U.S. ARMY CORPS OF ENGINEERS,
ALASKA DISTRICT
AND
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE, ALASKA REGION

URS Project No. 26219528

Health and Safety Plan Preliminary Assessment/Site Investigation (PA/SI) For Apex and El Nido Mines

Tongass National Forest, Alaska

Prepared By:

URS

May 2003

HEALTH AND SAFETY PLAN
PA/SI FOR THE APEX AND EL NIDO MINES
TONGASS NATIONAL FOREST, ALASKA

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		PHONE
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Project Duration: July 2003 – August 2003

Expiration Date: September 2003

APPROVALS

Alaska Regional Health and Safety Manager:

Gail Gislason, CIH_____ (DATE) _____

Project Manager:

Mark Vania_____ (DATE) _____

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ATTACHMENTS

1.0 SUMMARY

This section provides a summary of pertinent information contained in this Health and Safety Plan.

USFS Sitka Dispatch	-	(907) 747-4306 (Forest Service supplied radios will be used to contact Forest Service dispatch for all emergencies while at the mine site.)
Ambulance	-	911 (Emergency if in Juneau) Glacier Valley Fire Department EMT (907) 879-7554 (907) 789-9501 (Temsco Med Evac - Juneau)
Fire	-	911 (Emergency)
Police	-	911 (Emergency) 465-4000 (AK State Troopers, Juneau)
Hospital	-	796-8900 Bartlett Regional Hospital 3260 Hospital Drive, Juneau, Alaska 735-2250 (Pelican Public Health Clinic)

URS Project Manager:	Mark Vania	(907) 562-3366
URS Alaska RHSM:	Mark Litzinger	(907) 562-3366
USFS Coordinator:	Ken Maas	(907) 586-8784

HOSPITAL DIRECTIONS:

Juneau

Life-threatening emergency medical transport to Juneau to be arranged through Temsco Med Evac. USFS radios will be used to contact USFS Sitka Dispatch. Sitka Dispatch will then contact Temsco Helicopters in Juneau.

To reach the hospital from the site for other than life-threatening emergency, travel by aircraft to Juneau. The hospital is located on 3260 Hospital Drive, in the Salmon Creek Valley, approximately 2 miles north of downtown Juneau (Hospital route map is located in Attachment B).

Pelican

For non life-threatening emergencies travel to Pelican from the site via helicopter to the Pelican Public Health Center. Pelican is located approximately 1.5 miles southwest of the mine sites.

CONSTITUENTS OF CONCERN:

Based on previous sampling and analysis of site media conducted at other similar mines sites in southeast Alaska, the following constituents may be encountered during field activities:

1. Soil/Waste rock - metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver), hydrocarbons - low to moderate concentrations.
2. Sediments - metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver) - low to moderate concentrations.
3. Surface water - metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver) - low concentrations.

PROJECT HAZARD ANALYSIS

Activity, Phase or Task	Chem. Hazard	Heat/ Cold Stress	Noise	Slip/Trip/Fall	Lifting Hazard	Mech'l Hazard	Water Hazard	Explo-sion	Wildlife Hazard
1. Site visual evaluation	Low	Low	n/a	High	Low	Low	n/a	n/a	Low
2. Soil/waste rock sampling	Low	Low	n/a	Med	Low	Low	n/a	n/a	Low
3. Water sampling	Low	Low	n/a	Med	Low	Low	Med	n/a	Low
4. Stream flow gauging	n/a	Low	n/a	High	Low	Low	High	n/a	Low
5. Helicopter transportation	n/a	Low	High	n/a	n/a	High	Med.	Low	n/a
6. Structure evaluation	Low	Low	n/a	High	Low	Low	n/a	n/a	Low

High - Exposure likely more than 50% of the time
Med - Exposure likely 10-50% of the time
Low - Exposure likely less than 10% of the time
n/a - Exposure not anticipated

TASK	MINIMUM PROTECTIVE CLOTHING/EQUIPMENT REQUIREMENTS
1	Sturdy boots and clothing, work gloves as necessary, nitrile gloves when handling potentially contaminated materials, shotgun for bear protection
2	Sturdy boots (chemical resistant as necessary), safety glasses, nitrile gloves
3	Rubber boots/waders, safety glasses, nitrile gloves
4	Rubber boots/waders, life line as necessary, personal flotation device as necessary
5.	Hearing protection, life jacket, good pilot/passenger communication
6.	Sturdy boots and clothing, work gloves as necessary

ENGINEERING CONTROLS TO BE USED (AS APPLICABLE)

- Natural wind forces to reduce exposure to airborne contaminants, if encountered.
- Dust control measures should dusty conditions be encountered (unlikely due to expected weather conditions).

INSTRUMENTATION TO BE USED

- Exposure to airborne chemicals is not anticipated. No direct reading instruments required for work to be performed.

PERSONAL EXPOSURE SAMPLING

- No personal exposure sampling will be performed.

HAZ-COM MATERIALS INVENTORY

- Hydrochloric acid (sample preservative)

HEALTH AND SAFETY EQUIPMENT LIST

REQUIRED	OPTIONAL/AS NECESSARY	
Y		Radios (both F.S. supplied, and small ones for on-site communication)
Y		Safety Glasses
	Y	Cotton coveralls
	Y	Tyvek coveralls
Y		Sturdy Boots
Y		Chemical resistant rubber boots
Y		Work gloves
Y		Nitrile gloves
Y		Waders
Y		Personal floatation device
Y		Lifeline
Y		First Aid kit
Y		Drinking water
Y		Type ABC fire extinguishers
	Y	Compressed gas horn

2.0 SITE DESCRIPTION AND SCOPE OF WORK

2.1 SITE DESCRIPTIONS

This section provides a description of the Apex & El Nido Mine to be visited as part of this PA/SI.

2.1.1 Apex & El Nido Mine Site

The Apex - El Nido Mine (site) are located on Lisianski Inlet, on Chichagof Island, south-southwest of Pelican, Alaska. The site is located within Sections 13, 23, and 24 of Township 45 South, Range 56 East, of the Copper River Meridian, Alaska. The nearest year-around population is located at Pelican. Juneau is located approximately 43 air miles southeast of the mine. Access to the site is possible by boat from Pelican and then by foot up the old corduroy road to the mill site at approximately 500 feet elevation. Both the mill site and upper mine sites are accessible by helicopter.

2.2 POTENTIAL CHEMICAL CONCERNS

Potential chemical concerns which may be encountered at the sites, are summarized as follows:
Soil:

- Potentially elevated metal concentrations.
- Possible hydrocarbons locally.

Sediment:

- Potentially elevated metal concentrations.
- Possible hydrocarbons locally.

Waste rock:

- Potentially elevated metal concentrations.

Surface Water:

- Potentially elevated metal concentrations in seep and creek water.

The exposure route for metals in this case is by ingesting or inhaling contaminated dusts and ingesting or dermally contacting contaminated water.

2.3 PURPOSE AND SCOPE OF WORK

The scope of work to be performed at the mine sites is intended to characterize the current environmental conditions on the mine sites. The scope of work for the field activities includes the following tasks:

- Surface and shallow subsurface soil sampling;
- Mine waste rock sampling;
- Surface water sampling;
- Documentation of physical site characteristics and hazards; and,
- Survey of ecological resources.

3.0 SAFE WORK PRACTICES

3.1 GENERAL

1. Safety briefings will be held at the mine site prior to starting the day's activities. The briefings will include a review of the potential hazards associated with the work to be done that day, and a review of associated safe work practices. All attendees will sign a Site Safety Briefing form (Attachment D).

2. Avoid dermal contact with potentially contaminated soil and water. Use gloves.

3. In the unlikely event that dusty conditions are encountered, dust control measures will be used to reduce potential for breathing in contaminated dusts.

4. Eating, drinking, chewing gum or tobacco, and smoking are prohibited in potentially contaminated areas or where the possibility for the transfer of contamination exists.

5. Personnel will wash their hands and face thoroughly with soap and water prior to eating, drinking or smoking.

6. Potable water will be made available at the site.

7. Avoid contact with potentially contaminated substances. Do not walk through puddles, pools, mud, etc. Avoid, whenever possible, kneeling, leaning or sitting on contaminated surfaces.

8. All field crew members should make use of their senses to alert them to potentially dangerous situations in which they should not become involved (i.e., hazardous conditions and potentially dangerous wildlife).

9. Field crew members should maintain frequent visual contact with one another. Any activities in or around water, pits, or other hazardous areas require a minimum of two personnel.

3.2 SAFE SAMPLE HANDLING PRACTICES

3.2.1 Sample Collection

For all sampling activities, the following standard safety procedures shall be employed:

1. All sampling equipment should be cleaned before proceeding to the site.

2. At the sampling site, sampling equipment should be cleaned after each use.

3. Work in "cleaner" areas should be conducted first where practical.

3.2.2 Sample Shipment/Hazardous Material Shipment

If the samples to be collected during the course of this project fall under the criteria that defines them as hazardous materials under DOT regulations 49 CFR Parts 171-177 (see URS guidelines for determination), then they must be shipped in accordance with those regulations by an individual who is certified as having been Function-Specific trained as required under the DOT regulations.

3.3 BOAT SAFETY

Use of a small boat may be necessary to access specific areas to be evaluated. The inherent hazards of boat use can be mitigated to some degree by adhering to the following safety procedures:

1. Know the location of, and how to use all safety equipment aboard the boat before an emergency arises.

2. All persons must wear Coast Guard approved personal flotation devices (life jackets) while working from a small boat.

3. Never work from a small boat alone, and if possible, use an onshore spotter to monitor activities in the boat.

4. When boarding, avoid carrying anything; step quickly near the centerline of the boat; have someone hand you gear.

5. If working from a small boat, work from a seated position to avoid capsizing the boat if possible. If standing is necessary, one person should stabilize the boat while the other stands. All workers are required to wear Coast Guard approved PFDs.

6. Locate load near center of boat: fore and aft, port and starboard.

3.4 AIRCRAFT TRAVEL

A Forest Service chartered helicopter will be used to transport equipment and personnel to the site. As per Forest Service regulations, the Forest Service will provide a helicopter manager to oversee flight operations for the project. Generally, the manager is in charge of arranging for the flights, handles communications and assists in navigation, approves the landing sites, and helps all passengers into and out of the ship.

Specific duties and responsibilities of the Helicopter Manager include the following:

- Coordinates with Forest Service scheduling office, helicopter pilot, and users on flight planning;
- Reviewing load calculations and participating in equipment loading onto craft;

- Ensures required personal protective equipment is available and utilized correctly;
- Performs preflight briefing and ensures a preflight passenger briefing by the pilot is accomplished prior to the flight;
- Performs a preflight radio check, and ensures that Forest Service dispatch is following the flight through periodic radio checks;
- Ensures that, except in an emergency, there is no deviation from established flight plan or type of intended use unless such deviation is relayed and/or approved through identified procedures and that any requirements of such a deviation are met;
- Assists the pilot in aerial hazard identification; ensures a high-level reconnaissance is made prior to low-level flight; and
- Leads and participates in safety sessions and critiques.

The helicopter pilot is in complete charge of the aircraft and passengers at all times during flight operations and shall conduct an emergency briefing prior to every flight. When traveling by helicopter, field personnel will follow these safety procedures and requirements at all times:

- Do not smoke in the helicopter or on the designated landing areas.
- Keep clear of the designated landing area or helipad until the aircraft has landed. Do not use the landing area as a staging area for personnel or equipment.
- Do not board or leave the aircraft until the pilot has signaled that it is safe to do so.
- Do not walk under the tail rotor or tail boom of a helicopter. If it is necessary to walk around a helicopter, do so within sight of the pilot and around the front of the aircraft only.
- When driving out to meet the aircraft, always park where the pilot can see the vehicle and signal the pilot when all of the gear has been unloaded and personnel are clear of the landing area.
- Firmly grip all lightweight equipment and loose articles of clothing (including hats) when walking to and from the aircraft.
- Remain in your seat with seatbelt fastened at all times during the flight unless otherwise directed or approved by the pilot.
- Do not distract the pilot with unnecessary conversation or actions.
- Do not throw anything out of the aircraft during flight.
- Do not remain on board the aircraft during refueling operations.
- Wear hearing protection when loading, boarding, and riding in the aircraft. Wear eye protection when loading or boarding the aircraft.
- Inform the pilot of the type and location of firearms and ensure that firearms are unloaded prior to loading onto aircraft.

The aircraft will have on-board emergency survival gear and emergency communication equipment as required by FAA policy. In the event the aircraft must drop off field teams and depart the site, additional survival equipment (including sleeping bags, tents, food, water, and emergency communication equipment) will be left on-site with the team. Communication equipment (e.g., Forest Service radios) will be tested before the aircraft leaves the site. Field team members have the right to and are expected to refuse flight if conditions seem unsafe.

3.5 BEAR SAFETY

Bears may be present at the site to be visited, and field personnel should be aware of the potential risks posed by these animals. While bear encounters are relatively unusual, and most such encounters end peacefully with the bear retreating from the area, they do occur. Field personnel should be alert to signs of bear activity, and the potential presence of bears in the area during performance of fieldwork. The following bear-related issues should be considered:

1. Bears are attracted by food odors, and are typically most active early and late in the day.

2. Bears often frequent stream areas, especially when salmon are present.

3. Bears will occasionally rise up on their hind legs to get a better look at a person. This usually is not indicative of a charge.

4. A lowered head, sideways glances, baring of teeth, and/or huffing and barking, on the other hand, are indications of an unhappy bear, and may precede aggressive actions.

5. If a bear is observed feeding on a carcass in the vicinity of a site, work will be postponed at that site until feeding has been completed.

If a bear encounter does occur, depending on the type of bear and the situation, your actions can reduce the likelihood of an unpleasant outcome. If the bear is a black bear, or a young brown bear, it may be effective to make noise and wave your arms to drive the bear off. An air horn can often be used effectively for this purpose. However, this could also increase the bear's anxiety level and increase the danger to yourself. Generally, it is best to back away from the bear slowly, if possible. Do not turn your back on the bear, and never run from a bear, as this may provoke instinctive aggression.

If the bear acts aggressively, and it appears that a charge may be imminent, mentally prepare yourself to take defensive action. Equipment may be used to shield yourself from the bear, or to defend yourself from the bear if the need arises. When and if a bear charges, make an attempt to stand still. While this may sound difficult, the charge may be a bluff, and in any case, running from a charging bear would be ineffective. If the charging bear makes contact with you, drop to the ground and roll into a ball with your arms wrapped around your head and neck. Use any equipment available to shield yourself, especially your head and neck, from the bear. If the bear is a black bear, it may be effective to fight back aggressively. If the bear is a brown bear, it is probably best to remain as still as possible until the bear leaves.

3.6 MONITORING

Due to the low potential for encountering volatile contaminants, real time monitoring will not be used.

Since the main contaminants of concern are metals, metal-bearing dusts should not be inhaled. Should dusty conditions be encountered, the SSO will determine if dust control measures are required. This is expected to be highly unlikely due to the general rainy conditions found in the southeast Alaska region.

4.0 EMERGENCY RESPONSE PLAN

4.1 GENERAL

It is URS' policy to evacuate personnel from areas involved in hazardous material emergencies and to summon outside assistance from agencies with personnel trained to respond to the specific emergency. This section outlines the procedures to be followed by URS personnel in the event of a site emergency. These procedures are to be reviewed during the onsite safety briefings conducted by the SSO.

In the event of a fire or medical emergency, the emergency numbers identified in Section 1.0 (page 1) can be called for assistance.

4.2 PLACES OF REFUGE

In the event of a site emergency requiring evacuation, all personnel will evacuate to a pre-designated area located a safe distance from any health or safety hazard and safely away from the area of influence. The SSO will designate a primary assembly area. The location of this area will be determined during the on-site safety briefing prior to the initiation of site activities. The SSO will evaluate the assembly area to determine if the area is outside the influence of the situation; if not, the SSO will redirect the group to a new assembly area.

4.3 FIRE

To protect against fires, Type ABC fire extinguishers will be available in the helicopter or boat to contain and extinguish small fires. The appropriate fire department shall be summoned in the event of any fire on site

4.4 COMMUNICATION

Emergency phone numbers (see Page 1) shall be posted at the phone or radio used for outside communication. Forest Service supplied radios will be used to contact Forest Service dispatch for all emergencies while at the mine site. The SSO is responsible for establishing the communication network prior to the start of work, and for explaining it to all site personnel.

Communication on site will be through radio, voice, and visual means. The following hand signals will be used by personnel in the event of an emergency where voice communications are not feasible:

Signal	Definition
Arms waving upright	Need help
Arms outstretched/Palms straight ahead	Caution/Potential Hazard
Directional pointing	Potential hazard
Thumbs up	OK/I'm alright/I understand
Thumbs down	No/negative

4.5 EMERGENCY RESPONSE PROCEDURES

Emergency Response Team

The emergency response team will consist of employees who assume the following roles:

- **Emergency Care Provider/s**
  Provide first aid/CPR as needed. All URS field crew will have current firs aid/ CPR training.
- **Communicator**
  The role of the communicator is to maintain radio contact with appropriate emergency services, providing as much information as possible, such as the number injured, the type and extent of injuries, and the exact location of the accident scene. The communicator will be located on the support boat, and will likely be the boat Captain.
- **Site Supervisor**
  The site supervisor (usually the SSO) should survey and assess existing and potential hazards, and evacuate personnel as needed. Follow up responsibilities include documenting the incident, and notifying appropriate personnel/agencies described under incident reporting. It also includes reviewing and revising site safety and contingency plans as necessary.

In the event of an emergency, notify site personnel of the situation. Survey the scene to determine if the situation is safe, to determine what happened, and to search for other victims. The Emergency Response Checklist can be used to help remember the things to do in an emergency.

EMERGENCY RESPONSE CHECKLIST

In an Emergency	Yes	No
Confirm the reported incident	_____	_____
Evacuate and secure the area	_____	_____
Render first aid/emergency medical care	_____	_____
Notify promptly:		
Project Manager	_____	_____
Fire Department	_____	_____
Police Department	_____	_____
Nearest Hospital or Medical Care Facility	_____	_____
Start Documentation	_____	_____
Upon evacuating, take attendance at the assembly area	_____	_____
Authority given:		
Leave the site	_____	_____
Restart the operations	_____	_____
Debrief and document the incident	_____	_____
A copy of the document submitted to the DHSM	_____	_____

4.6 MEDICAL EMERGENCY RESPONSE PLAN

URS employees on site will hold a current certificate in American Red Cross Standard First Aid. This training provides four hours of Adult CPR and four hours of Basic First Aid. If a medical emergency exists consult the emergency phone number list (see Page 1) and request an airlift immediately. Perform First Aid/CPR as necessary, stabilize the injured, and extricate only if the environment they are in is dangerous or unsafe and only if the rescuers are appropriately protected for potential hazards they may encounter during the rescue. When emergency services personnel arrive, communicate all first aid activities that have occurred. Transfer responsibility for care of the injured/ill to the emergency services personnel.

The following items and emergency response equipment will be located within easy access at all times:

- First Aid Kit;
- American Red Cross Standard First Aid Manual; and,
- Emergency Phone Numbers List.
- Radio

4.7 INCIDENT REPORT

All site injuries and illnesses must be reported to the SSO and PM immediately following first-aid treatment. The SSO will also notify the Duty Safety Officer (1-800-364-3765). Work is to be stopped until the PM or SSO and DSO have determined the cause of the incident and have taken the appropriate action to prevent a reoccurrence. Any injury or illness, regardless of severity, is to be reported to the DHSM on the accident report form (see Attachment C).

5.0 TRAINING AND MEDICAL SURVEILLANCE

All URS site personnel will have met the requirements of 29 CFR 1910.120(e), including:

- Forty hours or initial off-site training or its recognized equivalent;
- Eight hours of annual refresher training for all personnel (as required);
- Eight hours of supervisor training for personnel serving as Site Safety Officers;
- Three days of work activity under the supervision of a trained and experienced supervisor.

All URS site personnel are participating in medical surveillance programs that meet the requirements of 29 CFR 1910.120(f). Current copies of training certificates and statements of medical program participation for all URS personnel are maintained at the records management center in Denver.

In addition, all URS site personnel will review this HSP and sign a copy of the safety plan compliance agreement, which is found in Attachment A. The PM will maintain these agreements at the site, and forward them to the DHSM at the conclusion of the operation, or every two weeks, whichever is sooner.

Prior to the start of operations at the site, the SSO will conduct a site safety briefing, which will include all personnel involved in site operations. At this meeting, the SSO will discuss:

- Contents of this HSP;
- Types of hazards at the site and means for minimizing exposure to them;
- Personal protective equipment that will be used;
- Site control measures, including safe work practices and communication;
- Location and use of emergency equipment; and
- Emergency procedures, including location of place of refuge, evacuation signals and procedures.

6.0 RECORDKEEPING

The PM and SSO are responsible for site recordkeeping. Prior to the start of work, they will review this plan; if there are no changes to be made, they will sign the approval form (PM) or acceptance form (SSO) and forward a copy to the DHSM.

All URS personnel will review the HSP and sign the plan acceptance form in Attachment A; copies of these forms will be forwarded to the DHSM.

The SSO will conduct a Site Safety Briefing in accordance with Section 5.0 prior to each day's field activities and have all attendees sign the form in Attachment D; copies will be forwarded to the DHSM.

Any accident or exposure incident will be investigated and the form in Attachment C will be completed and forwarded to the Alaska Office Administrative Manager and the DHSM.

ATTACHMENT A

SAFETY PLAN COMPLIANCE AGREEMENT

ATTACHMENT A

MEDICAL EMERGENCY CONTACT SHEET AND

SAFETY PLAN COMPLIANCE AGREEMENT

FOR

PA/SI AT THE APEX - EL NIDO MINE

TONGASS NATIONAL FOREST, ALASKA

I, _____, have received for review a copy of the Health and Safety Plan for the Project. I have reviewed the plan, understand it, and agree to comply with all of its provisions. I understand that I could be prohibited from working on the project for violating any of the health and safety requirements specified in the plan.

SIGNED: _____ _____

(Signature) (Date)

Firm: URS

This brief Medical Emergency Contact Sheet will be kept in the support vehicle during site operations. This data sheet will accompany injured personnel if medical assistance or transport to hospital facilities is necessary.

Emergency Contact _____ Phone _____

Relationship _____

Do you wear contact lenses? _____

Known allergies _____

ATTACHMENT B

HOSPITAL ROUTE MAP

ATTACHMENT C

ACCIDENT REPORT FORM

ATTACHMENT D

DAILY SITE SAFETY BRIEFING FORM

ATTACHMENT E

MATERIAL SAFETY DATA SHEETS