

# CANDELARIA CORP. / EPC



Morales Dam



# VEHICLE BARRIER FENCE PROJECT CV-1A

# CV-1A YUMA SECTOR 2008

Written by: Pete Caliendo  
Contractor Quality Control Manager  
Candelaria Corp. / EPC  
CV-1A Yuma, Arizona  
2008

Photographs by: Pete Caliendo  
Jerry Kellam  
Jerry Jackson

## CV-1A PROJECT PERSONNEL ON SITE

### **CANDELARIA CORP. / EPC**

### **General Contractor**

Mike McNally  
Pete Caliendo

Loran Garvin  
Aaron McNally

Jerry Kellam

Dennis Boswell

### **US Army Corps of Engineers**

### **Owner**

Ron Musgrave  
Chip Cochran E2m

Jerry Jackson  
Jennifer Malavasi E2m

Ethan Mobley

Ernesto Elias

### **FENCE CORP.**

### **Fence Sub-contractor**

JEFF RUTT  
JACEN RUTT  
JOHN SLOAN  
JOHN CONSOLE  
JIM RANARD  
BENITO VASQUEZ  
ENRIQUE BACA  
JESSE DELGADO

SCOTT THOMPSON  
NARCI SOUSA  
JOSE LOPEZ  
LOUIE LOPEZ  
JIMMY BRESHEARS  
GARTH TOSH  
JUAN JIMENEZ  
LUKE SULLIVAN

BRIAN TRIEBWASSER  
GARY KASL  
JOHN LACEY  
LONNIE RUTT  
JOHN JARVIE  
RICHARD HIGUERA  
JOE BAXTER

ANDRES HERNANDEZ  
DELFINO PADILLA  
RAUL FIERRO  
JOSE HURTADO  
REYNALDO SANCHEZ  
GUSTAVO GOMEZ

### **LOCAL HIRES**

Ronald Carlson  
Mario Rodriguez  
Lawrence Twist  
Ramses Castro Sr.  
Rigoberto Avila  
Dan Keely

Michael Sanders  
Arturo Amaro  
Carl Fisk  
Ramses Castro Jr.  
Damean Fallong

Michael Jaso  
Richard Beltran  
Ardis Wadley  
Shawn McIntier  
Angel Alegria

Tim Evens  
Oscar Salgano  
Stephen Amaro  
Luis Sandoval  
Octavio Banuelos

### **NAQUIN PRECISION EARTHMOVING**

### **Earthwork Sub-contractor**

George Espinoza  
Roger White  
Ivan Macintosh

Edward Macintosh  
Fidel Castillo  
Quint Martin

Santos Gonzalez  
Gilberto Valle

Israel Monge  
Edward Davidson

### **BLUE SKY BURNING AND EXCAVATION**

### **Grubbing /Clearing Sub-contractor**

Marc Givens

### **N.E.I.**

### **Laboratory testing**

Rey Galindo

Oscar Galindo

Crespin (Jay) Munoz

Miguel Villalpando

### **NICKLAUS ENGINEERING**

### **Surveying**

Tim Eisenmann

Robert Sabori

Diego Villapudua

Evardo Macias

### **BMP SOLUTIONS**

### **Storm Water Pollution Prevention Sub-contractor**

Dean Stout  
Simon Salas

Luciano Salas

Manuel Hernandez

Ruben Rodriguez



## Candelaria Corp. /EPC

Candelaria Corp. /EPC founded in the 1990's has grown since its inception into a multistate organization completing hundreds of contracts for Federal Government agencies including:

- United States Army Corps of Engineers
- Naval Facilities Engineering Command
- Department of the Air Force
- United States Forest Service
- United States Department of Justice, Bureau of Prisons
- United States Air Force, National Park Service

A reputation of delivering top quality, on time and within budget projects, as well as a sound commitment to safety has resulted in zero lost time injuries or accidents and an EMR rating of less than 1.0 for the past five years. The core philosophy “zero injuries” is embodied in Candelaria’s corporate culture and is immediately apparent in the risk mitigation and response strategies implemented on every job. Working on remote sites and in extreme conditions, Candelaria/EPC has effectively reduced potential concerns through cornerstone initiatives such as; superior risk assessment, comprehensive pre-project planning and the combined experience of their staff.

The foundation of the safety policy rests upon the bedrock of safety certified personnel; recurrent safety training, site and task specific hazard analysis as well as effective ongoing safety evaluation inspections. Candelaria’s primary objective is to provide the best possible and safest project. Perhaps their commitment to safety can be summed up best by this quote: “No single aspect of our work is of greater importance”.

Sound engineering practices combined with good environmental stewardship helps minimize the impact to vegetation, topography and animal habitat. Pre project planning to address specific environmental concerns is an essential part of every project and is implemented as a fundamental activity.

*“EPC works as a team to meet your needs by embracing your challenges. No one responds faster or brings more knowledge and enthusiasm to your project. At every work site, you’ll find EPC’s skill, professionalism and steadfast commitment to quality.”*



In 2008, approximately one hundred and ten miles of Arizona's border with Mexico has been scheduled for construction of various types of primary fence and vehicle barriers. CV-1A is one part of the VF-300 plan to complete as much as 670 miles as included in "The Secure Fence Act of 2006" under the direction of Homeland Security.



The Morales Dam, nestled amidst a scenic wilderness background where California Meets The Mexican and Arizona borders, is a favorite recreational site for the residents of Yuma Arizona. The Dam; the diversion point for waters from the Alamo Canal,

marks the beginning of a five mile path that follows the meandering banks of the Colorado River through an area known locally as the "River Trail". The Trail area is one of the most active locations for the smuggling of illegal drugs into the United States and the site of the CV-1A Project.



Home to an array of wildlife and an abundance of water fowl such as Blue Herrin, Egrets and Mud Hens, the area is also a favorite of the Road Runner and the occasional Bald Eagle.





*Journal Entries October 22, 2008*

*A site meeting was conducted at 08:00 by the Project Manager; the following topics were discussed with the ACOE Contracting Office and Candelaria personnel:*

- 1.) Locate and identify end of construction, complete by 10/23/08*
- 2.) Verify canal use for water truck supply as required for PM10 (dust management) in addition to establishing site speed limits. Anticipate use of dust plume opacity evaluations to determine effective speed limit.*
- 3.) Discussed additional fence location survey procedures by Candelaria to ensure correct location.*
- 4.) Confirmed start of "grubbing" to begin Thursday, October 23, 2008*
- 5.) Discussed additional staging areas to be utilized for storage of rip rap materials*
- 6.) It was established that the storage of equipment onsite without dusk to dawn security personnel being present would constitute a risk,*

*Site Conditions;*

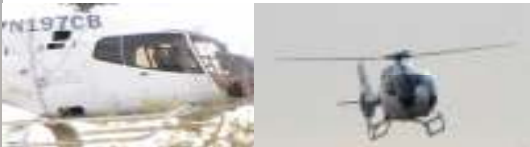
*Wind event; sustained winds - excess of 30 mph accompanied by driven sand and particulate debris 07:00 through 14:15*



*This area is also the home of many other “birds” such as this search plane (right) used by United States Customs Border Patrol as they track the activities of unauthorized personnel in the area.*



*(Left) US Customs Border Patrol Helicopter on routine surveillance over the area.*



*(Right and below) Frequently seen Military Helicopters*



*(Left) Military fighter Jet in full battle dress. (below) typical daily patrol along the border*





*Journal Entries October 23, 2008*

*A site meeting was conducted at 07:00 by the Project Manager, and attended by the Naquin personnel. The following topics were discussed with the attending contractor personnel and the Candelaria personnel:*

- 1.) The Project Manager, Mr. Mike McNally discussed the procedures for Biological and ecological equipment inspection by the EPA monitor prior to bringing equipment on site. He further explained the procedure for operational safety inspection of same equipment prior to use on site. Additionally, Mr. McNally stated the daily goals and objectives of the project, specifically, the immediate grubbing of the staging area to facilitate the installation of temporary fence.*
- 2.) Mr. McNally directed the meeting attendees to the site orientation presentation as conducted by the biological and ecological monitor, Mr. Chip Cochran. Mr. Cochran briefed the group on his findings specific to his habitat and nesting investigations of the site conducted 10/21 and 10/22, 2008. Mr. Cochran made specific reference to the potential hazards from "unearthed scorpions" as well as his concerns for the protection of "Yellow bellied Cuckoo" and Flat tailed horned lizard, both of which "may possibly be encountered". Mr. Cochran further discussed the nearby located bee hives adjacent to the construction area as well as answering questions from the attendees on local encounters with "African bees".*

*Special Notes:*

- 1. United States Customs Border patrol personnel were present on a near continual basis throughout the day, assisting in providing site entry as needed. In a discussion with the agent it was learned that because of the high incidence of activity, beside being "on call" the normal operational activities of the Border Patrol would result in their presence at the site entrance several time each hour on a perpetual schedule basis.*
- 2. The earth moving operation has revealed the presence of large scorpions on and around the staging area site. Further emphasis shall be placed on this presence during subsequent site orientation safety meetings and included in the site specific hazard communications*



The passion that surrounds one of the most controversial issues facing Americans today, securing our borders cannot be fully understood in a few short pages or for that matter, a book. This powder keg issue has brought about great division amongst Americans, and with it, nearly as many points of view as there are citizens of our great nation.

One issue that seems to be uniformly agreed upon is that illegal drugs are to blame for too much senseless destruction of innocent life within our families and on the streets of our cities. Each year, thousands of lives are lost to overdose, infections from poorly sanitized needles and the violence that characterizes drug trafficking.

The clandestine operations to import these drugs into the United States have also become a source of misery for the citizens of Mexico, with as many as seven thousand deaths attributed to drug cartel executions in a struggle for power during 2008. That is the loss of nearly twenty people per day, seven days per week, three hundred sixty five days per year.

Which ever side of the secure border issue you may be on when it comes to illegal immigration, one thing is for sure; it is no longer the time to consider or discuss what to do when it comes to these illegal drugs. It is time to act and act quickly!

Candelaria Corp. EPC was authorized to begin construction on CV-1A on October 15, 2008 with instructions to mobilize their workforce and complete construction before the end of 2008. The project, one that had begun months previously with pre construction meetings and intricate planning was finally ready to become a reality.

We arrived on site ready to begin, October 21, 2008 with an aggressive schedule, to finish before the end of the year. I find it impossible to capture the spirit of the men assigned this task by written word alone, that challenge is beyond my writing abilities. I can only hope that the pictorial recording of events that follows can somehow offer you a glimpse of the determination and ingenuity that these men brought with them to the River Trail that day.

*Under the skillful leadership of Mr. Mike McNally, Project manager for Candelaria Corp. / EPC, the project began.*

*Mr. McNally (shown in center on right) provided detailed instruction each day as he responded to the dynamic demands of a project underway. Mikes dedication and seemingly tireless efforts continually streamlined the process through several intricate modifications that demanded frequent changes to scheduling, material acquisition and deliveries.*

*Beyond the daily demands of project management, Mike also participated in site safety and quality control programs, giving CV-1A the advantage of his years of expertise.*





*Journal Entries October 23, 2008*

*Daily Site safety notes:*

*The project manager discussed daily site training goals and specific training modules as well as recurrent testing of on site equipment for deficiencies and or conditions resultant from the previous day's activities.*

*Mr. McNally verified that the proper PPE shall include: safety glasses, hard hats and high visibility vests and must be worn by all personnel on site at all times and concluded the daily safety activities by inspection and validation of proper PPE being present*

*Environmental stewardship notes:*

*Mr. McNally initiated precautionary use of drip pans to be placed under all equipment stored or parked on site*

*Oil rags waste receptacle shall be used as needed and placed at or near the staging area.*

*A site evaluation was conducted to determine the effective location for concrete wash out provisions*

The overall success of any project such as CV-1A is typically determined by the seamless execution of the construction details and harmonic orchestration between the many different agencies involved. As many as five agencies were involved on site at any given time with several others requiring the constant liaison efforts of the Resident Engineer.

As the United States Army Corp of Engineers Resident Engineer for CV-1A, Mr. Ron Musgrave met that challenge with his years of expertise, easy-going attitude and sense of humor, something quite valuable as the men worked long hours on a seven day per week schedule.

Mr. Musgrave in near constant communication with Mr. McNally tackled each of the project changes in his well organized straight forward manner. In addition to the aggressive schedule and demanding site conditions, several interagency commitments were required to keep CV-1A on track and moving forward.

Ron could be found on site nearly every day as he inspected and verified the superior performance of the production team under the direction of Mr. McNally and could be summoned within minutes when he was needed by a quick phone call.

*In a light hearted moment, (right) Ron poses with a sign, "Americas Most Wanted", taken on December 15th 2008, just days before the project was completed.*



*Ron Musgrave (center on left) shown posing with (On left) Mr. Loran Garvin, Superintendent and site safety officer CV-1A Candelaria Corp. / EPC and (on right) Mr. Jerry Kellam Assistant superintendent Candelaria Corp. / EPC.*



*Journal Entries October 29, 2008*

*Activities in Progress:*

*Grubbing continues southwesterly at approximately Fence Deflection Coordinate "S". Naquin Precision Earthmoving Inc. engaged in PM10 dust management in a conjoint effort with Blue sky Burning and excavating as they began grubbing the area. Grubbing continued through completion at point "Z" @ 16:00*

*NOTE: Observation (10:40) BMP recognized "watering" for dust management*

*Fence Corp. continued boring/excavation operations for the installation of fence types 1-A and 1-B. The area; directly aligned with staging area and continuing approximately ¼ mile Southwesterly. End of day results included a total one hundred eighty nine (189) completed borings and thirty (30) partially piloted borings (Pilot depth 7'0")*

*Nicholas Engineering conducted Station identification and staking along with fence, "Point on line identification and staking utilizing GPS surveying equipment. The fence POL was conducted at approximately station 50 (1,500' Southwesterly from Fence coordinate "G" at 100' intervals and concluded at or near station 84. The Offset Centerline of Road identification and staking began at station 91+56.23 and continued at 100' intervals ending at station 119+27.36*

*Naquin Precision Earthmoving Inc. continued grading and soils preparation for compaction of the construction road along a southwesterly path beginning at station 75+00 and continued through approximately Fence Coordinate "R"*

*In addition, Naquin continued site wide PM10 and Dust management as needed along with remedial compaction/re-watering as directed to meet soils specifications as noted in the following NEI report.*

*NEI conducted soils compaction/moisture content testing utilizing nuclear gauge*



Every project has at least one individual you will never forget, and at CV-1A. Mr. Jerry Jackson, was that guy. Jerry, formerly of A-DOT acted as the contract officer for the project.

Jerry was on site every day working with virtually every member of the production team. Whether he was inspecting some detail of construction or verifying we received the correct government furnished materials, he was never too busy to spend time regaling you with a story of something.



Knowing full well we were on a tight time schedule, one with virtually no time to waste, Jerry worked with the team every day on the nearly endless task to verify every detail of the contract under his watchful eye.

In part, due to his efforts, the project progressed smoothly with minimal delays. When the sun set on the last day of active production on the project, Mr. Jackson began the task of project close out documentation and bringing the CV-1A contract officially to a close.

Thanks Jerry, we'll never forget you and all your stories.

**Loran Garvin**, Superintendent and Site Safety Officer for Candelaria Corp. / EPC was the driving force behind the daily activities at CV-1A.

Loran directed the final placement of every section of Normandy style fence on site incorporating the latest adjustments and field changes as needed.

*(on right) Loran directs the placement of the final fence line position at the end of the construction limit as a dozer clears the way in the background. (Below) Loran in front of the first arrival of Normandy style fence as he directs its installation.*



*Journal Entries November 05, 2008*

*Safety meeting*

*Mr. Garvin spoke about the importance of welding shields citing the potential for inadvertent “flash burns” as a primary concern as well as the need to verify electric current welding equipment grounding. As discussed and agreed upon, the manufactures recommendation or requirements for additional earth grounding of the equipment must be followed in all cases. The personnel engaged in welding on site anticipated the construction of a fixed location shield 11/05/08 prior to the start of welding operations. Additionally, manufacturer grounding requirements were being verified.. Hazard communication included an address by Naquin Precision personnel who have recently encountered scorpions near station 128+00 and further south to the limit of their activity; station 178+00*

*Journal Entries November 06, 2008*

*Safety meeting*

*Mr. Garvin discussed welding safety and encouraged attendees to respond with personal observations specific to potential hazards associated with the task. Responses included; eye injuries i.e. flash burn, sparks and slag. Burns from handling or contact with hot surfaces, respiratory ailments from smoke and fumes, strains and back injuries from lifting heavy pieces to be welded and finally, injuries sustained from welding induced fires at or near the welding site.*

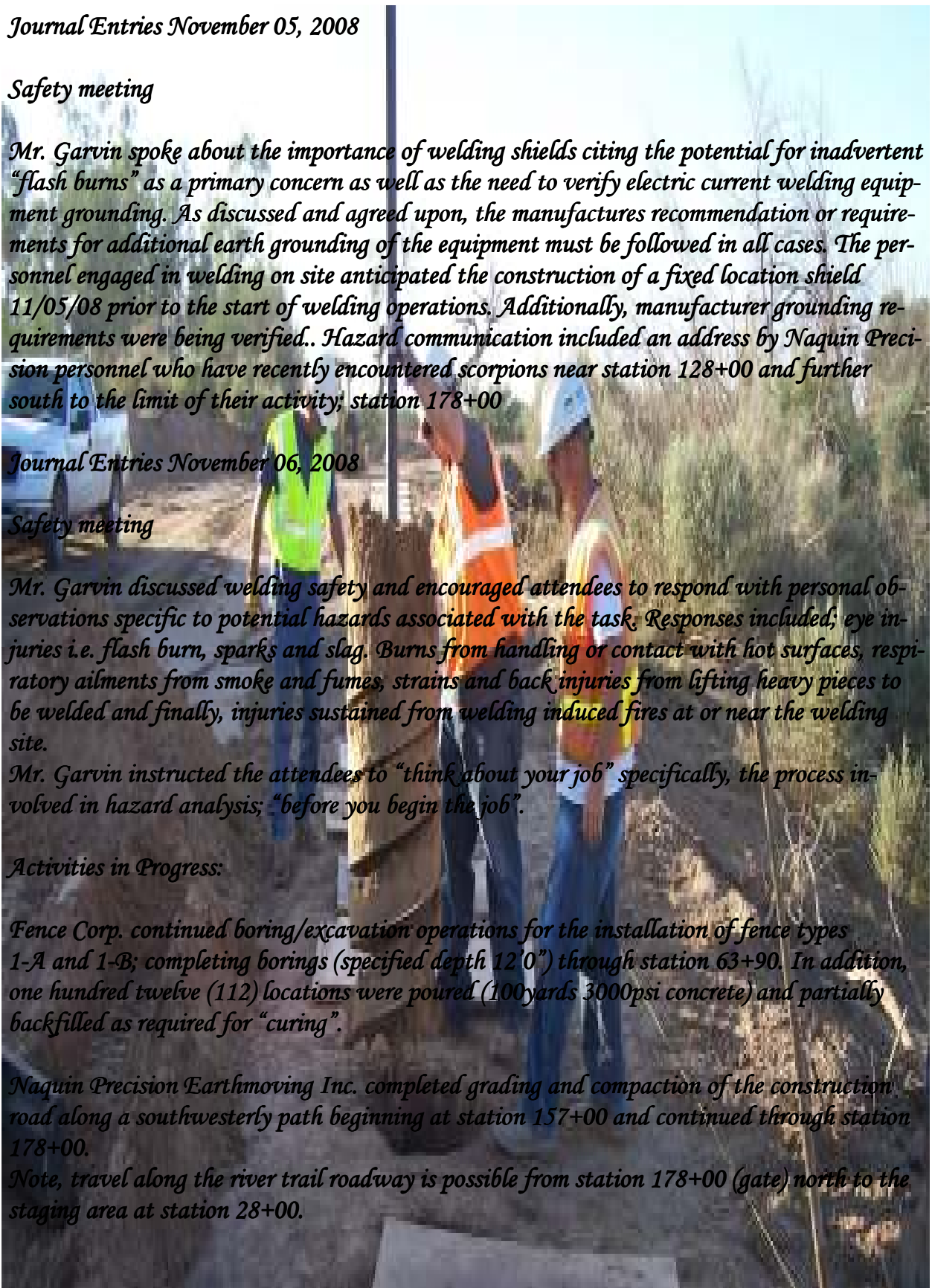
*Mr. Garvin instructed the attendees to “think about your job” specifically, the process involved in hazard analysis; “before you begin the job”.*

*Activities in Progress:*

*Fence Corp. continued boring/excavation operations for the installation of fence types 1-A and 1-B; completing borings (specified depth 12’0”) through station 63+90. In addition, one hundred twelve (112) locations were poured (100yards 3000psi concrete) and partially backfilled as required for “curing”.*

*Naquin Precision Earthmoving Inc. completed grading and compaction of the construction road along a southwesterly path beginning at station 157+00 and continued through station 178+00.*

*Note, travel along the river trail roadway is possible from station 178+00 (gate) north to the staging area at station 28+00.*





Millions of gallons of water were used during the completion of CV-1A all of which was obtained from this pump. The pump was one of the first orders of business on site and the last item to be packed up when we left.



*The pump (left) is a diesel operated 14” centrifugal single stage unit and was set into the Salinity Canal near the construction area on October 22, 2008. Water was delivered to the construction area using water trucks. (below) a water truck “filling up” at the pump*



Water is used for the preparation of the roadways and fence construction areas to achieve maximum soil shear value through adequate compaction and moisture content control.

*(Below on right) water truck delivering water to the roadway area as a part of the soils processing required prior to compaction. Note: the water truck is being used as well as a method of compaction (below) small vibratory compactor works an area for maximum density as needed.*



*(on right) Compaction and density testing using Nuclear gauge method*





*Journal Entries November 07, 2008*

*Safety meeting*

*06:35*

*Mr. Garvin discussed traffic control during the construction of the fence noting that the roadway must be open for travel by others during the fence construction activities. He instructed the attendees to keep the left lane open by keeping vehicles and equipment all staged on the right side.*

*In further discussion, Mr. Garvin addressed welding safety specific to activities on the fence proper such as mid-rail installation noting the potential for welding induced fires at or near the welding site. The brush and surrounding dry vegetation left unprotected, poses a serious risk of fire. The use of shields and umbrellas to arrest sparks are mandatory in many areas.*

*Mr. Caliendo introduced the concept of passive vs. dynamic safety asking the question "what is the difference between passive and dynamic safety"? The attendee's lack of remarks was utilized to demonstrate that attending the safety meeting in a non participatory fashion indicated a passive reaction to safety. He further explained the need to be "involved" to be an active part of site safety in every task. Noting behavioral based safety goals as the best method to incorporate safety as an integral part of the planning and execution of every task,*



In addition to the preparatory need for water in compacting the soils for the construction of roadways as well as the fence construction areas, water is also used on site to aid in the boring and excavation processes.



*Special Notes:*

*Soil boring failures were experienced between approximately station # 66+00 and Station 74+00. The nature of the failure is attributed to a subsurface high content of large granite cobble which hindered auguring operations respective of accuracy attainable and further resulted in potential safety concerns specific to large excavations collapsing into adjoining excavations. A brief meeting was held to view the areas in question between Mr. Jerry Jackson USACOE contract officer; Mr. Mike McNally, Project Manager Candelaria Corp. Mr. Loran Garvin, Site Superintendent and Safety Officer. The noted remedial actions indicate relocating the fence construction area on line and correspondent to the original deflection points approximately 10'0" to the east of the current location. Test borings were conducted along this line with relative success and incorporated as the basis for the change*

*The site was evacuated at approximately 13:30 pursuant to an order by the United States Border Patrol Authority. The order was issued in response to the following incident: to wit; at approximately 13:15 several BMP Solutions personnel working near station 155+00 heard gunshots and experienced "whooshing noises" that were perceived to be projectiles in motion. The Border Patrol was contacted and consequently confirmed the presence of a sniper in the vicinity.*

*The Border Patrol also confirmed additional "activity" near the site at the Northern most extremities nearest to the Morales Dam.*

*The evacuation order was followed by the site alert "trigger" with a rapid response by all personnel. The authorized personnel were assembled and attendance was confirmed at the staging area in accordance with site specific emergency response policy. Once accounted for the site personnel were instructed to assemble "behind" the cover of the construction trailer and several vehicles to await the "all clear" order to be given. Additional law enforcement personnel were summoned to the site, specifically the Yuma County Sheriffs Department to investigate the incident; the "All Clear" was issued at 16:00.*

*Further information revealed an attempt to breach the security gate at the North end of the site. No further information is known at this time concerning this incident.*

Every day, more than one hundred thousand gallons of water were used on site for PM10 (particulate matter 10 microns) fugitive dust control in accordance with Federal clean air standards. Dust, uncontrolled during construction can enter a workers airways settling within their lungs. Particulate matter of ten microns or less cannot be easily expelled from the human lung and can cause severe respiratory ailments in those exposed to these pollutants. Recent studies also indicate a link between fugitive dust and valley fever, a sometime fatal illness.





*Journal Entries November 13, 2008*

*Safety meeting*

*Mr. Garvin addressed the attendees speaking with emphasis on the apparent effort visible on site. He further clarified the delivery of materials (rip rap) traffic procedures reiterating the need to maintain an open lane for emergency response and detailing the routes along border patrol roadways (being away from typical activity areas). Mr. Garvin further described the logistical accommodations required for the delivery of type AB compactable granular materials that were anticipated to begin arriving on site 11/14/2008.*

*Mr. Caliendo addressed the meeting with an observation from the previous day welding operations noting a limited use of shields during the spot welding process. Pursuant to the expediency of the production schedule; the use of welding shields during limited spot welding or tacking operations may be negated with the following provisional considerations:*

*Ensure there is safe distance to overgrowth of flammable vegetation at all times.*

*Fire extinguisher must be "within reach" always.*

*A visual inspection of the adjacent areas for personnel and/or vehicular traffic must result in an "all clear" condition prior to placing the spot weld. Note: The spot weld duration of total elapsed time is limited to less than thirty (30) seconds to include placement of the hood prior to striking an arc (actual arc duration less than twenty (20) seconds)*

*Journal Entries November 14, 2008*

*Activities in Progress:*

*Fence Corp. continued the re-boring/excavation operations between approximately station # 67+00 and Station 82+00 at the revised locations. In addition, borings were completed to station 87+00.*

*Mid-rail installation activities continued with welding and installation to approximately station 46+80. In addition, all remedial welding corrections on mid-rail welding from station 28+50 through 40+00 were completed and re-inspected.*

*Fence Corp. completed concrete placement of one hundred fifty (150) yards concrete to station 73+50.*





Handling the documentation for a project of this size is never easy and given the short time schedule, that task became even more daunting than usual.

Meet Dennis Boswell: Dennis, Superintendent for Candelaria Corp. / EPC met the task of maintaining the project documentation along with the delicate process of scheduling the delivery of key materials to meet the daily requirements. *(Right) a common sight is Dennis, out on the job with cell phone as he checks the progress and adjusts the daily delivery of crushed boulder materials (Rip-Rap) to protect the roadway embankments from soil erosion.* In all, some four thousand tons of this material was used during the completion of CV-1A and Dennis kept a finger on the pulse of this important aspect of the job.



*(Right) workers fitting a Geo-Textile fabric product to prepare an embankment for the placement of over two hundred tons of Rip-Rap materials. The Fabric will allow the passage of moisture but restricts the migration of soil particles thus preventing erosion.*



*(left) placement of the Rip-Rap is a delicate process requiring the operator to strategically position the materials to avoid rolling off the steep angle of the embankment. (below) completed area of Rip-Rap*



*Journal Entries November 19, 2008*

*Safety meeting*

*Mr. McNally addressed the attendees about the noticeable safety efforts; commenting, "It's been a good job" so far, let's keep up the good work". Additionally, Mr. McNally announced the plans for an extended "safety luncheon" planned for 11/20/08 to be held on site. The purpose is to reward the efforts of the personnel as well as to further engage participation in the safety program. Mr. McNally commented that there were to be safety prizes awarded as well.*

*In a final comment, Mr. McNally reported on the recent visit to the site by Ms. Jean McAninch, Contracting Officer Representative USACOE. In her words Mr. McNally stated, this has been as close to a perfect job as could be desired.*

*Mr. Garvin spoke to the attendees specific to site resources noting the availability of a stretcher located at the site construction office. In further comments, Mr. Garvin addressed the use of PPE reminding the attendees to "wear the appropriate PPE" and citing the potential for injury when handling materials noting the use of gloves as an effective prevention for these types of injuries.*

*Mr. Caliendo addressed the group asking the question "what is the definition of an accident?" requesting the attendees reflect on this and be prepared to offer their answers at the safety meeting 11/20/08*

*Activities in Progress:*

*Fence Corp. continued boring/excavation operations for the installation of fence types 1-A and 1-B. (specified depth 12'0") completing some to Station 94+24, with concrete placement of one hundred forty (140) yards of concrete to approximately station 91+44 and steel (bollards) set awaiting concrete placement through station 94+00*

*Mid-rail installation activities continued with welding and installation. re-inspected.*

*NEI conducted concrete testing on a total of one (1) of thirteen (13) concrete delivery trucks. Naquin Precision Earthmoving Inc. continued PM10 dust management watering at all disturbed areas site wide. In addition, soils grading was completed at stations 18+00 through the Morales Dam attachment location. NEI subsequently performed soils compaction and moisture content testing using nuclear gauge. A total of twenty (20) tests were conducted on roadway and fence construction areas beginning at station 29+50 and progressing along a northerly point through the end of construction at the Morales Dam*





*Preparing the embankment for Rip-Rap*



*Marc Givens waits beside his machine for the next load.*



*Stockpiled materials await placement*



*In process placement of materials*



*Completed section ready for inspection*

*Easy does it Mark; Location is everything!*

*Journal Entries November 20, 2008*

*Mr. McNally addressed the attendees Very briefly reminding all in attendance of the luncheon safety meeting planned and expressing his satisfaction with the safety efforts so far on site.*

*Mr. Garvin spoke to the attendees eliciting a volunteer from the group and posing the hypothetical scenario; "I'm working along side of you and while directing the augur bit, cut my hand, what do you do?" the response was to assist you by locating first aid supplies from the trailer or nearby trucks and performing first aid or depending on the severity of the "cut", call for emergency assistance. Mr. Garvin followed up expressing the importance of knowing where to locate site resources as well as knowing the details of a plan to address emergencies should they arise. In closing statements Mr. Garvin reiterated the importance of being aware of your surroundings and being conscious of the coworker next to you," in case he may need help"*

*Mr. Caliendo addressed the group following up on the hypothetical scenario Mr. Garvin had stated explaining the purpose of hazard analysis as a means of determining the appropriate course of action when considering emergency response plans. In connection with the previous days meeting; asking the question "what is the definition of an accident?" Mr. Caliendo asked who could offer their answers.*

*Several attendees offered definitions, many of which included reference to an unexpected event or occurrence. Mr. Caliendo referenced the Webster dictionary noting the following definition "An unfortunate event resulting from carelessness, unawareness, ignorance, or a combination of causes". In further discussion Mr. Caliendo pointed out the significance of proper hazard analysis noting the advantage of minimizing events caused by ignorance or unawareness by good task planning.*

*In the following hypothetical scenario; "How should we respond if a coworker becomes trapped in an excavation because of collapse?" The attendees participated in identifying potential secondary problems associated with rescue efforts in or around the site of the original collapse. Mr. Caliendo discussed the Mechanics of a cave in defining the event from a popular mine safety training article noting that sudden collapse is rapid as the soils flow into the open excavation exerting extreme high pressure. Referencing average soil weight by volume (100pcf) Mr. Caliendo discussed the on site specification for density compaction being 105-110pcf noting the removal of spoils from individual borings to be approximately 1.68yd.<sup>3</sup> and noting that by volume this could result in an aggregate weight of as much as 3200 pounds being imposed on a person otherwise accounting for filling a portion of the void.*



Five miles of fence isn't a tremendous amount when you consider the 670 miles included in "The Secure Fence Act of 2006" but, five miles can be an awful long way when you need to know exactly where something is.

Jerry Kellam, Assistant Superintendent Candelaria Corp. / EPC not only knew where everything was at, but more importantly, Jerry knew where everything was going. That comes in handy in a project like CV-1A when you need to direct as many as fifty-four truckloads of Rip-Rap materials, over thirteen hundred tons in less than a week or keep track of the correct number of excavations for nearly five thousand fence bollards.

Jerry set out each day with a clipboard, a smile and a cigar as he tracked the location of every truckload of the various materials delivered, every fence post set, every excavation completed and every yard of concrete poured that day. It was all in a days work for this military veteran and "keeper of the Books" here at CV-1A.

When Jerry wasn't busy with gathering the data for his "books", or recording the progress on color coded "as built drawings", Jerry could be found on line alongside the workers as he verified the correct depth of excavations, proper number of welds and precise placement of the fence under his supervision.



In all, nearly eight thousand five hundred feet of welding was completed on CV-1A. That's an incredible amount of welding when you think about it. Laid end to end, that is the equivalent of over twenty football fields or 1.6 miles.



*(Above right) Typical mid-rail welding connection.  
(above left) Jose Hurtado watches as Oscar Galindo inspects a mid-rail welded connection.  
Each weld is inspected for proper size, penetration and final removal of slag.*

*Journal Entries November 20, 2008 (cont.)*

*Special Notes;*

*The safety luncheon began at 12:00 with service for all onsite personnel as well as visiting Border Patrol Agents. Mr. McNally welcomed the guests stressing Candelaria Corporations appreciation of the notable safety diligence on site for the first half of the projects. Mr. McNally further commented on the outstanding efforts by the Border Patrol to maintain a frequent presence on site and their response to all previous incidents.*

*In addressing the attendees, Mr. Caliendo drew names from a hard hat to determine the winners of several gifts being presented to the personnel to reward their efforts; the luncheon concluded at 12:45, a huge success*

*Finally, there was one (1) incident of personnel being bombarded by rocks, Border Patrol responded immediately instigating the incident and subsequently determined the area to be "clear".*

*Activities in Progress:*

*Fence Corp. continued boring/excavation operations for the installation of fence types 1-A and 1-B. (specified depth 12'0") completing same to Station 102+00*

*Mid-rail installation activities continued with welding and installation. The welding ended at approximately station 63+00 with mid-rail located and tacked in place to station 71+00.*

*Fence Corp. completed concrete placement of eighty (80) yards of concrete to approximately station 98+12 with steel (bollards) set.*

*NEI conducted concrete testing on a total of Three (3) of eight (8) concrete delivery trucks. The concrete was subjected to testing of temperature, slump, and air entrainment, total elapsed time of mixture/placement as well as sample cylinders for achieved strength at seven (7) day and twenty eight (28) day evaluations.*

*Naquin Precision Earthmoving Inc. continued PM10 dust management watering at all disturbed areas site wide. In addition, soils re-grading as directed by Ron Musgrave, Project Manger USACO E 11/19/08 to re-establish the water drainage in the area near the Morales Dam was completed at approximately station 13+00 through the Tank trap as constructed near the embankment adjacent to the Morales Dam attachment location. NEI subsequently performed soils compaction and moisture content testing using nuclear gauge.*

To say the expertise of the welders on CV-1A was really something to marvel at sells short the true craftsmanship that these guys displayed every day. Taking the proficiency of their trade to near art form, CV-1A welders produced upwards of two thousand feet of completed fence on several days with zero noted defects.

Putting that into perspective; examine closely the welding as depicted in the photographs below paying close attention to those labeled other project welding. Which weld would you rather have protecting America's youth from the onslaught of illegal drugs?





*Journal Entry November 21, 2008*

*There was one (1) incident of Border Patrol searching for three (3) suspected drug runners in the overgrowth area west of the fence directly behind the staging area at station 30+00 throughout the morning. As many as six Border Patrol vehicles were on site at various locations with additional special Federal agents and plain clothes personnel rumored to be FBI as well. Air surveillance by military reconnaissance style airplane was also conducted.*

*Journal Entries November 24 and 25, 2008*

*Safety Meeting*

*Mr. Garvin discussed eye protection and respiratory safety. The in depth discussion included specific reference on types of eye protection; glasses, glasses with side shields, protective lenses, mesh style lens, ace shields, as well as hard hat mounted PPE. In his comments, Mr. Garvin explained the selection of PPE as directed by the specific risk being controlled. In the discussion, Mr. Garvin explained the benefit of one type of PPE vs. another citing the presence of specific particulate or vapors being present beside the concern from flying debris, a result of numerous associated tasks on site.*

*In an expanded training session Mr. Garvin correlated the possible need for certain respiratory protection being frequently associated with instances where eye protection may be required. The reference materials Mr. Garvin quoted during the presentation offered valuable insight to several hypothetical scenarios Mr. Garvin posed as questions to the attendees. Several comments were elicited from the participants.*

*Mr. Garvin discussed site awareness and taking additional precautions against the loss of personal possessions and /or vehicles by always locking any vehicle on site when unattended. In further comments, Mr. Garvin recounted two incidents where coolers were stolen from the vehicles and the suspicion that the thefts were perpetrated by unauthorized personnel on site hidden by the nearby overgrowth.*

*Mr. Garvin also noted the recent collapsing soil conditions and offered hazard communications specific to the proximity to the edge of the excavation when you anticipate the possibility of collapse.*

*Mr. Caliendo discussed the varying soil types being encountered recently onsite offering insight to the cause of some moderate to excessive collapsing conditions. The discussion surrounded the concepts of friction based cohesion and the angle of repose specific to granular materials such as sand. In addition, Mr. Caliendo explained the potential for rapid collapse as a result of hydro-compaction and soils consolidation.*



Welding is the final process in joining two pieces of steel into one homogenous assembly and in large part the ultimate strength of the final weld is dependent upon the accuracy of the “fit”, while assembling the pieces. When it came to “fitting” the fence components together in preparation for the final welding process to begin, the true craftsmanship of the welders here at CV-1A was apparent.



*(Left) Jose Hurtado as he completes the installation of a field fabricated transition fitting on Type II Normandy style fencing. (Below) close up view of welded connection.*



*Fit is the most important part of the equation as is demonstrated by Mr. John Jarvie (left) adjusting this mid-rail connection before he “tacks” it together. (Below) Jim Ranard ready to put a bead on a section of Normandy style fence*



*Journal Entries December 01, 2008*

### *Safety meeting*

*Mr. Garvin discussed the "awareness of safety" in an extended morning meeting quoting several anecdotal and factual references from the OSHA Construction Safety Manual. The primary message was the behavioral aspects of a safe work environment through planning and attention to site dynamics.*

*In further comments, Mr. Garvin explained the importance of not only recognizing potential hazards but specifically the response to said hazard recognition noting; selection of PPE appropriate to the risk, or controlling the risk through engineering, awareness of varying and changing site conditions, and most importantly, the active participation in the safety program by all personnel on site. The statement; "watching out" for your fellow workers was followed by a discussion specific to site conditions such as proximity to the border and the presence of unauthorized personnel as well as several recent situations involving collapsing soil conditions near and around the excavations. In summary, Mr. Garvin noted the resources available on site for first aid supplies if needed urging all personnel to "check their vehicles" for first aid kits and to be sure that they were accessible.*

*Mr. McNally addressed the attendees noting the return from the recent holiday break and expressing the importance of getting back in the swing of things. Specific to site safety and awareness, Mr. McNally updated the group with recent information from Border Patrol concerning the increased presence of unauthorized personnel and reiterating the locked vehicle policy as a deterrent to theft of personal property as well as the reduced risk for stowaways in a vehicle.*

*There has been a great increase in activity along the site recently; it is suspected that this is due to the limited opportunity to cross because of the newly installed vehicle barriers. Mr. Garvin reminded the attendees to be "extra careful" when exiting vehicles and to lock the vehicles. In addition, Mr. Garvin expressed the importance of wearing the site identification badges at all times. "The Badge is "the single most important identifier used by the Border Patrol Agents in determining the authenticity of those exiting the site or present during operations." He further explained that there have been several attempts by unauthorized personnel to disguise themselves, wearing ground vests and hard hats and consequently, the identification badge has become the true test of whether a person should or should not be on site.*

*Mr. McNally commented with respect to Mr. Garvin's presentation, Candelaria's commitment to safety on site is "not negotiable".*





*(Left) Jacen Rutt behind the controls of his machine. If it called for finesse and just the right touch, Jacen was your best bet here at CV-1A. Wherever the excavations called for something out of the ordinary, that's just where you would find Jacen (Below) Jacen as he attempts to excavate through crushed granite on the declining slope of the canal roadway to install anchoring for future Normandy style fence.*



*As you might imagine, Jacen was at the controls in this series of pictures (below) as he and his ground crew extract a one ton boulder from a critical excavation.*



*Journal Entries December 04, 2008*

*Safety meeting*

*Mr. McNally, Project Manager addressed the attendees briefly to express his appreciation for the ongoing commitment to safety on site by all personnel.*

*Mr. Garvin discussed the previous day's safety inspection by Mr. Lance Lewis; USACE Safety Specialist commenting on the rapid response to correcting one minor situation Mr. Lewis noted involving battery storage at the staging area. In his presentation, Mr. Garvin expressed his concurrence with Mr. McNally's observations specific to the apparent commitment to safe work practices on site.*

*In further comments, Mr. Garvin reminded all those assembled to "be sure to wear the badges" referring to the site identification badges; in response to the recent communications from the Border Patrol.*

*Journal Entries December 05, 2008*

*Safety meeting*

*Mr. Garvin began by stating that the gates between sections of the site would be open today to allow the travel of construction equipment and materials to the next section being started noting; "Today, be extra observant of your surroundings". In further comments Mr. Garvin discussed the storage near the work area of gasoline, (fire prevention) noting that the cans should always be located in an area away from the possible exposure to sparks from welding and that they should be near a sign labeled "No Smoking".*

*Mr. Caliendo discussed the dynamics of life after the accident and taking a closer look at the effects of an accident on family life, finances and the resulting personal physical limitations. In the presentation he stressed the significance of considering what happens after the accident instead of focusing solely on the accident as an event in and of itself. In further comments, Mr. Caliendo discussed the importance of active participation in safe work practices as a means of maintaining physical well being and ensuring career longevity.*





A Century of experience comes together when Loran Garvin, Superintendent Candelaria Corp. / EPC and Mr. Lonnie Rutt of Fence Corp. discuss the details of the final deflection point of the fence under the watchful eye of the United States Customs agent in the observation tower (background).

Lonnie, has been building fences for forty seven years and brought a plethora of knowledge to the CV-1A project.



After that many years of hard work, many guys would want to just sit back and put their feet up, but not Lonnie; “I feel good when I work” and boy, can Lonnie ever work. Lonnie together with the crew set two hundred thirty eight fence bollards in one day which is an astounding 48.43 tons of steel, each piece individually placed and bumped into it’s final position. *(Below) Lonnie and the boys as they set a bollard and adjust it.*





*Journal Entries December 06, 2008*

*Safety meeting*

*Mr. Garvin discussed the importance of “keeping your focus” in the remaining days of the project, noting the potential for haphazard behavior when the schedule demands considerable overtime to complete the project.*

*In addition, Mr. Garvin spoke about the speed limits on the job site and the importance of maintaining “low dust” emissions on the roadways through reduced speed and proper watering, noting the potential for adverse respiratory consequences induced by increased dust content in the air.*

*Mr. Caliendo discussed the increased potential for accidents caused by perceptual familiarity noting the significance of not “taking anything for granted” and ensuring safe practices by checking things for your self. In the discussion, Mr. Caliendo pointed out the ease in which an accident can happen by falsely concluding that a preliminary safeguard was correctly employed by another employee. Likening this to a scenario in which a bundle of steel columns were being unloaded by fork lift from a truck under the assumption that the banding steel was properly installed. In his comments, he explained that this repetitive process fostered a false sense of security through perceptual familiarity since hundreds of such bundles have been safely handled in this manner previously. In further comments, he noted that the ground man would be in a life threatening location assuming the bundle picked was stable if it was in reality, possible to break one remaining band if the other was damaged or missing and never checked before handling.*

*Mr. Caliendo finished by reading an anecdotal story offering several opportunities for the listener to reach false conclusions prior to the actual story unfolding. In his presentation he likened the ease at which most people can “jump to a conclusion” and how that practice could result in an accident.*



Jeff Rutt, (Lonnie's son) Superintendent for Fence Corp. runs the show here at CV-1A. Jeff has been with this project the longest of any Fence Corp. personnel starting months before the project began preparing the estimate and planning all the operational details.

Jeff brings with him a unique blend of skills, some unmistakably learned from his Dad but more importantly, he brings his own sound judgment and keen eye for detail. *(right and below) Jeff as he sets a post using a "Line of sight" method.*



*(Below) Jeff exerts a little gentle persuasion on a stubborn bollard*



*(Left) Jeff directs the operator to "fly in" the next piece of steel*



*(Right) Jeff uses a level just to double check the old eyeball, yes Jeff, its plumb!*



*Journal Entries December 06, 2008*

*Activities in Progress:*

*Naquin Precision Earthmoving Inc. continued PM10 dust management watering at all disturbed areas site wide.*

*Fence Corp. continued with steel setting operations completing production to station 156+00 and continuing auguring from station 202+00 heading in a southerly path to station 206+00. Concrete placement continued to station 143+00.*

*Finally post and rail style fencing (types 1-A and 1-B); mid-rail welding continued to station 151+00 with grout being completed to station 143+00.*

*NEI Tested the concrete delivered to site as well as the grout. A total of nine (9) trucks were randomly tested for temperature, slump, air entrainment and samples were taken for seven and twenty eight day compressive strength testing from two (2) trucks, one for concrete, one for grout.*

*A second SWPPP inspection was conducted following the initial inspection on 12/01/08 due to the influence of standing water at many locations site wide. The inspection was conducted to observe any possible negative features or degradation of BMP's following the recent rain event. The inspection was conducted along the entire length of the site addressing the performance of silt fencing, wattles, natural organic filtering, rip-rap and berms placed to prevent surface erosion and transference to adjoining areas and waterways. The result of the inspection concluded no remarkable adverse features or significant degradation had occurred as well as the visual confirmation of performance of BMP's at several locations.*

*Significant collapse of Metastable Loess soils (type ML) were noted at several locations within the general area of the site as well as within the area of construction. One such area occurred at the western grade declination at approximately station 120+30, (see photos). Remedial actions in this location are indicated by the severity of the collapse.*



Handling the steel bollards is serious business with each one weighing in at over four hundred pounds.

*(Right and below) John Lacey at the controls of the Sky Lift as he maneuvers the bollard from the storage area to its final resting place.*

On the ground, a tag line is used to safely control the swinging steel bollard and to deliver it to the waiting crew.



*(Above) In orchestrated precision, the next bollard starts its journey as the crew sets the previous one.*



*(Above) A truckload of Normandy style fence waits to be unloaded by the next available Sky Trak . (Right) silhouetted against the setting sun; unloading this delivery will be the first order of business in the morning.*





*Journal Entries December 09, 2008*

*Safety meeting*

*Mr. Garvin discussed the importance of keeping a personal focus on safety especially in light of the recent seven day per week schedule. Citing the ease at which one could lose their keen perspective due to fatigue or the "end of job" rush to get things done, Mr. Garvin explained the importance of safe work practice being a habit.*

*In further statements, Mr. Garvin spoke of the safety record on the job stating that he wouldn't want to trade a perfect record for an accident at this point in the job adding, "There's never a good time for an accident".*

*In his concluding statements, Mr. Garvin praised the efforts of the personnel on site for an outstanding job so far noting their keen awareness of safety and wished the attendees, "have a safe day".*

*Activities in Progress:*

*Naquin Precision Earthmoving Inc. continued PM10 dust management watering at all disturbed areas site utilizing a smaller vehicle while repairs continued.*

*Fence Corp. continued with steel setting and concrete operations completing production to station 225+49. This is the end of sub-surface construction for the project. All remaining fence construction will require Normandy style fence.*

*Finally post and rail style fencing mid-rail welding is completed to station 215+00. No grouting of the bollards was completed today.*



(Left) George Espinoza, Superintendent for Naquin Precision Earthmoving, points a finger back at the camera saying “got me” as the shutter closes in this rare shot of George outside the cab of a machine.

George and his crew moved an astounding twenty five thousand, one hundred and eleven cubic yards of soil during the construction of the CV-1A project. Putting that into perspective; that’s the equivalent of a small mountain measuring one acre square at its base and twenty-six feet tall. Considering that there were no “borrow” sites allowed to be used on this protected wilderness site, the burning question is; “What did you do with all that dirt George?”

(Below) A Caterpillar “D-7” crawls through the brush and trees as Naquin prepares the area for the proposed roadway..



(Above) a Caterpillar Model 140 H blade grader rips the future roadway as it begins to process the soils for optimum compaction







*Journal Entries December 11, 2008*

*Safety meeting*

*Mr. McNally addressed the group reminding everyone to continue in their individual as well as team efforts to maintain safety on site as the primary objective. In considering the job Mr. McNally stated, "You have done a great job so far, keep it up", we have come a long way together without an accident.*

*Mr. Garvin reiterated his appreciation for the attendee's constant attention to safety and echoed Mr. McNally's encouragement to "keep up the good work".*

*In further comments, Mr. Garvin reminded the attendees that "we are at the point of the job that will involve mostly welding", and began a review of the basic welding procedures on site, specifically the use of shields, proper fuel storage near the portable welders and the correct use of PPE. In further discussion, the attendees examined a vest that was being shown to demonstrate the susceptibility to burning in response to the recent revision to use of reflective vests during welding. Several large burned areas were apparent and comments were heard describing the frequent need to extinguish articles of clothing while welding and to continually monitor your area for fire.*

# United States Customs Border Patrol In Action at CV-1A

Ever Vigilant, Always Watching





*Journal Entry: December 20th, 2008*

*Things are quiet today, just a few days before Christmas now and the recent increased activity along the river trail has seemed to finally slow down.*

*If you talk to the local folks of the town, it's a sure bet you will hear them say that this is a "hot spot" for drug smugglers. As a matter of record, the smugglers have already breeched the fence bringing three trucks across on December 5th. One of the three trucks was abandoned by the driver as he was being chased by our Border Patrol agents, yielding over one thousand pounds of marijuana.*

*This brings to mind the capture of the Mexican Federals just weeks ago only days after our site was under siege and subjected to sniper activity. We were lucky enough to not suffer any injuries concluding later that perhaps it was all a diversionary maneuver since the agents apprehended a truck near the dam during the course of the incident.*

*In all there were over nine incidents on site during the time CV-1A was completed with several others taking place just down the trail from here as well.*

*When the locals say it's a hot spot, they're not kidding.*



*(Right) A Border Patrol Agent inspects the breeched area of fence while pointing to the steel rods used to hold the cut section in place. A quick attempt to make the area less noticeable at a casual glance. (Below) close up view of the cut rail*



*(Below) At a glance driving by the replaced section blends in well with the seemingly endless fence*



*(Below) Border Patrol investigates the scene pictures. 1, 2, 3, 4 (Picture 5) Smugglers attempted to ram the main control gate. (Picture 6) Final repairs of breeched section*





*Journal Entries, Candelaria General Safety:*

*Daily Site safety notes:*

*The project manager conducted the morning safety meeting at 07:20 discussing onsite safety procedures and site specific hazard communication with the Naquin attendees. Once complete, Mr. McNally described the equipment safety inspection procedure as follows:*

*Equipment safety inspection Procedure:*

*Verify and inspect for correct operation the operator restraint system*

*Verify and inspect for correct operation all peripheral and marking lights*

*Verify and inspect for correct operation any directional, hazard flasher, strobe, brake lights.*

*Verify and inspect for correct operation forward and rearward braking and maneuverability of equipment.*

*Verify audible rearward travel automatic alarm is operable*

*Inspect Hydraulic, power plant and transfer cases for leakage or seepage.*

*Verify "on board" fire extinguisher and recent renewal date (if equipped)*

## Site Safety CV-1A

Not only is safety a commitment at Candelaria Corp. it's a personal commitment for every member of the Candelaria team. From the Project Manager, Mr. Mike McNally to everyone of the site personnel involved in the safe completion of this project, safety was the first order of business every day.

*(Right) Mike McNally addresses the group at a morning safety meeting.*



*(Below) Mike McNally as he conducts an equipment safety inspection on a road grader.*



*(Below) Mike Talks with the guys at the Candelaria Safety Awards Luncheon. Don't talk too long Mike, lunch is getting cold!*



*(Above) Mr. Richard Karl, General Manger, Candelaria Corp./EPC discusses the safety benefits of good environmental stewardship with Ms. Jennifer Malavasi, EPA Monitor at CV-1A*



*Journal Entries, Candelaria Hazard Communications:*

*Safety meetings*

*Mr. Garvin spoke on the issue of fire extinguisher accessibility, noting that extinguishers need to be immediately accessible and mandating all equipment operators to verify the on board equipment and ease of accessibility on a daily basis. In addition, Mr. Garvin noted the each operator should report inoperative audible back-up alarms immediately stressing that "no machine will be allowed to operate on site while not fully functional". The recurrent site specific hazard communication regarding bees on site: It was reported by Mr. Garvin that the suspected tree nest has been destroyed;*

*SPECIAL NOTE: the site was alerted to be prepared for immediate evacuation due to a border threat. The adjoining construction project site, (south) had been evacuated and secured by border patrol as a response to armed infiltration by Mexican Army Patrol (see news article below).*

*The Associated Press*

*TUCSON, Arizona. – Seven members of a Mexican army patrol accidentally crossed into the U.S. near Yuma on Friday, the Border Patrol said.*

*The incident occurred along the Colorado River's western international boundary, about 12 miles north of the San Luis port of entry. Border Patrol officials said the soldiers drove their Humvee about a quarter-mile east of the international boundary into U.S. territory, but remained west of a U.S. fence along a levee east of the river. The international boundary essentially runs down the middle of the river, which snakes with a number of bends and twists. Miguel Escobar Valdez, the Mexican consul in Yuma, said the crossing was unintentional. He said the soldiers were "conducting some sort of surveillance operation against drug smuggling."*

*A local resident notified the Border Patrol.*

*"They relinquished their weapons upon command. They were respectful toward the agents and cooperated with them," Border Patrol spokesman Michael Bernacke said. The soldiers were taken to the San Luis port of entry, where they were repatriated across the border and turned over to their commander.*

*The Associated Press*

*The site safety radio communications procedure proved effective in providing all site personnel real time information about the incident. All personnel were alerted and ready to engage in emergency evacuation of the site if required. Additional air surveillance was evident throughout the duration of the event*

Morning safety meetings were an every day occurrence at CV-1A. (Below) Mr. Loran Garvin, Superintendent and Site Safety Manger instructs the group in the proper selection of PPE (personal protective equipment) in accordance with a task specific hazard analysis.

(Below and lower right) fire extinguisher training taught by Mr. Loran Garvin



(Left) site personnel assembled in the staging area following a sniper attack.

“Upon receiving the alert “TRIGGER” all personnel on site were assembled at the staging area while awaiting the all clear from the Border patrol



*Journal entry, December 21, 2008*

*The last section of fence at CV-1A, Yuma, Arizona was placed on December 20, 2008 at 15:45*

*Statistics and Data:*

- 1. Nearly five thousand 6" x 6" x 1/2" steel bollards were placed for a combined total weight of two million, seventy-five thousand, three hundred seventy pounds 1,037,685 tons.*
- 2. Over two miles of Normandy style fence was fabricated and placed at a combined total weight of 1,179,315 pounds, 589,657 tons.*
- 3. Over six thousand yards of concrete was placed to construct the 18" x 12'0" deep caissons at a combined total weight of twenty-five million, one hundred seventy-five thousand, six hundred pounds, 12,587,805 tons.*
- 4. One and six tenths miles of welds were employed to fasten the steel*
- 5. Twenty-five thousand, one hundred eleven yards of soils were excavated*
- 6. Over four thousand tons of Rip-Rap materials were placed*
- 7. Three days were lost to severe weather conditions.*
- 8. Slightly less than nineteen thousand hours of production labor was expended in fifty-eight days*
- 9. Four thousand two hundred sixty seven hours of equipment operation was utilized.*
- 10. There were no lost time injuries or accidents during the construction of CV-1A*





*(Above) John Console directs John Lacey as he sets the last section of Normandy style fence December 20, 2008 at 15:45.*



*(Below) Completed Normandy fence against the wilderness backdrop that characterizes the River Trail.*



*Final Journal Entry, 12/23/08  
Yuma, Arizona*

*It has been my great honor and privilege to be a part of this historical undertaking but more so, to have shared this experience with the men who made this project a reality.*

*As the Quality Control Officer on site, I had the unique opportunity to work side by side with nearly every individual on site. The experience has broadened my appreciation of their personal skills and awesome accomplishments as I realize the challenges they each faced on a daily basis.*

*As the project ends, the sweet feeling of accomplishment will be replaced with the sad reality of no longer seeing these men every day. The men and the successful completion of this project will however, remain in my memory forever.*

*Pete Caliendo CQCM  
Candelaria Corp. / EPC  
CV-1A Yuma Sector  
Yuma, Arizona*

