(U) Light Armored Reconnaissance Battalion Operations in Afghanistan

(U) Lessons and Observations

From

4th Light Armored Reconnaissance Battalion

July 2009 – May 2010

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(U) Purpose: To inform Deputy Commandants (DCs) Combat Development and Integration (CD&I), Plans, Policies, and Operations (PP&O), Installations and Logistics (I&L) Commanding General (CG), Training and Education Command (TECOM), Director of Intelligence, and others on results of a March 2010 collection effort to document lessons and observations from 4th Light Armored Reconnaissance Battalion (4th LAR).

Bottom Line Up Front:

(U//FOUO) The battalion mobilized one month prior to participating in Enhanced Mojave Viper (EMV). Other than for drill weekends prior to mobilization, this four week period was the only time allotted for pre-deployment training (PTP). While the unit was able to meet all of its requirements, a longer mobilization period should be the goal.

(U//FOUO) During drill weekends, the battalion's main effort was crew cohesion, conducting gunnery and scout integration and platoon level tactics, focusing on "*brilliance of the basics."*

(U//FOUO) EMV was still in the process of converting from Iraq to an Afghanistan focus. It was also oriented around a standard infantry battalion and not an LAR unit.

(U//FOUO) The primary mission of the battalion is combined arms reconnaissance and security missions to shape the battlespace. Many of the operations conducted in Afghanistan were not typical LAR operations.

(U//FOUO) As with other units in Afghanistan, 4th LAR operated in a dispersed and distributed manner, often out of platoon size patrol bases. If such operations continue, the numbers of each vehicle variants may have to be modified to better support them.

(U//FOUO) Fluctuating information on force cap restrictions impacted the mobilization process and the decisions made on the final composition of the unit.

(U//FOUO) The late decision to mobilize the battalion impacted the mobilization process for Navy medical personnel and contributed to the delayed arrival of corpsmen to support the battalion.

(U//FOUO) The lack of replacements for casualties in country increased what was already a shortage of light armored vehicle (LAV) crewman for some of the companies.

(U//FOUO) Marine Corps Base (MCB), Camp Pendleton is a particularly well-suited intermediate location (ILOC) site for mobilizing reserve units, due to its proximity to Marine Corps Air Ground Combat Center, 29 Palms and EMV, although it may require more capacity and resources to support multiple units.

(U//FOUO) Some Marines continue to outfit themselves with personally procured equipment and gear.

(U//FOUO) While the upgraded LAV, the A2 variant, generally received praise as an overall improvement, many considered it underpowered with the Ballistic Protection Upgrade Package (BPUP) armor additions mounted.

(U) Recommendations suggested by content of interviews include the following topics and associated doctrine, organization, training, material, leadership and education, personnel and facilities (DOTMLPF) pillars.

Recommendation	D	O	T	M	L	P	F
1. (U//FOUO) Increase the number of number of data network specialists on the table of organization (T/O)		X				X	
2. (U//FOUO) Install a power inverter in the LAV				X			
3. (U//FOUO) Install an auxiliary power unit (APU) in the LAV				X			
4. (U//FOUO) Attach linguists as early in the training period as possible.		X				X	
5. (U//FOUO) Deploy LAR units at or above the T/O required number of LAV crewmen.		X				X	
6. (U//FOUO) Supply units with the equipment needed to test turret electronics.				X			
7. (U//FOUO) Mobilize reserve units in a timely manner.		X			X	X	
8. (U//FOUO) Train during PTP on the equipment that will be used in theater.			X		X		
9. (U//FOUO) Upgrade all LAVs with Generation II suspensions and more powerful engines.				X			
10. (U//FOUO) Upgrade the communication and computer systems in the command and control variant.				X			
11. (U//FOUO) Determine whether current LAV variants adequately support anticipated future operations.		X		X	X	X	

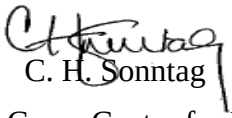
(U) The remainder of this report contains more detailed background and rationale on the above and other topics. An unclassified version of this report is available at www.mccll.usmc.mil.

Table of Contents

Prologue

(U) This report is one of many publications addressing a wide array of topics assembled and produced by the Marine Corps Center for Lessons Learned. The MCCLL library is not to be considered a sole or authoritative source, and was not designed as such. MCCLL provides a vehicle to inform the operating forces in the queue for subsequent deployments, the DOTMLPF stakeholders, and the advocates of the unvarnished experiences of Marines engaged in operations. Reporting or relaying these experiences may provide the impetus to effect a change in any or all of the DOTMLPF pillars.

(U) MCCLL relies on the individual Marine and commands to provide their hard learned lessons in order to disseminate them throughout the Marine Corps. The goal is to get these knowledge jewels into the MCCLL Lesson Management System in order to disseminate them in such a timely manner as to make them invaluable to the next Marine in the deployment queue.



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Background

(U) This report is a continuation of the collection effort on units supporting operations in Afghanistan as directed by the Deputy Commandant for Combat Development and Integration. The collection sought to examine the mission, scope, successes, shortfalls, equipment, manning and emerging issues associated with 4th Light Armored Reconnaissance Battalion (4th LAR) operations. Interviews of 28 commanders and staff were conducted at various camps and bases in Afghanistan from December 2009 – April 2010. Those interviews cited as endnotes in this report are available in the search enabled MCCLL database at www.mccll.usmc.smil.mil, and can be located by doing a MCCLL site search (Action Menu on left of screen) on the individual's last name.

(U) The collection also included a survey of some members of the unit. [1]

(U) Fourth LAR is a reserve battalion which consists of 7 companies.

- Headquarters and Service (H&S) Company and Company A are located in Camp Pendleton, California.
- Company B is in Frederick, Maryland.
- Company C is in Riverton, Utah.
- Company D is in Quantico, Virginia.
- Company E is in Syracuse, New York.
- Company F is in Eastover, South Carolina.

(U//FOUO) The only companies to participate in the deployment were H&S, A, B, and C, although Company A, 2d LAR also participated in Enhanced Mojave Viper (EMV) but deployed separately. Prior to this deployment, the standard practice was to attach individual reserve companies to other units in support of operations.

(U) There was a period of active duty for training (AT) for Companies A, B, and H&S scheduled for June 2009 at Ft Irwin, California. The battalion rescheduled it for July and moved it to Camp Pendleton in anticipation of mobilization, which occurred 1 August 2009. The period was used to complete blocks I and II of the mandated Predeployment Training Program (PTP).

(U) Company C mobilized 20 July 2009 and deployed to Camp Pendleton where it conducted PTP prior to the rest of the battalion mobilizing on 1 August 2009, and the start of unit training at its intermediate location (ILOC), Camp Pendleton. After only a month of training, the battalion moved to 29 Palms, California to participate in EMV.

(U) The LAR battalion performs combined arms reconnaissance and security missions in support of the ground combat element (GCE). Its mission is to conduct reconnaissance, security and economy of force operations, and, within its capabilities, limited offensive or defensive operations that exploit the unit's mobility and firepower. [2]

(U//FOUO) The relief in place/transfer of authority (RIP/TOA) with 2d LAR occurred in November 2009. In addition to responsibilities in southern Helmand, 4th LAR provided 120 man detachments for the tactical security force (base security and quick reaction force (QRF) missions) at both Camp Dwyer and Camp Leatherneck through January 2010. Subsequently, 4th LAR operated out of combat outpost (COP) Payne and patrol base (PB) Khan Neshin Castle.

(MATERIAL IS OMITTED FROM THIS PORTION DUE TO CLASSIFICATION. SEE CLASSIFIED REPORT)

Organization and Manning

Sourcing

(U//FOUO) While battalion leadership was informally aware that it would be deploying in support of Operation Enduring Freedom (OEF), the decision was not made to mobilize the battalion until early summer 2009. Another course of action considered was to use an active duty H&S company as the headquarters for the reserve LAR companies. Earlier notice for the activation would have been extremely helpful and given the battalion more time to prepare.

(U//FOUO) Of the Marines who deployed, 90% were selected Marine Corps Reserve (SMCR) Marines from 4th LAR, which included Marines from companies that did not deploy. There were 25 SMCR augments from outside 4th LAR, 8-9 Inspector and Instructor (I&I) staff, and 2 other active duty augments.

(U//FOUO) A force end strength constraint imposed on the battalion by higher headquarters was a substantial issue primarily because it was not set. The number of Marines to deploy with the battalion varied between 400 and 1000 and changed frequently. In the end, more Marines were ready to deploy than could be taken.

(U//FOUO) The battalion received no replacements for combat casualties which resulted in reduced capability due to the lack of certain military occupational specialties (MOSs), especially 0313 LAV crewmen.

(U//FOUO) The civilian education level and backgrounds, particularly law enforcement, of the Reserve Marines were cited as a positive by the leadership in the battalion. According to survey responses, 74% reported having at least some college and 17% had a civilian law enforcement background.

(U//FOUO) While they were able to "get the job done," Reserve Marines need more than thirty days notice before mobilization.

Navy Sourcing

(U//FOUO) Many of the Navy corpsmen did not join the unit until after mobilization. They were not organic to the battalion and arrived from many different locations, often with no service record book (SRB).

(U//FOUO) The battalion commander viewed the Navy's activation process as inflexible. It needs to be more user-friendly, more focused on supporting the Marine Corps with the corpsmen who need to be integrated well in advance of training and not just prior to a major event or deploying into theater. [3]

(U//FOUO) The short notice mobilization decision was a factor in the timing of Navy personnel joining the unit. [4]

MOS Issues

(U//FOUO) Many leaders noted a shortage of LAV crewmen, MOS 0313. Company C deployed slightly under the table of organization (T/O) number of 49, and subsequently lost approximately two crews' worth [MCCLL note: The LAV-25 crew consists of a driver, gunner and vehicle commander.] The typical solution was to use mechanics as drivers. [5]

(U//FOUO) The battalion had only two MOS 0651 data network specialist Marines to assist in the operation and maintenance of many new communication systems, nearly a regimental suite worth of equipment. While the unit rates four 0651s by T/O, infantry battalions deploying to OEF have as many as nine and are requesting more. [6]

Reserve Issues

(U//FOUO) Prior to mobilization, another course of action (COA) under consideration was to attach the reserve LAR companies to an active duty tank battalion headquarters. There is a belief that reserve LAR battalions do not operate as battalions enough to be effective and that it would be better to attach individual reserve companies to an active duty tank battalion. Due to geographic separation and other issues it can be very difficult for reserve LAR battalions to train and deploy together. By the time the decision was made to deploy the LAR battalion, the delay in activating the unit resulted in a workup period that was about a month shorter than many on the staff thought would be optimal and far shorter than the PTP period of an active duty battalion.

Mobilization

Pre-mobilization Issues

(U//FOUO) Companies A and B had sufficient notice about the impending mobilization to adjust their drill schedules, adding in some longer drill weekends of three and four days. To the extent possible, the battalion pushed units to complete PTP requirements on drill weekends but there was only so much training that could be completed during those weekends.

(U//FOUO) Company C learned of the mobilization about two months prior while participating in Exercise African Lion in Morocco, Algeria. Figure 2 is a more optimal timeline for activation of a reserve unit.

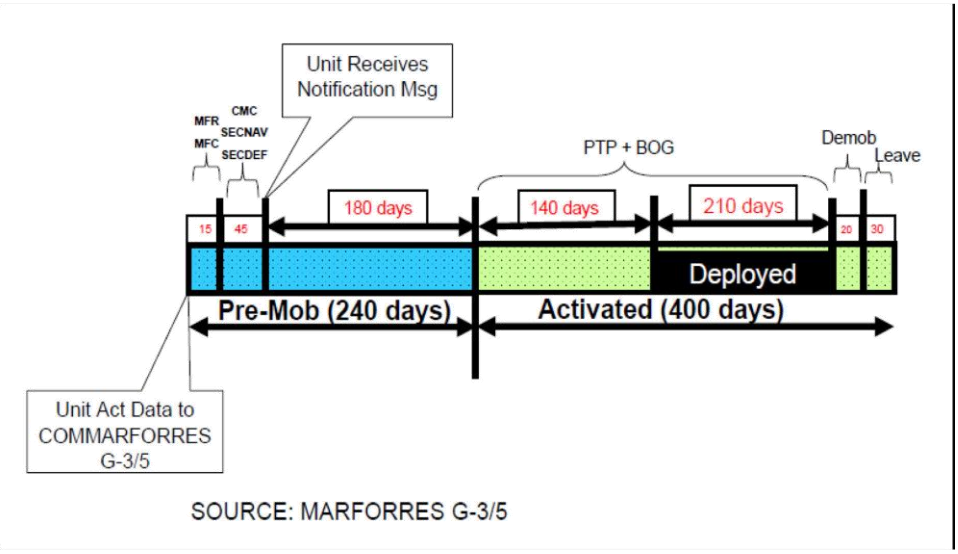

Figure 1: Activation Timeline

(U//FOUO) Trainers simulating the upgraded A2 LAV turret were helpful in preparing Marines prior to mobilization. Company C had the turret trainer and recent 0313 graduates of the LAV crewman course at the School of Infantry at Camp Pendleton, CA had trained on the A2 turret.

The LAVs the battalion would acquire in theater were upgraded A2 variants, so it was important that they train on the system they would be using.

ILOC

(U//FOUO) The unit leadership stated that the ILOC training period was too compressed. A period two to three weeks longer was seen as a reasonable compromise, which would have resulted in four months between mobilization and deployment vice the three that occurred.

(U//FOUO) Camp Pendleton was extremely crowded during ILOC. Staff and officers were billeted at hotels and Marines moved into barracks on the same day that another reserve battalion was departing. The battalion trained and operated effectively but the impact of multiple additional using units must be taken into consideration if Camp Pendleton continues to be the ILOC location of choice due to its proximity to 29 Palms and EMV.

PTP

(U//FOUO) Due to the battalion's mission and the compressed nature of the PTP period, the more "standard" events, such as swim qualification, were seen by some as unnecessary impingements on the other training that needed to be accomplished. [7]

(U//FOUO) The timeframe in which the battalion had to complete its PTP resulted in a perception of being "focused on checking boxes." [8] Requirements were seen as constantly changing, with no consistent list or source available. There was very little "white space" left for company or platoon level training between PTP and battalion requirements. [9]

(U//FOUO) Vehicle crews and scouts often trained separately. Integrated training is necessary, to include training with crewmen dismounted, as this happens frequently in Afghanistan.

(U//FOUO) The battalion commander, along with his principal staff officers, conducted a predeployment site survey (PDSS) during the last two weeks of August. This visit was cited as a crucial part of the unit's subsequent success in EMV and during operations in Afghanistan, despite the resulting absence of key leadership for a significant portion of PTP.

(U//FOUO) The battalion maintenance officer recommended that one of the officers in the unit attend the full electronic warfare officer's course and not just the condensed version in theater in order to better understand, employ, and maintain the systems available in theater, primarily the C-IED systems. [10]

Enhanced Mojave Viper

(U//FOUO) EMV was in transition between an Iraq focus and an Afghanistan focus. For example, there were still 'sheik' role players. EMV seemed geared toward regular infantry and not an LAR battalion. Only forty-eight percent of the survey respondents agreed that PTP was adequately focused on operations in Afghanistan rather than Iraq, and only twenty-eight percent said EMV was valuable in preparing them for operations in Afghanistan.

(U//FOUO) The counter improvised explosive device (C-IED) training at EMV was valuable, but it was much shorter than combined arms training evolutions (CAX). These exercises against large units of Soviet style armor were not good preparation for COIN operations in Afghanistan. However, it was still valuable training especially for command and control purposes and deconflicting fires. Company commanders stated that they were *"pawns on a chess board,"* and conducted less live fire than during similar evolutions when they were on active duty. [11]

(U//FOUO) More exposure to Ground-Based Operational Surveillance System (G-BOSS) and biometric systems, both before and during EMV, would have been beneficial.

(U//FOUO) With companies and platoons regularly operating from separate COPSs and FOBs, more training should have been focused at those levels, especially during EMV. [12]

Cultural and Language Training

(U//FOUO) In general, leaders ranked the cultural training as being somewhat more important than the language training. Understanding the culture and customs of the country was seen as the most important part of COIN training. Good linguists can also train Marines in cultural issues.

(U//FOUO) The short period before deployment limited the amount of language training that the Marines received. More training would have been beneficial, but there was not enough time. Even the minimal training was seen as very useful. Knowing just a few phrases builds credibility with local populations.

(U//FOUO) In some areas of the AO the local nationals speak Balochi, but Marines received only Pashto training.

Pre-deployment Intelligence Support

(U//FOUO) Reserve units typically have small S-2 sections while in reserve status. Fourth LAR had two analysts and an infantryman serving as S-2 chief until just prior to mobilization. Before August 2009, there was little opportunity for the S-2 to brief the battalion staff on the AO for which they would be responsible.

(U//FOUO) Having just one secret internet protocol router (SIPR) computer during ILOC/PTP was a major hindrance to developing the intelligence picture. First LAR supported the battalion by providing access to its SIPR vault on weekends.

Equipping

Vehicle Assets

(U//FOUO) Half of the battalion's vehicles arrived during the deployment. The approximate numbers of 4th LAR vehicle assets available in theater were:

- 115 LAVs of all variants
- 80 other vehicles, including 25 Medium Tactical Vehicle Replacement (MTVR) vehicles, 24 Mine Resistant Ambush Protected (MRAP) vehicles, and 17 MRAP All Terrain Vehicles (MATVs).

Maintenance

(U//FOUO) At the beginning of the deployment, about 10 of 60 LAVs the battalion acquired were dead-lined. By the end of March 2010, the number was 20 out of 115, some from IED strikes, and beyond the repair capability of 4th LAR.

(U//FOUO) There were no maintenance issues unique to Afghanistan. The environment was similar to Iraq or 29 Palms, and maintenance issues were generally the same.

(U//FOUO) The availability of spare parts was a challenge. Parts often arrived at Camp Leatherneck in as little as two days from the United States, but then took 3 weeks to reach COP

Payne. The establishment of a repairable issue point at Camp Dwyer helped mitigate the spare parts issue.

(U//FOUO) Failure rates for many of the LAVA2 upgrade components were higher than the battalion expected, contributing to the spare parts issue. [13] The difficulties involved in receiving spare parts and the resulting dead-lining of vehicles for weeks or months hurt morale, especially in a vehicle heavy unit such as LAR, which depend on their vehicles to accomplish the mission for which they were trained.

(U//FOUO) The maintenance officer stated that some of the reserve mechanics are very good, but most are far below active duty standards. The two mechanics (one active, one reserve) who had attended the LAV technician course were very proficient. Reserve 0313 crewmen are also below active duty standards in performing crewman echelon of maintenance tasks. [14]

(U//FOUO) The most common causes of dead-lined vehicles, from various causes, were:

- Suspension related/struts
- Differentials
- A2 turret electronics issues
- Rangefinders
- Sensor units
- Engines
- IED strikes

Communications

(U//FOUO) Units were heavily dependent on the SIPR network for many methods of communication. Administrative requirements for promotions, fitness reports, awards, etc, are submitted on the non-classified internet protocol router (NIPR) network, but access can be very slow. If Marine Online or the Marine Corps Total Force System (MCTFS) were available through a SIPR connection, access would typically be faster and more reliable.

(U//FOUO) High Performance Waveform (HPW) was an unknown capability to most of the Marines in the battalion prior to deployment, but it was crucial in Afghanistan. HPW enabled the user to send text and documents over satellite communication (SATCOM), without having to re-type messages, to and from remote outposts.

(U//FOUO) Support Wide Area Network (SWAN) and dedicated SATCOM were *"the glue that held the battalion together"* but there was only one SATCOM channel. [15]

(U//FOUO) PRC-153 radios were used for short range communication with scouts and PRC-152s for longer range transmissions, although Marines trained with other equipment, PRC-117s and 119s for example, throughout PTP. Just prior to pre-deployment leave, they received a day and half of training on the PRC-152s. [16]

(U//FOUO) The radio mountings for the PRC-152 are located in the back of the turret and require the radio to be completely removed in order to perform a cryptologic fill.

(U//FOUO) Communications Marines in the battalion received no training on the Global Broadcast Service (GBS) system prior to the deployment, learning on the job from Marines from

other units at Camp Leatherneck. GBS was the primary source for video feeds from unmanned aerial vehicles (UAVs) such as Predator and Scan Eagle.

(U//FOUO) Reserve Marines with data backgrounds as civilians made strong contributions, which included obtaining assistance from their networks of experts.

(U//FOUO) Blue Force Tracker (BFT) was generally considered a good system and useful for sending messages to distant outposts, but the Marines needed more training on it prior to deployment. Some issues were:

- Messages were not sent, or were delayed, but this was not immediately apparent to the sender.
- There were reports built into the system, such as mortuary affairs, but not the ones most needed, e.g. logistics requests, IED reports.
- BFT does not track scouts on the deck.
- Some Marines prefer the digital maps loaded to a civilian GPS device to those in the BFT.

(U//FOUO) BFT systems were installed on the LAVs as the result of an urgent universal needs statement (UUNS), with an interim mounting kit and little guidance, which resulted in haphazard installation. The Marines stated that the mounts need to be more robust and conveniently located.

Personal Protective Equipment

(U//FOUO) Almost all the Marines expressed a preference for the scalable plate carrier (SPC) over the modular tactical vest (MTV), which was extremely cumbersome and heavy. There were some complaints that the SPC's thin shoulder straps caused shoulder pain. In order to more easily move thru the LAV's hatches, the Marines attached most of their equipment on load-bearing belts.

(U//FOUO) Some Marines removed side plates when in an LAV. The side plates are very unpopular. Many Marines expressed interest in lighter plates, even if they provided somewhat less protection but improved maneuverability and stamina. *"We're walking HESCO barriers."*[17]

Small Arms

(U//FOUO) Some scouts wanted to replace the squad automatic weapon (SAW) with a weapon that resists dust to a much greater degree. To prevent dust problems, often the SAWs remained in the vehicle while the scouts were standing up in the rear hatches.

(U//FOUO) Most of the Marines were satisfied with the M4 rifle and associated optics. For longer range engagements, one scout leader wanted some of his scouts to carry M-16s vice the M4 and at least one of the SAWs in each section to be the long-barreled version. [18]

Land Navigation

(U//FOUO) The majority of vehicle commanders, scout leaders and higher ranks used a personal global positioning system (GPS) unit, usually a Garmin, with many Marines spending $300-400 of their own money.

(U//FOUO) According to the Marines who had them, Garmin units were easier to use, smaller, and more reliable than the Defense Advance GPS Receiver (DAGR). The O-rings on the DAGR would fail causing the units to power off.

(U//FOUO) Survey responses showed 62% of respondents had used a civilian GPS unit during the deployment.

Personal Gear

(U//FOUO) Some Marines spent hundreds of dollars on personal gear. Survey responses indicated that sixty-four percent spent at least $200, some over $800.

(U//FOUO) Commonly purchased items:

- Personal GPS (typically $100-400 depending on mapping capability, electronic compass, etc).
- Light-weight but warm sleeping bag.
- Inflatable sleeping pad.
- Composite magazines.
- Flashlights.
- Binoculars.

(U//FOUO) High powered binoculars are very useful in the desert, particularly for gunners on the LAV-25.

LAV and Its Variants

(U//FOUO) From drivers to battalion staff, all agreed that the LAV is underpowered. The Detroit Diesel engine is old and not particularly efficient. Some suggest investigating using the Caterpillar engine that is used in Stryker vehicles.

(U//FOUO) Some LAVs were built as A2s, some were converted from A1s. Among the A1 conversions, the suspensions often were not brought up to A2 standards (Generation II) resulting in bent struts and other problems.

Figure 2: LAV-25

(U//FOUO) The additional side and top armor in the BPUP adds weight, reduces mobility, and makes amphibious operations more difficult.

(U//FOUO) Another part of the BPUP, the D kit which adds additional bottom armor, was installed on only a few vehicles in the battalion. It greatly reduces ground clearance, mobility, and maintainability and precludes employment of the LAV in swim mode.

(U//FOUO) The preferred model would:

- Keep additional side and top armor.
- Have a more powerful engine.
- Have Generation II suspension.

(U//FOUO) All agree that the Improved Thermal Sight System (ITSS) worked very well, far exceeding the capability of past systems. However, reliability was an issue, with the system experiencing a higher failure rate than expected. [19] The target motion indicator (TMI) mode was cited as being especially useful.

(U//FOUO) The electrical turret itself is also a major upgrade over the old hydraulic turret although some electronics have failed more than expected. The battalion has no method for testing turret electronics, except for swapping components with a good vehicle. This technique sometimes caused electrical shorts in the second vehicle and resulted in two dead-lined vehicles.

(U//FOUO) Being electrical, the turret will deplete the vehicle's batteries as it traverses, necessitating starting the vehicle to recharge the batteries. The addition of an auxiliary power unit similar to those used on tanks should be added, along with an alternating current (AC) power inverter to operate additional electronic equipment. [20]

(U//FOUO) The cradle for the coaxial machine gun has mechanical problems. As a result the M240 machine gun very rarely fired adequately or fired an entire belt the way it was designed to operate. [21]

LAV-AT

(U//FOUO) The LAV-Antitank (AT) has long been recognized as problematic, particularly the turret, which is slow to deploy, fragile, and prone to severe electrical problems. *"The AT variant is a piece of junk."* [22] Captain Lamar Breshears, CO, Company A.

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(U//FOUO) The thermal sight for the TOW variant does not compare favorably with the ITSS on the LAV-25A2. The day sight however was a strong performer during daytime over watch missions.

LAV-C2

(U//FOUO) The command and control (C2) variant needs to be updated by installing newer radio systems, computers and other components such as Video Scout. [23]

LAV-R

(U//FOUO) Because of the environment and other factors - deep sand, muddy terrain in some areas and extra armor- vehicles frequently become stuck or damaged. By T/O, an LAR company rates just one recovery variant. In a distributed operation, more would be useful; potentially one per platoon.

LAV-L

(U//FOUO) The logistics variants in the companies were also tasked with conducting casualty evacuations, personnel movement and, on occasion, transporting working dog teams. As with

the recovery variant, the distributed nature of operations would have been better supported with additional vehicles. [24]

LAV-M

(U//FOUO) The mortar variant only fired illumination missions in Afghanistan, although a LAV-M frequently accompanies patrols to provide fire support if needed, as well as more Marines to man snap checkpoints or as scouts.

(U//FOUO) The turntable on which the mortar system is mounted is hard to adjust and turn. Also, the bipod cannot be depressed to a low enough angle required to shoot some missions.

(U//FOUO) All variants would benefit from additional external storage, to include pre-made water and chow cages.

UAVs

(U//FOUO) Each platoon should have at least two Marines trained to operate UAVs. [25]

(U//FOUO) Wasp performed well; a very quiet system, although they were susceptible to damage and replacements were not available. As the system was small and man portable, it extended a level of intelligence, surveillance and reconnaissance (ISR) and force protection to patrol bases and other areas where systems such as G-BOSS were not available. [26]

(U//FOUO) The UAVs used by the unit generally received praise, but both Scan Eagle and Raven were cited as having a noise signature, which can have its own use as a deterrent and force protection, but limits some of their usefulness as a collection platform. Additionally, subordinate units, especially those operating from smaller COPs/FOBs, need to have access to overhead imagery and video, as well an imagery analyst to make it more useful.

(U//FOUO) Scan Eagle was very ineffective in trying to queue off other data collection methods due to its slow speed. LAR's large AO also impacted the use of Scan Eagle because of range issues. [27]

Operations

COC

(U//FOUO) Command Post of the Future (CPOF) was a useful system but was designed around conventional operations, not COIN. The operations officer recommended it have the ability to input key leaders with a link to their biography and picture, link to picture, etc. [28]

(U//FOUO) While BFT was integrated into CPOF, there were still some gaps. For example, incoming BFT messages cannot be printed or forwarded by email or some other system. A clerk has to hand write the message and pass it to the watch officer. [29]

(U//FOUO) According to the battalion commander *"The reserves have a lot of guys that are technically savvy. They just need to get familiar with the systems."* [30]

Counter IED

(U//FOUO) The Guardian Man-pack received universally negative reviews:

- Unreliable
- Heavy
- Very poor battery life

- Impacts the functioning of some communication systems

(U//FOUO) Some of the TTPs learned to help counter IEDs:

- Identifying chokepoints and likely IED sites was crucial.
- Stay off roads and avoid paralleling roads as well.
- Avoid bridges, even by jumping into canals.
- Be aware whenever you encounter motorcycle tracks.
- Keep the electronic counter measures (ECM) on when moving.
- Need more of the compact metal detectors.
- Metal detectors have a bit of a lag; when they beep, they have already passed the target.

Figure 3: Sweeping for IEDs

Mission

(U//FOUO) The green zone of the Helmand Valley was very difficult for LAR operations due to flooded fields, natural choke points, the necessity of using roads, difficulty with canals, etc. The Helmand River was a major obstacle.

(U//FOUO) There was widespread sentiment in the battalion that the most valuable and appropriate missions for LAR were deep interdiction missions in the southern desert where the LAV can move and maneuver more freely and can go around IEDs in the open desert environment. *"Utilize LAR as LAR."* [31]

(U//FOUO) An LAR platoon consists of 27 Marines which makes it difficult to perform the same mission of a standard infantry platoon with 43 Marines.

(U//FOUO) The battalion S-4 stated that the capabilities of the unit may have been underestimated in that LAVs could have ranged much further while still supporting themselves logistically. [32]

Enemy TTPs

(MATERIAL IS OMITTED FROM THIS PORTION DUE TO CLASSIFICATION. SEE CLASSIFIED REPORT)

Combined Arms

(U//FOUO) Some operations were conducted with air and artillery providing support. Artillery was used mostly for illumination and the company mortars only fired illumination rounds and never high explosive.

COIN TTPs and Best Practices

(U//FOUO) During the deployment the battalion learned:

- When searching homes, go one room at a time, and take the homeowner with you to show you are not destroying or stealing.
- Take photographs during searches.
- Get statements from homeowners during searches acknowledging that nothing was taken or destroyed.
- Intelligence drives operations. Non-kinetic targeting of host nation officials, in key leader engagement helped to identify insurgents. Do not just focus on kinetics.
- Because of illiteracy in the local population, face-to-face communication or radio broadcasts worked best.
- Ensure a consistency of talking points across the area.
- Be honest and inform the populace why you did what you did. Just tell the truth and explain. The people want to know what happened and why. Speak frankly. This builds trust.

Scout Operations

(U//FOUO) LAV-25s normally have three scouts per vehicle, usually a grenadier, rifleman, and SAW gunner.

(U//FOUO) Crewmen need to train for dismounted operations, especially for COIN operations alongside the scouts.

(U//FOUO) The designated marksmen carried MARK-12 rifles which fires a 5.56mm round. Some scouts wanted a heavier caliber weapon.

Afghan Border Police

(U//FOUO) LAR worked primarily with Afghan Border Police (ABP) vice Afghan National Army (ANA) or other Afghan units.

- ABP were generally poorly trained, poorly equipped, poorly sustained.
- Platoon commanders should be prepared to mentor groups of up to 60 ABP at a time, providing much guidance, along with communications and logistical support.
- Some ABP speak Pashto, others speak Dari. They can be a good source of language training.
- ABP can be helpful for doing things Americans cannot do under rules of engagement (ROE), such as night searches or home searches.
- An ABP unit attached to Company C had 60 men and rated 10 Ford Ranger vehicles, but only had 5, and 3 were operable.

- Be prepared to supply ABP with radios and other gear. Motorcycles confiscated from enemy forces were given to ABP.
- ABP must be carefully supervised as they had a tendency to steal from the local population.
- ABP are good at catching people who are fleeing. They wore little body armor, and their vehicles, Ford Rangers, were very light and performed well in the terrain.

(U//FOUO) One platoon commander assessed the 60 border policemen assigned to his unit as follows: 8-10 were good; 20-30 workable; 10-20 would never be taken on missions. [33]

ROE/Escalation of Force (EOF)

(U//FOUO) Marines were well trained on ROE, understood them clearly and were completely committed to following them as written. There were significant differences of opinion, however, on whether the ROE affected operations.

(U//FOUO) Comments from the leaders who saw 'no impact' on operations:

- *"The ROEs were very similar to what law enforcement personnel are used to, and the battalion has many policemen, etc..."* [34]
- *"Very clearly defined and brought a measure of discipline. Made us look at things from a COIN, not kinetic perspective."* [35]
- *"They have never restricted my platoon from doing its job."* [36]

(U//FOUO) Comments from the leaders who saw operations impacted:

- *"The ROEs have hampered operations. The rules are confusing and seemed to change."*[37]
- *"Active evasion should be treated the same as active observation, but presently is not; can't take warning or disabling shots at vehicles fleeing a vehicle check point."* [38]
- *"ROEs seem to change on every operation. With the requirement for absolute positive identification (PID), and no ability to take warning shots, we have to wait until enemy forces fire at us."* [39]

Intelligence Operations

(U//FOUO) Company level intelligence cells (CLICs) were more difficult to establish in an LAR unit due to personnel constraints and the potential impact on crew dynamics. The S-2 section assigned an MOS 0231 intelligence specialist to each company to assist. That assignment along with the training provided paid a lot of dividends [40] and resulted in the CLICs being very effective in gathering and analyzing information. [41]

(U//FOUO) The battalion had the most success when they were able to single out key enemy commanders or facilitators and focused on targeting them. Neutralizing them, either by killing, capturing or forcing them to stay "on the run," stalled the actions of their followers. [42]

(U//FOUO) Prior to entering an area where there had been no previous coalition force presence, the intelligence section concentrated on key locations to establish areas of interest associated with the Taliban. As a result, during operations they only targeted certain houses or compounds for clearing. "Use kinetic actions only where you are only hitting Taliban, not kicking down doors of innocent local nationals." [43]

(U//FOUO) Human intelligence was very important, but more difficult to conduct than in Iraq. Lack of cell phone coverage meant that collectors had to physically talk to people more often. The best intelligence came from local nationals. They provided information as long as they viewed the Marines as competent enough to protect them. [44]

Biometrics

(U//FOUO) Marines who dealt with Biometric Automated Toolset (BAT) or Handheld Interagency Identity Detection Equipment (HIIDE) said they were extremely unreliable.

- Company C reported one of six HIIDE units working.
- Company B reported seven HIIDE units stopped working during deployment.
- The most common problem was a failure to turn on.
- Camera on BAT was very problematic due to external moving lens elements that jam with dust and sand.
- Often had to cannibalize multiple BAT systems to make one work.
- Iris scanning was very difficult to impossible in bright sun.
- Difficult to obtain parts such as extra cables, chargers, etc.

(U//FOUO) Opinion of the battalion leadership was mixed on the value of biometrics:

- Pros:
  - Some enemy forces captured through biometrics.
  - Two suspected insurgents posing as wood cutters were identified through biometrics on a "rat line" interdiction.
  - Used effectively on the larger bases for force protection but the system was still slow.
- Cons:
  - A lot of false positives but always from fingerprint comparison, not from iris scans.
  - Even when working properly, the system was too slow, at times requiring two hours to enroll just six people.
  - The system became more useful as more people were enrolled, but it also slowed down.
  - The process of loading data from the HIIDE to BAT, and BAT data uploaded and downloaded over SIPR, was disruptive of other computer operations.

Figure 4: Handheld Interagency Identity Detection Equipment

(U//FOUO) The battalion S-2 saw very little benefit from the use of biometrics in the unit's AO which had a very transient population, with both local nationals and enemy forces moving around and through it. [45]

Logistics

(U//FOUO) Fourth LAR was the southernmost conventional Marine unit in Helmand Province, an 8-10 hour convoy trip from Camp Leatherneck, which made resupply a constant challenge. The concept of "warehouse to warfighter"' had not yet been realized, at least beyond the major bases. Many of the in-transit visibility tools that had become commonplace in Iraq, such as radio frequency identification (RFID) tags on pallets, were not yet in wide use in Afghanistan.[46]

(U//FOUO) Air resupply was not as responsive as the battalion wanted. For a deep interdiction mission, support was requested six days out and there was a 50/50 chance supplies would actually show up on the right day. [47]

(U//FOUO) Connectivity issues impacted support requests in the Common Logistics Command and Control System (CLC2S) and air support requests. The former could often be backed up by radio message or telephone. [48]

(U//FOUO) The battalion's consolidated memorandum receipt (CMR) in Afghanistan was two to three times larger than standard. Responsible officers need to plan for this increase.

Civil Affairs

(U//FOUO) Commander's Emergency Response Program (CERP) funds rules and regulations can be very confusing and bureaucratic to use:

- Up to $5000 projects are easy and the paperwork is simple.
- Process keeps changing. If changes must be made, time them with turnover
- Onerous levels of detail made CERP ineffective for larger projects. [49]

(U//FOUO) The amount of money spent is not an appropriate measure of success. It is simply a means to develop relationships. [50]

(U//FOUO) The Department of State stabilization advisor had more flexibility in regards to spending so the battalion was able to work with him and combine monies to work on larger projects. Also, those projects that only required Marine expeditionary brigade (MEB) level concurrence, generally up to $500,000, were easier to receive approval. [51]

(U//FOUO) Projects, whether bridges, roads, schools, or even playing soccer with local children were tactically important, because they often led to tips on IEDs and enemy forces. [52]

(U//FOUO) The civil affairs group (CAG) detachment, with only four personnel, was undermanned; a team of at least eight, if not ten, was recommended. More team members would allow for decentralization and the ability to support separate COPs and patrol bases.

(U//FOUO) Civil affair projects were difficult to do in some areas. Local leaders would often be roadblocks and would only be relatively tolerant if the project were to benefit them directly. [53]

Medical

(U//FOUO) The battalion leadership was confident in the abilities of the corpsmen and one per platoon was generally sufficient. With this arrangement, however, each patrol could not include

a corpsman when the squads were cycling through a 24 hour patrolling schedule. Operating in a more dispersed manner may require the assignment of additional medical personnel.

(U//FOUO) The Combat Lifesavers Course was highly regarded by leaders. Many interviewees stated that all Marines should receive this training. Attendance by many members of the battalion was a major factor in the acceptance of having only one corpsman per platoon.

(U//FOUO) The lack of a surgical capability at COP Payne during the deployment limited the distance at which the battalion could conduct operations in some regions of the southern desert.[54]

Linguists

(U//FOUO) The best linguists were the ones from the United States. Noted problems:

- Spoke the wrong language, e.g., did not speak Balochi, or only spoke Dari.
- Had very poor command of English.
- Did not know what they were getting into, and quit at the first opportunity. For example, they thought they would be in a city with Internet access, not on dismounted patrols in an austere environment.

(U//FOUO) The battalion's interpreters participated in EMV which allowed the unit to not only operate and train with them prior to deploying but also to evaluate them.

(U//FOUO) A good linguist needs latitude to interpret and do follow-up questions. Ask his opinion: he will pick up on things you may not.

(U//FOUO) The battalion commander said *"You don't want somebody that just interprets and tells you what he said. You want him to be able to put in context and say 'You know what, I'm an Afghan. I can pick up that that guy was lying to you and his body language was such that what he was saying was really just humoring you.' All of that is important, so the integration of the linguists is absolutely necessary as soon as possible."* [55]

Physical Training (PT)

(U//FOUO) Conducting PT in a combat environment requires flexibility and imagination.

(U//FOUO) Marines who do a lot of foot patrolling can stay in excellent condition.

(U//FOUO) PT was a good opportunity to train with the ABP.

(U//FOUO) Some platoons brought along their own equipment such as kettle bells for PT, although sandbags and ammo cans filled with sand can be suitable substitutes.

Administrative matters

(U//FOUO) Accountability of Marines that were medically evacuated was difficult at times. For example, the unit would suddenly learn that a Marine had been sent to Germany after the fact. [56]

(U//FOUO) It was difficult, if not impossible at times, to enter basic administrative data, such as rifle scores, from Afghanistan, primarily the result of inconsistent or slow connectivity. [57]

(U//FOUO) Administrative personnel did not have the opportunity to train on Secure Personnel Accountability (SPA) before deployment, although this is the primary system used to track and maintain personnel accountability in Afghanistan. [58]

Morale

(U//FOUO) Conducting the base security missions at Camps Leatherneck and Dwyer for the first months of the deployment tended to reduce morale as the Marines wanted a true LAR mission. During PTP they had trained as LAR units, and while the security missions were important it was not the mission they had prepared for.

(U//FOUO) Communication from leaders of the "why" of an action, such as moving a platoon or company from one location to another is important.

(U//FOUO) Instant connectivity to home either via satellite phone or the internet was both a positive and a negative for morale.

(U//FOUO) Mail service was slow in both directions. With no post exchange, mail, especially packages, matters.

(U//FOUO**)** Some of the units at various outposts experienced overly repetitive food menus, e.g. pork ribs every day for three months, in the supplied Unitized Group Ration – Express (UGR-E) meals.

Recommendations (DOTMLPF Pillar)

1. (U//FOUO) Increase the number of data network specialists on the table of organization. (**O**rganization, **P**ersonnel)
2. (U//FOUO) Install a power inverter in the LAV. (**M**aterial)
3. (U//FOUO) Install an auxiliary power unit (APU) in the LAV. (**M**aterial)
4. (U//FOUO) Assign linguists as early in the training period as possible. (**O**rganization, **P**ersonnel)
5. (U//FOUO) Deploy LAR units at or above the T/O required number of LAV crewmen. (**O**rganization, **P**ersonnel)
6. (U//FOUO) Supply units with the equipment needed to test turret electronics. (**M**aterial)
7. (U//FOUO) Mobilize reserve units in a timely fashion. (**O**rganization, **L**eadership, **P**ersonnel)
8. (U//FOUO) Train during PTP on the equipment that will be used in theater. (**T**raining, **L**eadership)
9. (U//FOUO) Upgrade all LAVs with Generation II suspensions and more powerful engines. (**M**aterial)
10. (U//FOUO) Upgrade the communication and computer systems in the command and control variant. (**M**aterial)
11. (U//FOUO) Determine whether current LAV variants adequately support anticipated future operations. (**O**rganization, **M**aterial, **L**eadership, **P**ersonnel)

Summary

(U) Lessons and observations from this collection will be distributed to appropriate advocates, proponents and operating forces, in the interests of improving how Marine forces are organized, trained, equipped and provided to combatant commanders.

(U//FOUO) The collection team for this effort consisted of

- Maj Lynn Wisehart, USMCR, MCCLL LNO to MEB A Command Element;
- GySgt Russell Miller, USMCR, MCCLL LNO to MEB A Ground Combat Element.
- Mr. Rich Petroff, LtCol USMC (Ret), MCCLL LNO to MARFORRES.

(U//FOUO) Content of this report was developed by MCCLL senior analyst, Mr. Jim Conklin, Col USMC (Ret).

Endnotes

[1] Due to on-going operations, only 42 surveys were returned. The margin of error with such a sample size is reasonably large, and while the survey results generally confirmed statements made during interviews, this margin should be taken into account. At 90% confidence, the margin of error is up to +/- 13.5%.

[2] "Employment of the Light Armored Reconnaissance Battalion", Marine Corps Warfighting Publication 3-14, 17 September 2009.

[3] Martin, LtCol Michael, USMC, Commanding Officer, 4th LAR Battalion, interview with Maj Lynn Wisehart, USMC, MCCLL LNO, 13 April 2010. Cited hereafter as Martin, Wisehart interview.

[4] Areola, LtCol James, USMC, Plans Officer, 4th Marine Division, interview with Mr. Rich Petroff, MCCLL LNO, 13 May 2010. Cited hereafter as Areola, Petroff interview.

[5] Breshears, Capt Lamar, USMC, Commanding Officer, Company C, 4th LAR Battalion, interview with GySgt Russell Miller, USMC, MCCLL LNO, 22 March 2010. Cited hereafter as Breshears, Miller interview.

[6] MCCLL report, "Infantry Battalion Operations in Afghanistan", 27 May 2010.

[7] Simmons, 1st Lt Wendell, USMC, Platoon Commander, Company A, 4th LAR Battalion, interview with GySgt Russell Miller, USMC, MCCLL LNO, 19 December 2009. Cited hereafter as Simmons, Miller interview.

[8] Newkirk, Capt Timothy, USMC, Executive Officer, Company B, 4th LAR Battalion, interview with GySgt Russell Miller, USMC, MCCLL LNO, 23 March 2010. Cited hereafter as Newkirk, Miller interview.

[9] Breshears, Miller interview.

[10] Jones, CWO 3 Raymond, USMC, Maintenance Officer, 4th LAR Battalion, interview with GySgt Russell Miller, USMC, MCCLL LNO, 23 March 2010. Cited hereafter as Jones, Miller interview.

[11] Carey, Maj David, USMC, Commanding Officer, Company B, 4th LAR Battalion, interview with GySgt Russell Miller, USMC, MCCLL LNO, 22 March 2010. Cited hereafter as Carey, Miller interview.

[12] Graham, Capt James, USMC, Platoon Commander, Company B, 4th LAR Battalion, interview with GySgt Russell Miller, USMC, MCCLL LNO, 22 March 2010. Cited hereafter as Graham, Miller interview.

[13] Jones, Miller interview.

[14] Jones, Miller interview.

[15] Leak, 1st Lt Leon, USMC, Communications Officer, 4th LAR Battalion, interview with Maj Lynn Wisehart, USMC, MCCLL LNO, 22 March 2010. Cited hereafter as Leak, Wisehart interview.

[16] Simmons, Miller interview.

[17] Jones, Sgt Benjamin, USMC, Lead Scout, Company C, 4th LAR Battalion, interview with GySgt Russell Miller, USMC, MCCLL LNO, 24 March 2010. Cited hereafter as B. Jones, Miller interview

[18] Nicodemus, Sgt Michael, USMC, Squad Leader, Company B, 4th LAR Battalion, interview with GySgt Russell Miller, USMC, MCCLL LNO, 24 March 2010. Cited hereafter as Nicodemus, Miller interview.

[19] Kayser, Maj Henry, USMC, Operations Officer, PM LAV, email to Mr. Jim Conklin, MCCLL Analyst, 7 June 2010.

[20] Christ, SSgt Marc, USMC, Platoon Sergeant, Company B, 4th LAR Battalion, interview with GySgt Russell Miller, USMC, MCCLL LNO, 22 March 2010. Cited hereafter as Christ, Miller interview.

[21] Johnson, GySgt Jeremiah, USMC, Master Gunner, 4th LAR Battalion, interview with Maj Lynn Wisehart, USMC, MCCLL LNO, 22 March 2010. Cited hereafter as Johnson, Wisehart interview.

[22] Breshears, Miller interview.

[23] Johnson, Wisehart interview.

[24] Johnson, Wisehart interview.

[25] Breshears, Miller interview.

[26] Staman, Capt James, USMC, Intelligence Officer, 4th LAR Battalion, interview with Maj Lynn Wisehart, USMC, MCCLL LNO, 22 March 2010. Cited hereafter Staman, Wisehart interview.

[27] Staman, Wisehart interview.

[28] Cunningham, Maj Glenn, USMC, Operations Officer, 4th LAR Battalion, interview with Maj Lynn Wisehart, USMC, MCCLL LNO, 22 March 2010. Cited hereafter as Cunningham, Wisehart interview.

[29] Cunningham, Wisehart interview.

[30] Martin, Wisehart interview.

[31] Burton, 2nd Lt Christopher, USMC, Platoon Commander, Company C, 4th LAR Battalion, interview with GySgt Russell Miller, USMC, MCCLL LNO, 23 March 2010. Cited hereafter as Burton, Miller interview.

[32] Dieckhaus, Capt Daniel, USMC, S-4 Officer, 4th LAR Battalion, interview with GySgt Russell Miller, USMC, MCCLL LNO, 23 March 2010. Cited hereafter as Dieckhaus, Miller interview.

[33] Burton, Miller interview.

[34] Cottle, SgtMaj Robert, USMC, Battalion Sergeant Major, 4th LAR Battalion, interview with Maj Lynn Wisehart, USMC, MCCLL LNO, 22 March 2010. Cited hereafter as Cottle, Wisehart interview.

[35] Cunningham, Wisehart interview.

[36] Graham, Miller interview.

[37] Breshears, Miller interview.

[38] Burton, Miller interview.

[39] Word, 1st Sgt Martin, USMC, First Sergeant, Company B, 4th LAR Battalion, interview with GySgt Miller, USMC, MCCLL LNO, 22 March 2010. Cited hereafter as Word, Miller interview.

[40] Staman, Wisehart interview.

[41] Word, Miller interview.

[42] Staman, Wisehart interview.

[43] Staman, Wisehart interview.

[44] Staman, Wisehart interview.

[45] Staman, Wisehart interview.

[46] Dieckhaus, Miller interview.

[47] Dieckhaus, Miller interview.

[48] Dieckhaus, Miller interview.

[49] Banweg, Capt Christopher, USMC, Civil Affairs Officer, 4th LAR Battalion, interview with Maj Lynn Wisehart, MCCLL LNO, 22 March 2010. Cited hereafter as Banweg, Wisehart interview.

[50] Banweg, Wisehart interview.

[51] Banweg, Wisehart interview.

[52] Cottle, Wisehart interview.

[53] Burton, Miller interview.

[54] Burton, Miller interview.

[55] Martin, Wisehart interview.

[56] Sanders, Capt Deon, USMC, Administrative Officer, 4th LAR Battalion, interview with Maj Lynn Wisehart, USMC, MCCLL LNO, 22 March 2010. Cited hereafter as Sanders, Wisehart interview.

[57] Word, Miller interview.

[58] Sanders, Wisehart interview.