	**Atacama Pathfinder EXperiment** High-Altitude Medical Examination	APEX-APX-PRO-0005 Revision: 1.0 Release: 2004-08-20 Category: 1 Author: L.-A. Nyman

APEX Medical Examination for Work at High Altitude

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1 Purpose

The purpose of this document is to describe the contents and procedure of the medical examination to be taken by the staff of APEX and APEX partners who are going to work at the high-altitude (5000-meter) site, and to provide the associated forms.

2 Scope

This document applies to all people working at the APEX high-altitude site. The APEX Safety Regulations (AD-01) require that all staff assigned to work at the high-altitude site take this medical examination.

Optionally, the forms may be given to and used by contractor personnel and visitors. However, successfully passing the medical examination is not a substitute for execution of a Waiver and Release Form (RD-01 and 02).

3 Documents

3.1 Applicable Documents

AD-01	APEX Safety Regulations	APEX-APX-PRO-0001

3.2 Reference Documents

RD-01	APEX Visitor Waiver Release Form	APEX-APX-PRO-0003
RD-02	APEX Contractor Waiver Release Form	APEX-APX-PRO-0004

4 Procedure

The medical examination shall take place not more than six months prior to taking up duty at the APEX site.

The applicant fills out the **Pre-Examination Questionnaire** and gives it to the examining physician. The examining physician completes the **General Clinical Examination** form.

Each APEX Partner will designate an APEX Medical Reviewer, who is knowledgeable in high altitude medicine, to whom are sent the results of the medical examinations of that Partner's employees. The APEX Medical Reviewer will review the results of the examination and, as appropriate, provide a certification of fitness to work at high altitude with a period of validity.

The medical examination should be repeated and fitness to work at high altitude recertified under the following conditions:

- after the period of validity of the current certification expires,
- prior to starting work again at high altitude, if an illness raises doubts as to the fitness of the person to work at high altitude,
- if the employee requests re-examination.

5 High-Altitude Medical Examination Forms

The **Pre-Examination Questionnaire** form and the **General Clinical Examination** form are attached.

App. A. PRE-EXAMINATION MEDICAL QUESTIONNAIRE

-- To be completed by applicant (with the assistance of the examining physician, if required). --

C O N F I D E N T I A L

Important: The applicant must answer truthfully and completely the questions set out below to the best of his or her knowledge and belief. If it should transpire that an applicant has replied untruthfully or incompletely, whether with intent, or through serious negligence, or that he has withheld information concerning a significant illness or disability, then such member may forfeit retroactively certain benefits (e.g. entitlement to full disability benefits).

Name_____ Given name_____ Sex M F

Date of birth_____ Marital status _____ Number of children____

Profession_____

Personal history

1. Do you suffer, or have you ever suffered, from:

Diseases of the blood (anaemia, leuco-granulopenia, leukaemia, tendency to haemorrhage: nose, teeth, stools) etc. _____

Diseases of the lymphatic glands (glands swollen and painful, permanently or intermittently) _____

Heart diseases (shortness of breath, cyanosis, known lesion, high blood pressure). _____

Lung diseases (infectious, acute or chronic (tuberculosis)) _____

Diseases of digestive system, liver and pancreas (of all kinds). _____

Diseases of the genito-urinary system (chronic infections, nephritis, stones) _____

Diseases of the nervous system (tremor, fatigue, depression, mental trouble, epilepsy) _____

Disorders of the metabolism and the endocrine glands (diabetes, gout, etc., diseases of the thyroid and adrenal gland). _____

Eye diseases (cataract, glaucoma, retinitis, ablation) _____

Chronic ear, nose and throat deseases _____

Allergies (asthma, hay fever and neurodermatitis) _____

Infectious diseases (rhematic fever, hepatitis, and other serious illnesses)_____

Osteo-articular diseases (spinal column). _____

For feminine personnel
Any gynecological diseases _____

Have you suffered from any other diseases not mentioned above? (if so, give details)_____

2. Do you take any medicine regularly? (if so, give details) _____

_____

3. Are you or have you ever been in the habit of taking drugs or alcoholic drinks ? (if so, state which and what amount per day). _____

4. Have you ever had a major accident? (if so, give details and state the consequences). _____

_____

5. Have you ever undergone an operation? (if so, give particulars) _____

_____

6. Date of your last vaccination against:

Diphtheria and Tetanus _____

Hepatitis A _____

Polio _____

Other (kind/ date)_____

_____

_____

7. Do you have experience staying in high altitude (>2500m)? _____

8. Have you ever had health problems related to staying in high altitude? _____

_____

Place and date

_____

Signature

_____

This questionnaire will be kept in your individual medical file of the medical consultant designated by the responsible APEX Partner and will be treated confidentially.

App. B. **GENERAL CLINICAL EXAMINATION**

(To be filled by the examining physician)

Name _____ Given name _____ Sex M F

Date of birth _____

1. Morphology

Weight	_____	
Height	_____	

2. Head

Pharynx	normal ☐	abnormal ☐
Tonsils	normal ☐	abnormal ☐
Thyroid gland (goiter)	normal ☐	abnormal ☐

3. Respiratory system

Thorax: aspect	normal ☐	abnormal ☐
Auscultation	normal ☐	abnormal ☐
Percussion	normal ☐	abnormal ☐

4. Cardio-vascular system

Pulses (rhythm, strength)	normal ☐	abnormal ☐
Blood pressure	_____/_____	
Varicose veins	normal ☐	abnormal ☐
Arteries	normal ☐	abnormal ☐

5. Digestive system

Abdomen	normal ☐	abnormal ☐
Liver	normal ☐	abnormal ☐
Spleen	normal ☐	abnormal ☐
Hernia	normal ☐	abnormal ☐

6. Nervous system

Pupillary reflexes under light	normal ☐	abnormal ☐
at accomodation	normal ☐	abnormal ☐
Patellar reflexes	normal ☐	abnormal ☐

Motility	normal ☐	abnormal ☐
Sensibility	normal ☐	abnormal ☐
Achilles reflexes	normal ☐	abnormal ☐
Muscular tonus	normal ☐	abnormal ☐
Romberg	normal ☐	abnormal ☐
Plantar reflexes	normal ☐	abnormal ☐
Locomotor system	normal ☐	abnormal ☐
Tremor	normal ☐	abnormal ☐

7. Lymphatic system

Lymphatic glands	normal ☐	abnormal ☐

8. Genito-urinary system

Kidney beds	normal ☐	abnormal ☐
Diuresis	normal ☐	abnormal ☐
Menstruation (meno- metrorrhagie)		
Pregnancy	_____	

9. Skeleton

Skull	normal ☐	abnormal ☐
Upper limbs	normal ☐	abnormal ☐
Mutilation	normal ☐	abnormal ☐
Spinal column	normal ☐	abnormal ☐
Lower limbs	normal ☐	abnormal ☐
Other deformities	_____	

10.Dermatological examination

State of skin	normal ☐	abnormal ☐
Dermatosis	_____	
Onychosis	_____	

11.Ophthalmological examination

Pupils (equal)	normal ☐	abnormal ☐
Conjunctivitis	_____	

Vision: right eye_____ left eye _____

Daltonism _____

Strabismus _____

12. Hearing (on the basis of whispering test)

Right ear: normal ___ satisfactory ____ insufficient ____

Left ear: normal ___ satisfactory ____ insufficient _____

13. Remarks

_____

_____

_____

Please attach the reports on the following tests:

- Urinanalysis
- CBC and differential
- Platelets
- ESR (Westergreen)
- Glucose, serum
- Cholesterol, serum
- HDL Cholesterol
- Gamma-GT
- Alanine aminotransferase (ALT, GPT)
- Asparate aminotransferase (AST, GOT)
- EKG (electrocardiogram)

If duty at the APEX high altitude site is required, attach the reports on the following additional tests :

- Creatinine, serum
- Treadmill stress test
- Pulmonary function test - FVC/MVV
- Sickle cell screen – optional, if indicated in the judgment of the examining physician
- PA Chest X-ray – optional, if indicated in the judgment of the examining physician

Recommended vaccinations are: Tetanus, Diphtheria, Polio, Hepatitis-A
Hepatitis-B (optional, for long stay)

Name of the examining physician:_____

Signature: _____

Date: _____

App. C. Certification of fitness to work at 5000-meter altitude

RESULTS OF HIGH ALTITUDE PHYSICAL EXAMINATION

_____ was examined on _____

Employee Name **Date**

and has been determined to be medically qualified for high altitude activity: **YES ☐ NO☐.**

Period of validity of this certificate:

_____ _____

Signature of Examining Physician **Date**