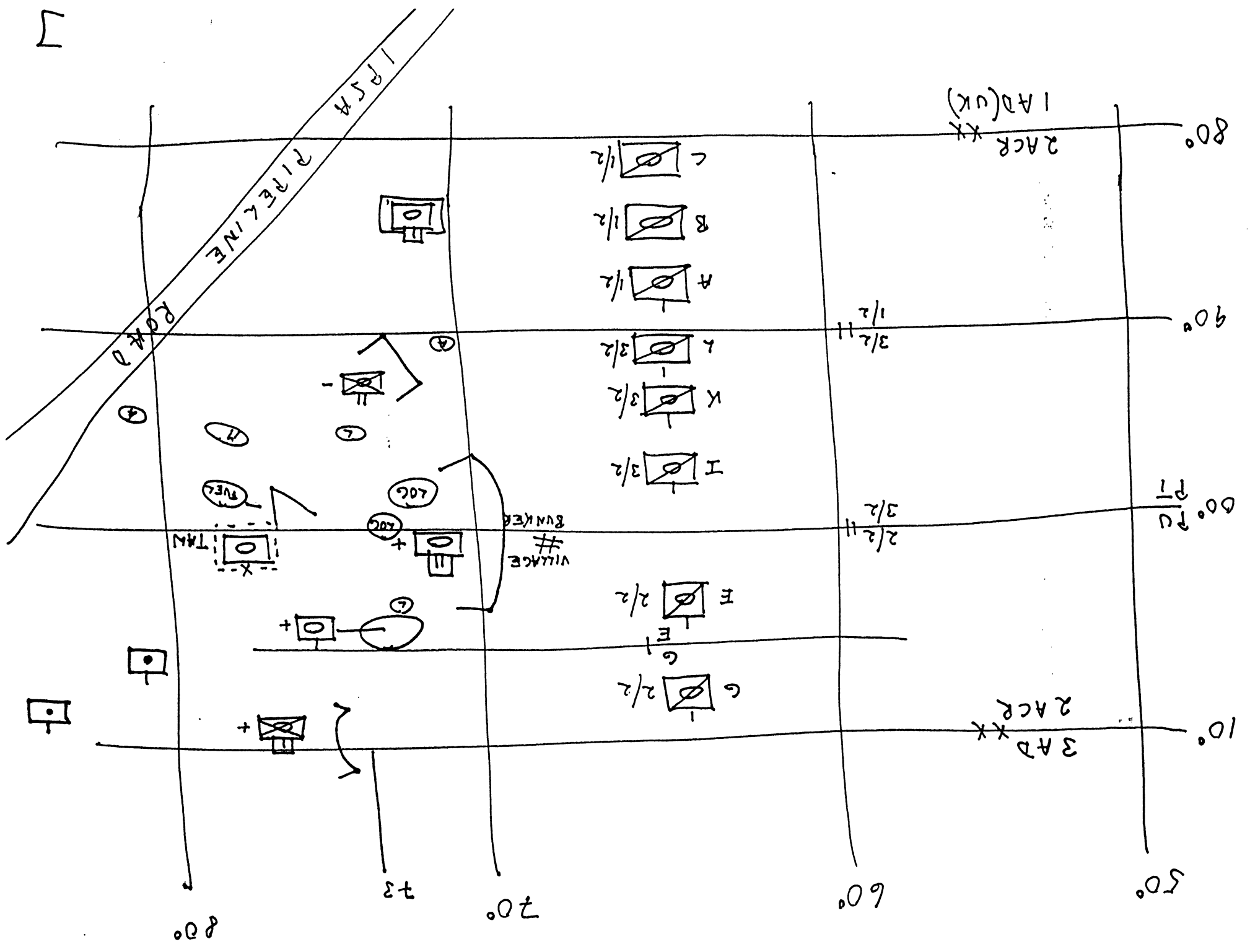


XX



H





K

05

C.3:

INITIAL CONTACT
AT VILLAGE/
BUNKERS
1600

G
E

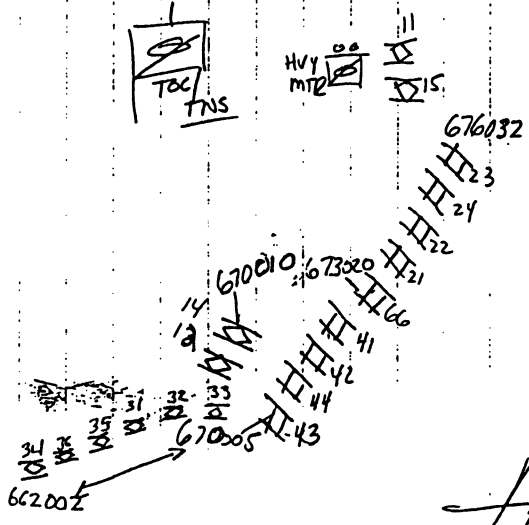
680040
#13
#16

TOC
TNS

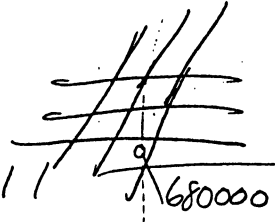
HVY
MTR

#15

676032



small
bunkers



680000

68

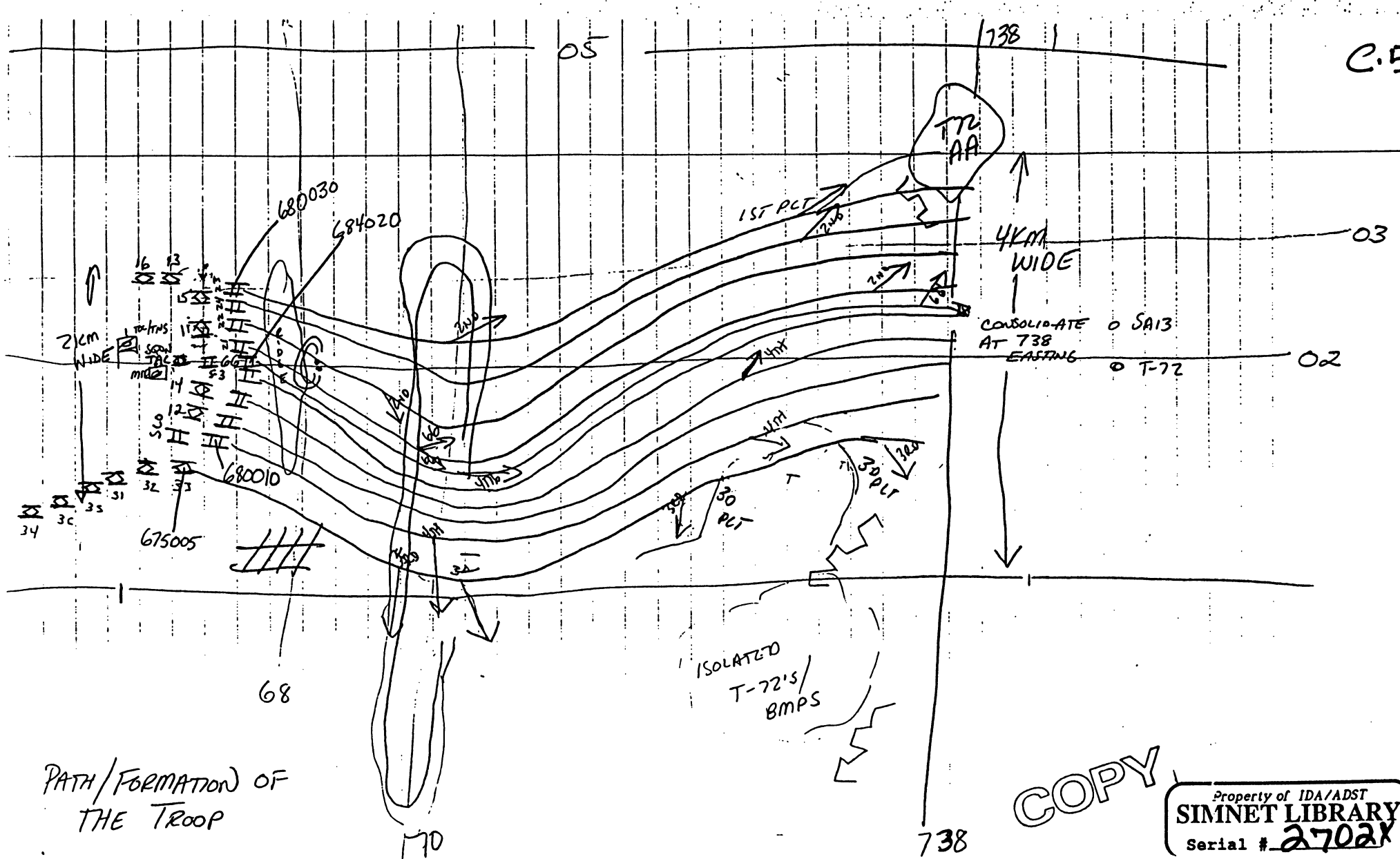
COPY

K

Property of IDA/ADST
SIMNET LIBRARY
 Serial # 27025

00

h



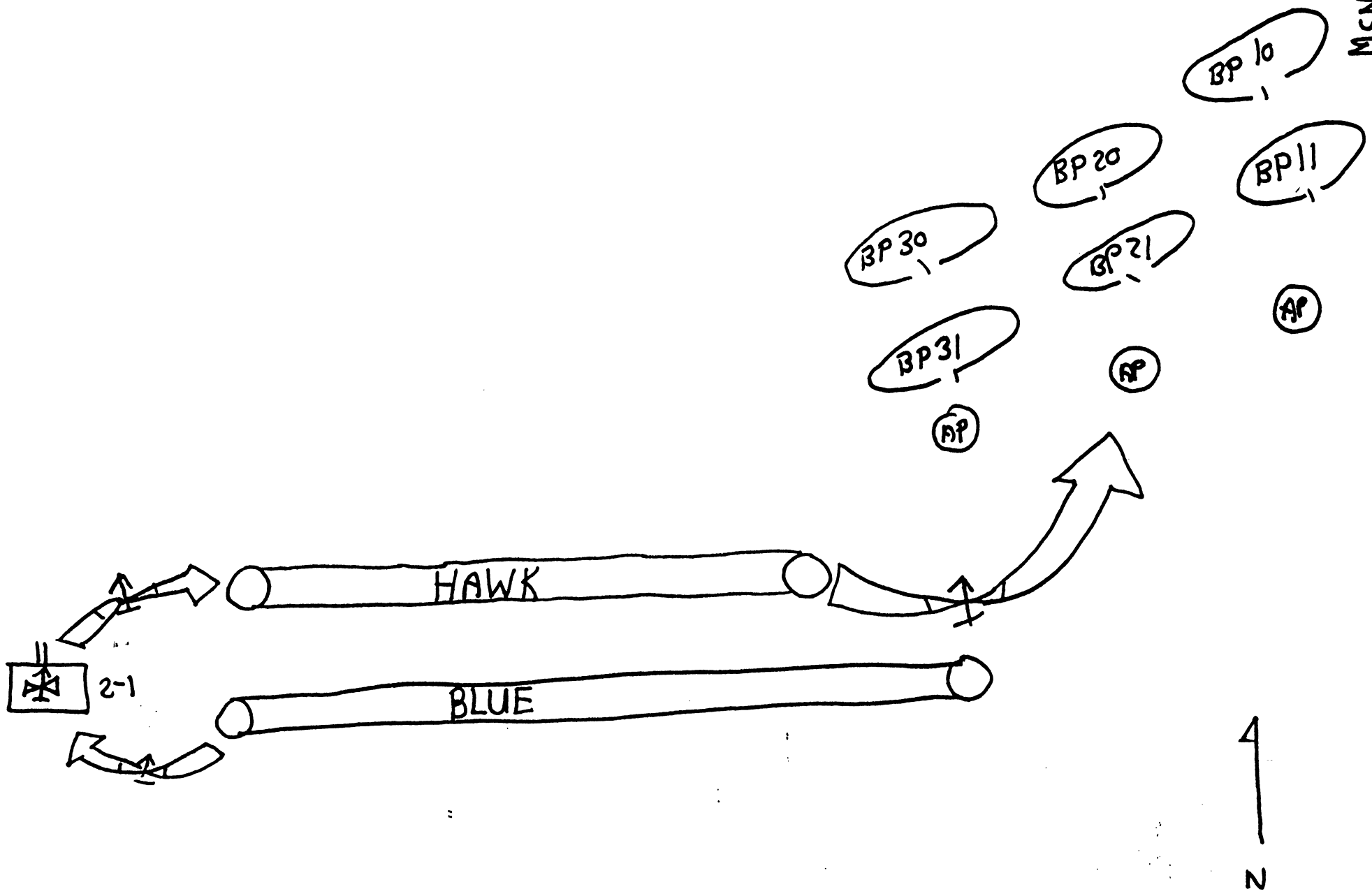
PATH/FORMATION OF THE TROOP

Property of IDA/ADST
SIMNET LIBRARY
 Serial # **2702X**

BATTLE OF QARNAYN

PT 8295

MSN 003



C.4

SIT 00 1607

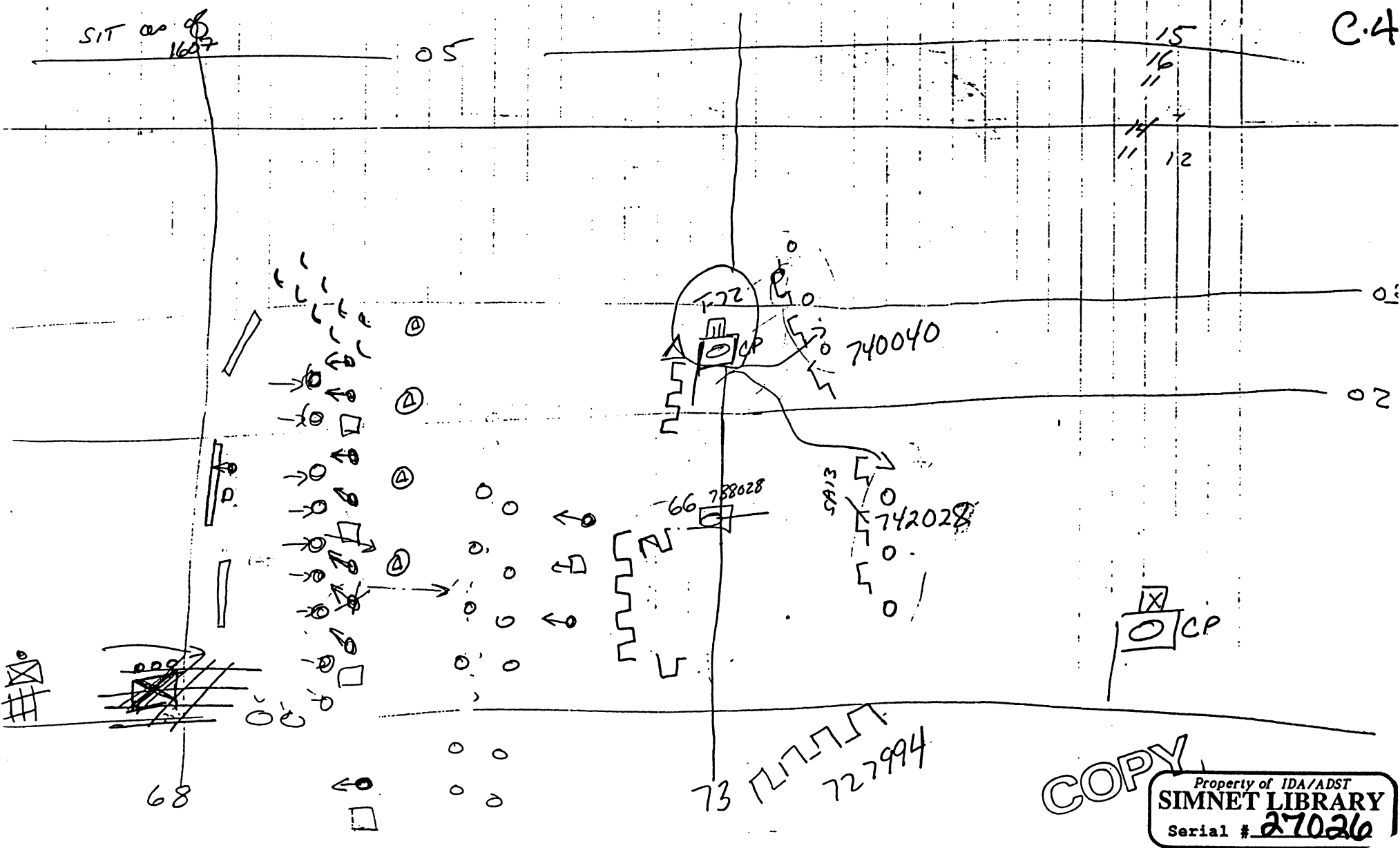
05

15

16

14

12



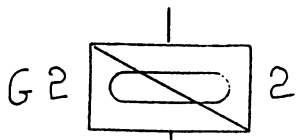
COPY

Property of IDA/ADST
SIMNET LIBRARY
 Serial # 27026

GHOST TROOP

B.1.

1ST JOSEPH E SARTIANO
 CDR G-TROOP; 2/2 ACR
 PO Box 15961-G
 APO NY 09139

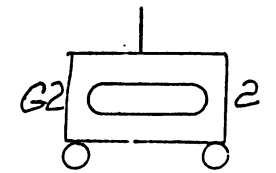
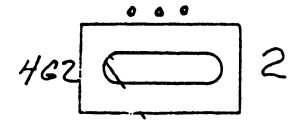
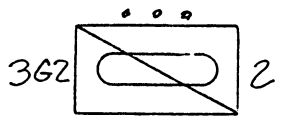
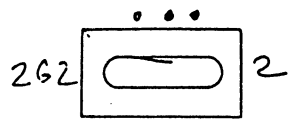
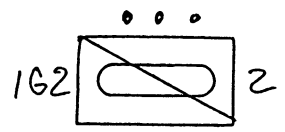


SFC G68
 NEUMAN
 m106
 MORTAR
 G67

m1
 G66

LT DESKEVICH
 LT FRANKS
 SGT FOLTZ
 F15T-V
 COPT

G65 m3 TRP XO LT MEECH



- G11 m3 LT GARWICK
- G12 m3 SSG GARCIA
- G13 m3 SGT MURPHY
- G14 m3 SFC LAWRENCE
- G15 m3 SSG ROBBINS
- G16 m3 SSG CHAFEE

- G21 m1 2LT KILGORE
- G22 m1 SSG GUILLERMO
- G23 m1 SSG COOLEY
- G24 m1 SSG LUNDQUIST

- G31 m3 1LT HAINS
- G32 m3 SSG RODRIGUEZ
- G33 m3 SGT SOLLEY
- G34 m3 SFC WOJTKO
- G35 m3 SSG MERRIWEATHER
- G36 m3 SGT STRONG

- G41 m1 LT GEOFFREY
- G42 m1 CPL LEE
- G43 m1 SGT CARDOSA
- G44 m1 SFC CURRIER

- m98
- Medic m113
- MIRIA m113
- 1ST m113



COPY

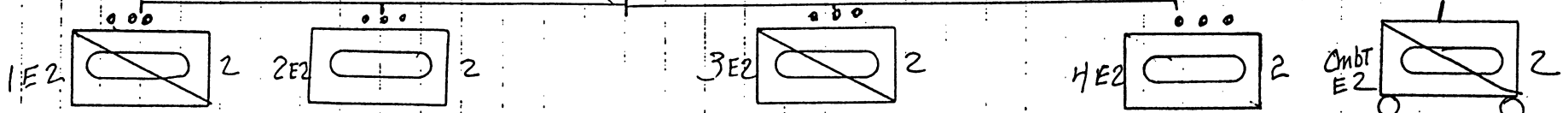
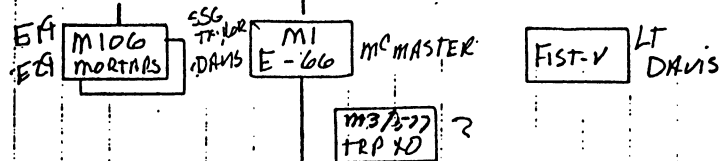
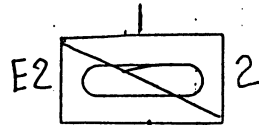
Property of IDA/ADST
SIMNET LIBRARY
 Serial # 27014

EAGLE TROOP

Captain H.R. McMaster
 E Troop 2/2 ACR Box 15732
 APO New York 09139

1LT TIMOTHY GAUTHIER
 E TROOP 2/2 ACR BOX 1371
 APO NY 09139

C.I.



- | | | | | |
|-----------------------|----------------------|-------------------------|-----------------------|--------------|
| 1E11 M3 LT PETZCHECK | 2E21 M1 2LT HAMILTON | 3E31 M3 1LT GAUTHIER | 4E41 M1 2LT DESTAFANO | M38 |
| 1E12 M3 SSG HILL | 2E22 M1 SGT BROWN | 3E32 M3 SSG McReynolds | 4E42 M1 SGT RUSS | medic m113 |
| 1E13 M3 SSG LAWRENCE | 2E23 M1 SSG WEBSTER | 3E33 M3 SGT HARRIS | 4E43 M1 SSG WATSON | MANT m113 |
| 1E14 M3 SSG PATTERSON | 2E24 M1 SFC WALLACE | 3E34 M3 SSG CAUDILL | 4E44 M1 SSG FOY | 1ST SGT m113 |
| 1E15 M3 SSG TORIAN | | 3E35 M3 SGT DIGBIE | | FIC Humm |
| 1E16 M3 SSG MABEE | | 3E36 M3 SGT SCHOENMAKER | | |

2LT MICHAEL HAMILTON
 E Troop 2/2 ACR Box 15497
 APO New York 09139

13 ←
 FIST-V 150 m behind
 16

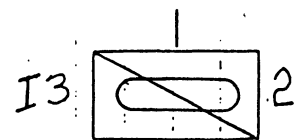
COPY
 Property of IDA/ADST
SIMNET LIBRARY
 Serial # 27023

IRON TROOP

Property of IDA/ADST
SIMNET LIBRARY
Serial # 27038

D.1:

COPY

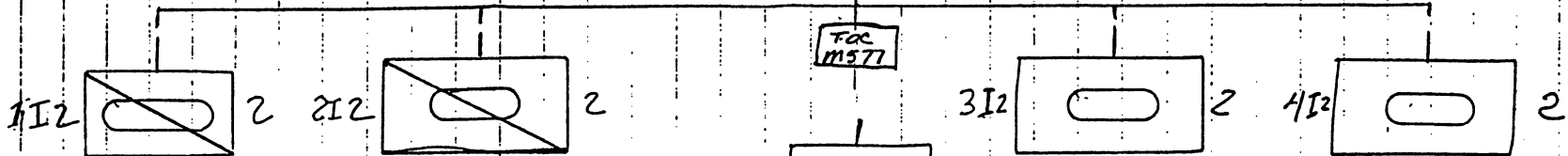


M106
H. Z. INHORN

M3
E 55
CPT MILLER

FIST-V ?

FOR
M571



- I 11 M3 ILT DAIGLE
- I 12 M3 SSG KELLY
- I 13 M3 SSG TROKELL
- I 14 M3 SFC NULLINIX
- I 15 M3 SSG THADEER
- I 16 M SSG BARNES

- I 21 M1 ILT HEARRINGTON
- I 22 M1 SSG ANDERSON
- I 23 M1 SSG MICKUCH
- I 24 M1 SFC WHITMAN

- I 2 MBB
- MEDIC
M113
- MAINT
M113

- I 31 M3 ILT ISOM
- I 32 M3 SSG HAMPPELL
- I 33 M3 SGT CORREA
- I 34 M3 SFC LETTERMAN
- I 35 M3 SSG BROWN
- I 36 M3 SGT WEBB

- I 41 M1 ILT PAYDOCK
- I 42 M1 SSG ASHER
- I 43 M1 SSG BITAR
- I 44 M1 SFC STEWART
- HQ
77 M1 CSM NESTER



SCIENCE AND TECHNOLOGY DIVISION

DATE: 4-24-91

ADVANCED DISTRIBUTED SIMULATION TECHNOLOGY (ADST)

1911 N. FORT MYER DRIVE, SUITE 707
ARLINGTON, VA 22209-1603
(703)528-8901 FAX (703)528-8909

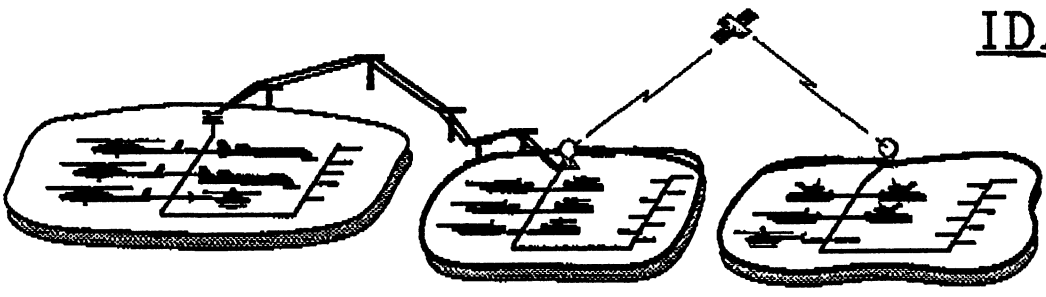
TO: Neale Cosby FAX# _____
NAME

COMPANY/DIVISION _____ VERIFICATION: _____ TELEPHONE _____

NO. PAGES + COVER - 6 ORIGINATOR Janet Jewette

SUBJECT/COMMENTS: _____

IDA/ADST



BATTLE OF 73 EASTING DATA COLLECTION PLAN

Interview Tapes

1. Transcribe by tape - no editing
2. Cut and paste for continuity - maintain original tapes and transcriptions for archives and references.
3. Extract and prepare tables for reference.
 - a. Events - move, shoot, reports, by UTM under each category.
 - b. Process of each event; by time and phone
 - outpost line
 - initial contact
 - main battle and assault through Iraqi positions
 - coordination
 - consolidation
 - c. calls for fire and shell rep's
4. Clean up and redub command net recordings

Photos (Still)

1. Develop and print 5 copies each
2. Collate on paste board with ID summary IAW log's
3. Distribute:
 - a. Thorpe/McBride
 - b. Col Krause
 - c. Maj Sandridge
 - d. Capt Major
 - e. IEL/Bloedorn

Video

1. Develop and print 5 copies as above

Maps & Charts

1. Blow-up to 1:12,500
2. Prepare sit map overlays
 - a. 2nd ACR units and Iraq forces at 251500Feb91 (60E)
 - b. 2nd ACR units at 68E (village) at 251530Feb91 (68E)
 - c. 2nd ACR units in Iraq PSNS (70E)
 - d. 2nd ACR units at 73E
 - e. Indirect fire impact point, air action and logistics

Worksheets

1. MacDraw unit organizations
2. MacDraw maneuver diagrams
3. Excel fires-target pairings
4. MacWrite T.C. interview sheets

Data Reduction Efforts

1. Chart movements of each vehicle with diagrams of target-tires pairing each time
2. Compare target/kill claims with actual battlefield survey data to develop multiple hit table
3. Develop ICON requirements list
4. Develop movement, actions, reaction file for each vehicle in 12 digit UTM grids:
 - start point
 - routes and turret orientation
 - firing events and target effect
 - artillery impact
 - enemy firing and movements to include DI

SOURCE DATA LISTING

A. 2ND ACR HISTORY

A-1 Table of Contents
 A-2 Ops Briefing
 A-3 Opns Summary 23 Feb-1 Mar.91
 A-4 Opns Sketches
 A-5 210th FAB Cmd Rpt.
 A-5-1 Ammo Expenditures
 A-5-2 Missions Fired Rpt.
 A-6 The Eagle Troop Account
 A-7 McMasters' Letter to Zukerman
 A-8 The Battle for 73 Easting-McMasters
 A-9 Ghost Troop 2/2ACR
 A-10 Ops Summary 1 Trp 3/2nd ACR
 A-11 Blank 1/100,000 Map 7th Corps. Spec. 5349
 A-12 Historical Worksheets A-1 Through N-2 (each ALFA = a numeric)

B. GHOST TRP DATA

B-1 Troop Organization - G Troop
 B-2 G Trp 73 Easting Time Line
 B-3 Table of Movement G Troop 73 Easting
 B-4 Claimed Kills by Cbt Vehicle and Ammo Summary - G Troop
 B-5 Still Photo Documentation Work Sheets G-Troop
 B-5-1 Worksheet
 B-5-2 Worksheet
 B-6 Data Collection Form, Each G Troop Vehicle (See B-1 for list)
 B-7 G Troop Battle Sketch Map
 B-8 1-50,000 5349 1 Field Survey Map. Filled in with G Troop Positions

C. EAGLE TROOP DATA

C-1 Troop Organization - E Troop
 C-2 E Trp 73 Easting Time Line
 C-3 Sketch Map - Initial Contact @ Village - E Troop
 C-4 Sketch Map, Iraq's Defensive Pos. E Trp Zone
 C-5 Sketch Map, to Troop Assault
 C-6 Claimed Kill by Cbt. Veh, and Ammo Summary, E Troop
 C-7 3 Sector of Fire Sketch Maps, Contact, Assault and Consolidation
 C-8 Time Line, Cmdr E Troop
 C-9 Mortar Employment, E Troop
 C-10 Table of Movement - E Troop
 C-11 Still Photo Documentation Worksheets
 C-11-1 Worksheet
 C-11-2 Worksheet
 C-12 Data Collection Forms, Each E Troop Vehicle (See C-1 for list)
 C-13 E Troop Battle Sketch Map

D. IRAN TROOP DATA

D-1 Troop Organization - Iran Troop
 D-2 I Troop Time Line
 D-3 Table of Movement
 D-4 Claimed Kill by Cbt vehicle, and Ammo Summary, I-Troop
 D-5 Exemplar Data Collection Sheet, 1st PLT I Troop
 D-6 Data Collection Sheets, I Troop
 D-7 Sketch Map, I Troop

E. 2-1 AVN BN DATA

E-1 BN Organization - 2-1 AVN BN
 E-2 Time Line/Action Summary, 2-1 AVN BN
 E-3 73 Easting A/C Plots
 E-4 2-1 AVN BN Ammo/Target Summary
 E-5 Videotape Documentation Worksheet Aviation
 E-6 Sketch Map, Aviation 73 Easting
 E-7 2-1 AVN BN Battle History Folder
 E-8 Sketch Map Aviation Phase II, 73 Easting

F. MOWHAWK PHOTO REQ LOGG. BARWICK'S STILL PHOTO DOCUMENTATION WORKSHEETS

G-1 Coord PU 68480094
 G-2 PU 7000
 G-3 PU 703030
 G-4 PU 738072
 G-5 PU 72050995
 G-6 PU 67930888

H. PHOTOS

H-1 2 Arty Batteries
 H-2 1 UK Contact w/37th Armor Bde
 H-3 M4G's, T55s and MTLBs
 H-4 T-55s and MTLBs
 H-5 T-72s
 H-6 Unidentified Mech Unit 2957N 04644E
 H-7 Unidentified Mech Unit 2955N 04641E
 H-8 Armor Bde
 H-9 T55s and Ammo Truck
 H-10 Unidentified Mech Unit 2955N 04773E
 H-11 Unidentified Mech Unit 2955N 04641E
 H-12 Unidentified Mech Unit 2957N 046644E
 H-13 Armor Units of TAW DN
 H-14 9 Tk Bde CP
 H-15 29 Mech Bde CP
 H-16 Tanks Destroyed 2953N 04649E
 H-17 T-72s
 H-18 Tank Bn of TAW Div.
 H-19 T72 W. Turret Blown Off

I. 1:50,000 Map Master Diagram of 73 Easting Sheets 5349 1 and 5349 4

J. Battle of 73 Easting Data Collection Plan

K-1 73 Easting Briefing (DARPA) of 7 April 91
 K-2 1st Draft 73 Easting Simulation Concept Paper

L-1 7th Corps Engineer Enemy Equipment 27 pgs Location Description - Paper
 L-2 Same on Magnetic 3" Diskette
 L-3 Artillery Loc Artillery Tgt MacIntosh Disk

M. TAPES

M-1 73 Easting Fight/7180 Grid Fight
M-2 E Troop Master Radio Tape
M-3 I Troop Master/SSgt Kelly I-1-2
M-4-1 E Troop Interview 11 Apr 91
M-4-2 More of E Troop Interview 11 Apr 91
M-5 I Troop Interview 13 Apr 91
M-6 (Mini) 2-1 AVN Interview
M-7 (Mini) Bloedorn Overview of the Light
M-8 (Mini) Ghost 1 and 2 Interviews
M-9 (Mini) Ghost 3 Interview
M-10 (Mini) McMaster/Gauthier Interview
M-11 I Troop Radio Log 73 Easting
M-12 Regimental Brief 2nd ACR
M-13 (Mini) #1 McMasters Constructing Sketch Maps of the Battle

N. Transcript of Taped Interview W/Officers of E Troop 2nd ACR

Q-1 Comic Strip

"FIGHT THE FUTURE"

7 May 1992

Col James E. Shiflett, Technical Director

Defense Modeling & Simulation Office

OUTLINE

- Introduction
- Go Places and Do Things
- Validate the Requirement
- Validate the Design

MODELING & SIMULATION

Are

Tools For Dealing With The Future.

"FIGHT THE FUTURE"

- **Go Places:**
 - Any Where
 - Any Time
 - Many Times

- **Do Things:**
 - Training
 - Contingencies
 - Rehearsals

Run Video Here of:

SWA/ 73 Easting	Germany
Hood	NTC

"FIGHT THE FUTURE"

CONCEPTS

Doctrine

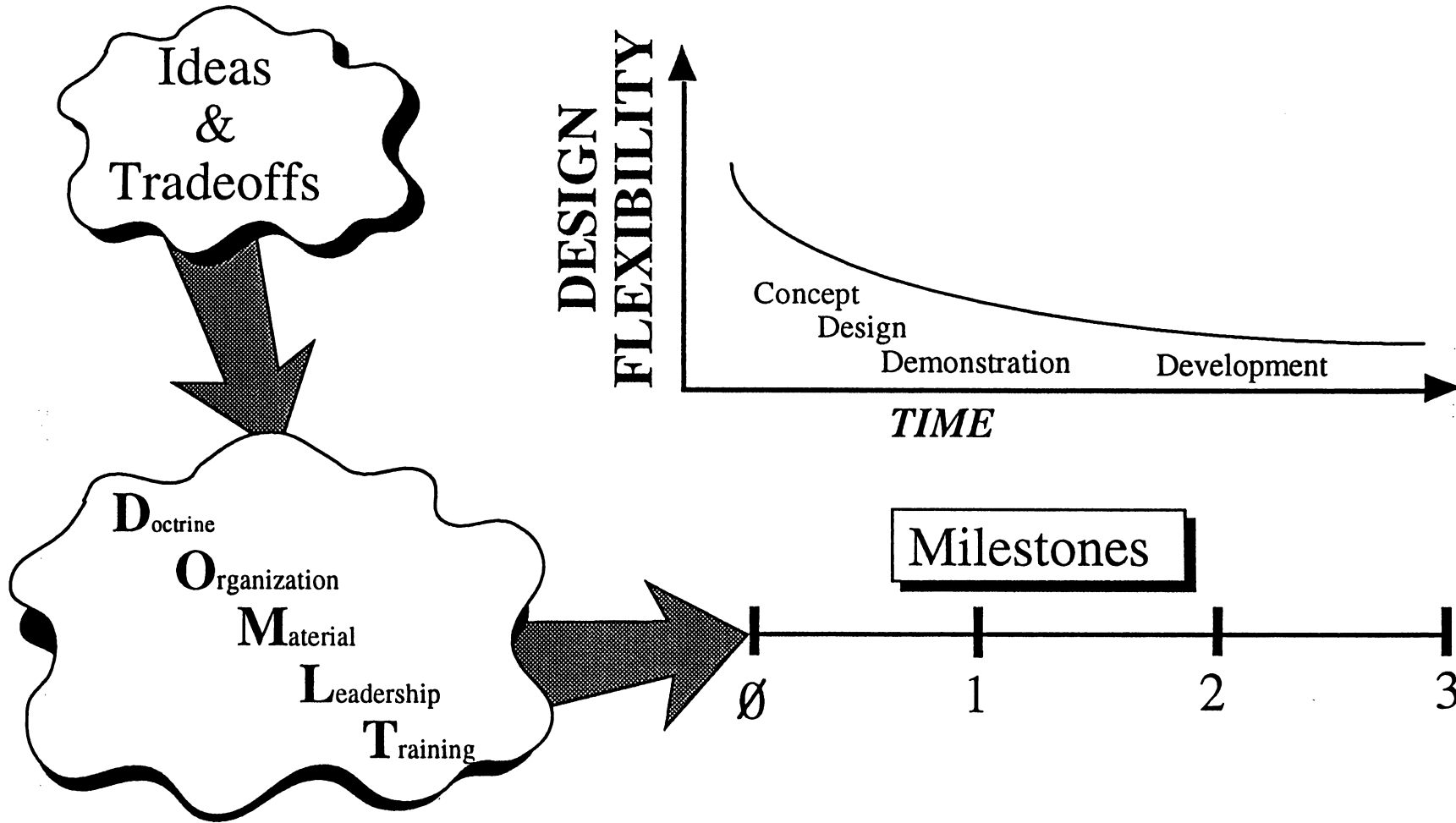
Organization

Material

Trainning

Leadership

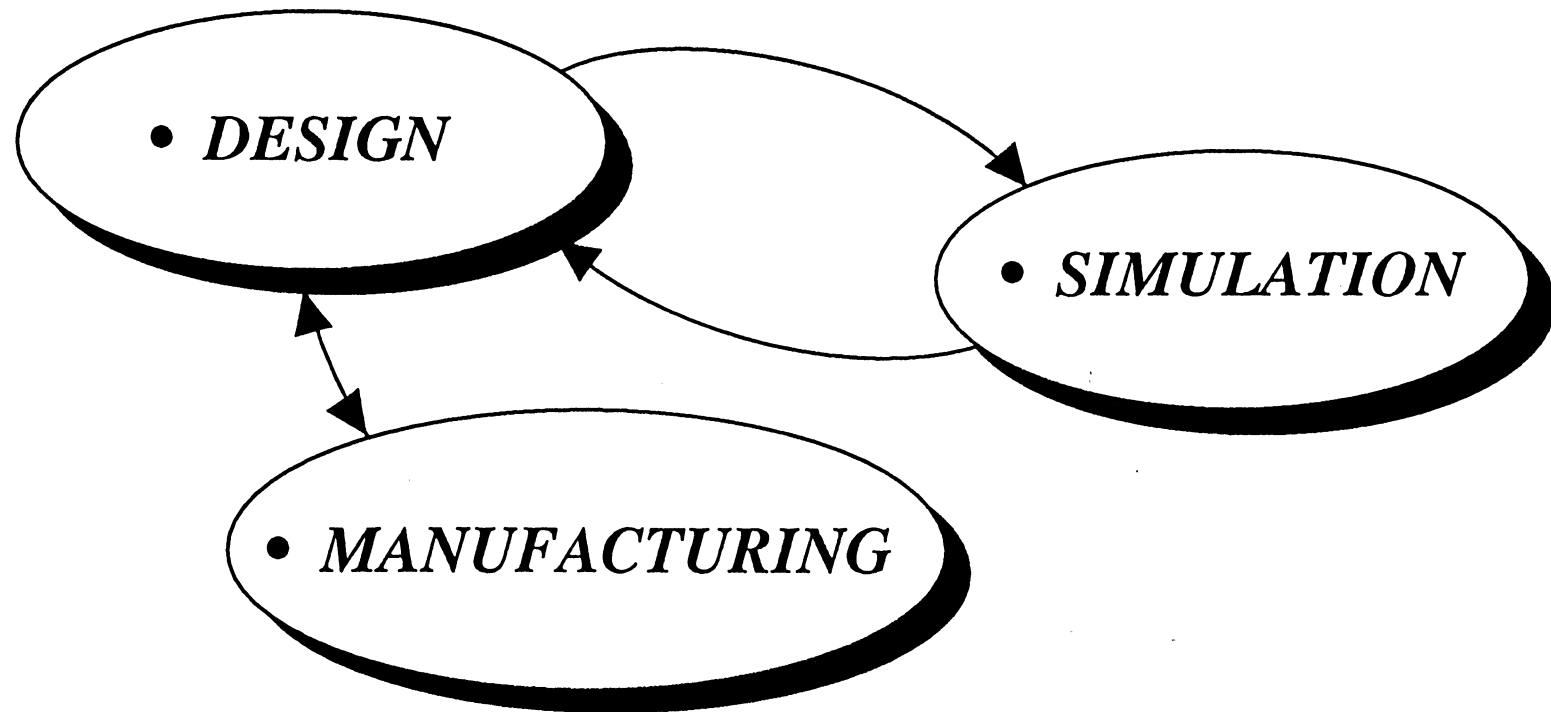
CONCEPTS



"Validate the Requirement Not the Implementation"

CONCEPT → BUILDING

Why Do You Believe You Can Build It and/or Afford It?



"Validate the Implementation"

Run TACOM Video

THE GOAL

*Harness the Power of
Simulators to
"Fight the Future"*

ACQUISITION MILESTONES & PHASES

After DETERMINING THE MISSION NEED

- Ø - Concept Studies Approval**
- I - Concept Demonstration Approval**
- II - Development Approval**
- III - Production Approval**
- IV - Major Modification Approval**
(as required)

IN SUMMARY

- **Modeling and Simulation Are Your Tools under Your Control**
- **They Are Flexible To Meet Mission Requirements**
- **Concepts & Ideas can be assessed and Doctrine; Organization; Material; Training; & Leadership TRADEOFFS Made**
- **Designs that could "lock-in future costs" can be evaluated early so that we Validate The Requirement AND The Implementation.**
- **To FIGHT THE FUTURE ----- *Harness the Power of Simulation***

73 EASTING AGENDA

0945-0955	INTRODUCTION	MG FOLEY
0955-1010	BACKGROUND	NEALE COSBY
1010-1050	73 EASTING DEMO	GARY BLOEDORN
1050-1105	FUTURE TECHNOLOGY	COL SHIFLETT
1105-1125	"WHAT IF" M1A2	20 MIN FILM
1125-1145	LESSONS LEARNED	MG FOLEY

From: FOLEY --KNO1
To: BECKD --KNO1

Date and time

4/19/92 23:41:30

FROM: MG TOM FOLEY
CHIEF OF ARMOR

Subject: 73rd Easting Battle

1. Want to make sure our Armor Conf Sched includes the following:
 - 10 minute intro by me
 - 15 minutes on methodology by Jack Thorpe
 - 40 minutes on the fight by Gary Bloedorn
 - 15 minutes on fight the future by Jim Shiflett
2. Need to also have a stand alone program on potential for 73 Easting technology (coord with IDA and DARPA on details.)
3. This should track with the guidance I put out following my visit to IDA.
4. When we have the Armor Conf update, cover these items for me. Thanks.

NO

cc: BRYLAE --KNO1

XRAY --KNO1

THINK COMBINED ARMS!

FOLEY

CG, ARMOR CENTER & COMMANDANT, ARMOR SCHOOL

E N D O F N O T E

80 min
75 min
deleted

20 Apr 92

*MAJ(P) CHAWCY,
Close COMBAT Test Bed.*

*Sir:
Here Are THE Two Profs
I WAS referring TO.*

[Signature]

*942 ~~8035~~
-1092*

From: FOLEY --KNO1
To: BECKD --KNO1

Date and time 04/02/92 00:04:46

FROM: MG TOM FOLEY
CHIEF OF ARMOR

Subject: visit to ida

1. among things dicussed at ida on monday with neil cosby, jack thorpe, jim shifflet, ltg brown and others, were the following:

- o proposed schedule for armor conf 73-easting presentation
- 1030-1040 intro me
- 1040-1055 methodology jack thorpe
- 1055-1115 the fight gary bloedorn →
- 1115-1130 fight the future jim shiflett

We need to work details to include the separate setup and briefs for selected attendees. (dcd)

Another issue is where do we take the 73 easting methodology--we should tie to IVIS and take lead(dcd).

o also discussed ivis and m1a2. i explained our multi axis campaign plan and sought their assistance (got weak nods). came under significant pressure to force allocation of the m1a2s to be company cdr tanks vice all in one plat during the NTC rotation. Expalined the army rationale, but they would like the NTC to become a science lab.

o made arrangements for their ivis sme, mr beranrd kempinski, to be contacted by mark chaney. he is at av 289-1890. *

o was told that darpa was reluctant to provide supot to us because we were underutilized (brown and thorpe). cited our failure to make max use to include the trunk lines.

o was also told that new darpa director has the scud detection problem as one of highest prioities. also told that he is interested in asm vids.

o was told they would like to develop a test module developed to handle stingray and look at fratricide and c2 issues.

o it was suggested to me that we set up a mobile simnet in the corner and work up the training strategies for rc.

o it was suggested that during the m1a2 trainup at ft hood we link them back to the modules at cctb.

o it was suggested to me that we should put priority on rigging up a fist-v ivis.

2. i want to review the nlos test report of oct 91--said to be very critical of ivis and done by dr black.

3. was updated on status of the ft hood data base which they said was in final shake down.

4. where is 12 cav on co/tm tactical tables for cattc?

5. was asked if we would provide ida with a m1 and m2 simnet module for their simulation facility. what do you think?

6. we should host a symposium in our cctb and cattc.

7. rae dehcncke attended with me and might be able to provide addl insights.

cc: SUTTONJ --KNO1
XRAY --KNO1

LONGD --KNO1
BRYLAE --KNO1

THINK COMBINED ARMS!

FOLEY

CG, ARMOR CENTER & COMMANDANT, ARMOR SCHOOL

E N D O F N O T E

942-5635

ATZK-SM

CCTB
File

24 June 1991

MEMORANDUM FOR: BG Lyle

SUBJECT: DARPA Initiative - 73 Easting

1. I have read LTG Wishart's letter, dated 9 May 1991, and BG Trageman's letter, dated 20 May 1991, subject: DARPA Initiative. Here are my thoughts about all of this.

2. At its best, SIMNET is a part task trainer. I believe it is very useful in training units to perform specific tasks as defined in the MTP. In such training, it is not important who wins the battle. The main issue is whether the task was performed correctly. The fidelity is not there in SIMNET-T to support a valid experiment in determining battle outcomes. Had the Army taken the steps necessary to upgrade SIMNET-D to a valid model, we might have been in a position to do what the VCSA wants. However, events of the last year have ruled out such enhancements and we are stuck with an invalid SIMNET-D until BDS-D produces something. In the meantime, neither SIMNET-T nor SIMNET-D should be used to evaluate comparisons between alternative battle scenarios.

3. I believe that SIMNET-T could be used to portray a form of the 73 Easting battle. We would have to use Kuwait terrain because SIMNET does not have a usable Iraqi terrain database to cover the area where 73 Easting was fought. We would also have to accept the fact that SIMNET-D does not play obscuration, weather, M1A1 tanks, ITV, long range gunnery, machine guns, FIST-V, or thermal; all of which were critical elements of that battle. These limitations notwithstanding, the battle could be represented reasonably well for "visualization" purposes.

a. The concept of allowing students to fight the battle and compare the results with the actual battle has dubious value. The absent factors (listed above) would influence the outcome and the student would never know if he was doing poorly because he was dumb or because he was missing some critical element that existed in the real battle. I would want to thoroughly test the training value of such a scheme before exposing students to it.

b. Assuming that all of this could be done well, why would we want to do it? The students would have great fun. They would see what they would otherwise have to visualize in their mind having read the book.

What lessons will they learn? I believe their time would be better spent learning to perform the tasks as they are specified in the MTP.

4. There is nothing about this effort that requires DARPA assistance. We have our own experts in 73 Easting. We have our own experts in SIMNET. If we want to recreate the battle, give the mission to the Armor School or the 24th ID. Given a written description of the battle, they could initialize the simulators, set up an appropriate SAF, and follow the battle plan. It would require a few rehearsals to get the movements right. The data logger will make an accurate record for posterity. There is no magic required. Keep DARPA out of it.

5. Once the battle has been set up in SIMNET, the initial conditions can be reused again and again. Student units could re-fight the battle as often as necessary. However, this should be done in a manner that emphasizes tactical principles, doctrine and good sense. It should not be done to see who can kill more Iraqi's.



LARRY L. MENGEL
Colonel, GS
TSM SIMNET

CF: BG Trageman, TRAC
LTC Brand, CAC XO
MAJ Piper, CAC-TNG



REPLY TO
ATTENTION OF

ATZL-CG

9 May 1991

MEMORANDUM FOR DEPUTY COMMANDING GENERAL FOR TRAINING, U.S.
ARMY CAC & FT LVN, FORT LEAVENWORTH KS 66027

SUBJECT: DARPA Initiative

1. On 3 May 1991 while I was at HQDA for the Desert Storm Lessons Learned GOSC, I met with the VCSA on a related issue. We discussed the difficulties of the M113 family to keep up with the modernized forces. In the course of the discussion we reviewed the importance of each member of the combined arms team to participate in operations and the resulting synergy. The VCSA observed that this was an argument for the Armored Systems Modernization Program and we need to be able to articulate that in a way that made sense for the decision makers.

2. As part of the discussion on ASM, the VCSA questioned whether or not we could create an "ASM battle" from a real Desert Storm battle. He noted that Jack Thorpe in DARPA was working on a battle called "73 Easting." This was a battle fought by the 2d ACR. Jack Thorpe has been on the battlefield; he interviewed all of the U.S. participants and obtained the data to recreate the battle, to include accurate measurements of distances, who shot whom, etc. The intent is to recreate the battle on a SIMNET virtual battlefield. The idea then would be to provide the opportunity for company level players to re-fight the battle under identical conditions, determine the outcome, and then have the opportunity to watch how the 2d ACR troop fought the battle and won -- a great leader development and teaching tool.

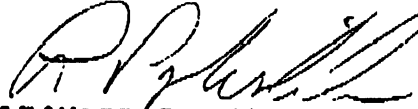
3. The VCSA would like to take this a step further and change the U.S. systems employed in the battle to an all-ASM fleet in order to see if there is any change in the battle outcome. Not sure if "73 Easting" is the best vehicle but we might take another battle and begin it during the movement to contact where we could observe the ability of the various systems to keep pace and then participate at the optimum time in the battle. VCSA intends to send a note to Jack Thorpe on



ATZL-CG

SUBJECT: DARPA Initiative

this issue. We need to get involved and track this. It is both a CD and a training issue. (CD action: CAC-CD; training action: CAC-T)



LEONARD P. WISHART III
Lieutenant General, USA
Commanding

CF:
DCG CAC-CD
Dir, DS LL
DComdt CGSC
Cdr TRAC
C/S
XO



DEPARTMENT OF THE ARMY

HEADQUARTERS, TRADOC ANALYSIS COMMAND
FORT LEAVENWORTH, KANSAS 66027-5200



REPLY TO
ATTENTION OF

20 MAY 91

ATRC

MEMORANDUM FOR COMMANDING GENERAL, U.S. ARMY CAC & FORT
LEAVENWORTH, FORT LEAVENWORTH, KS 66027

SUBJECT: DARPA Initiative

1. Reference your memorandum, 9 May 91, SAB (Enclosure).
2. I read with interest your trip report of DARPA's efforts (under Jack Thorpe) to recreate a Desert Storm battle using SIMNET, and the VCSA's desire to use it to build a case for the Armored Systems Modernization (ASM) Program. The potential value of a Desert Storm battle simulation is obvious, particularly as a scenario base for Army analysis of weapon programs.
3. Immediately after Desert Storm, we attempted to put a two-man CASTFOREM team from TRAC-WSMR into Saudi Arabia as part of the CALL effort. Our objective was to collect data of armored battles to build high resolution scenarios for CASTFOREM. Unfortunately, we were told our team had to remain in country for 90 days and we couldn't afford to give-up our CASTFOREM analysts that long. Consequently, we are extremely interested in getting DARPA's data base and will seek to do so.
4. Regarding ASM, TRAC-WSMR has been working with AMSAA for several months to analyze the benefits of signature reduction and active countermeasures for ASM. Most of that work has been done with AMSAA models and CASTFOREM. We are preparing to expand the ASM analysis to address automatic target recognition and C3I, using AMSAA models, CASTFOREM and VIC.
5. SIMNET is ideally suited as a means to visually play-back a Desert Storm battle for training and teaching. SIMNET can also show the ability of systems to move together as members of the combined arms team. However, based on our V&V of SIMNET, I do not believe it has either the modeling resolution or underlying system-level data base to "...refight the battle...and determine the outcome" without and with ASM systems, as the VCSA has proposed doing. SIMNET is not an analytic model and the Army should resist the temptation to use it as such. Moreover, regardless of how the scenario is simulated (i.e., with SIMNET or some other model), it is doubtful that any battle in which Blue decisively defeats Red (e.g., Desert Storm) will reveal the full potential of introducing a new Blue capability like ASM.



ATRC
SUBJECT: DARPA Initiative

6. We will contact Jack Thorpe to determine whether his Desert Storm data base can be translated into one of our high resolution analysis models. Having such a scenario loaded and ready to run in either Janus or CASTFOREM should prove valuable. If TRAC can assist in some other way, let me know.

Encl

Richard W. Tragemann
RICHARD W. TRAGEMANN
BG, USA
Commanding

CF:
DUSA(OR)
DCGT, CAC
DCGCD, CAC
Dir, AMSAA
Dir, TRAC-WSMR