



Peña Blanca, Mulas Muertas and Barrancas Blancas:
A Mountain Travel Report
Atacama Region, Chile
December 2018

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Cover image: Cerro de Incahuasi from summit ridge of Cerro Mulas Muertas

Summary

This report contains details of an independent mountaineering expedition in the Atacama Region of Chile in December 2018, undertaken with the intention of climbing peaks in the vicinity of the San Francisco Pass and the Laguna Verde. The following mountains were ascended: Cerros Peña Blanca (6030m), Cerro Mulas Muertas (5878m) and Cerros de Barrancas Blancas (6119m), potentially including first ascents by specific nationalities and genders. A subsequent attempt on Cerro del Incahuasi (6621m) was turned back by poor weather.

This was solely a mountaineering excursion as opposed to a scientific expedition. However, due to the location's relative remoteness, and the relative scarcity of detailed English-language information on mountain travel in the area, we felt that a concise report on the practicalities of our trip might be of use to others. Perhaps needless to say, this report is simply a record of one possible approach, for a specific group of individuals, rather than being intended as a generally-applicable template.

We would welcome any questions or correspondence relating to travel in this distinctive part of the world.

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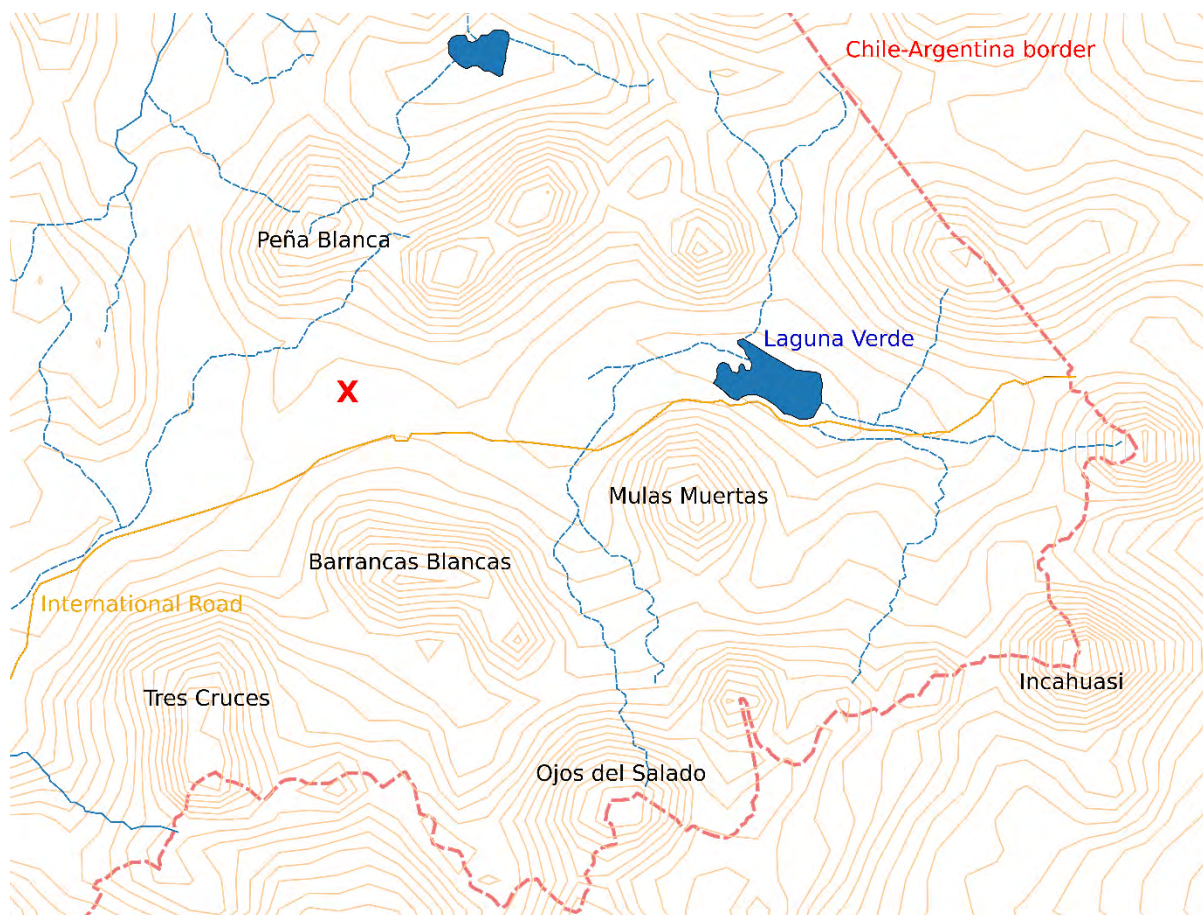
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January 2019

Area Map



X marks campsite

Map produced by Victoria Morris using open cartographic data sources

Log

Notes:

- 1) The pace of acclimatisation logged should not necessarily be used as a guide, it being (at times) more rapid than the rate of acclimatisation recommended by organisations such as Medex and the British Mountaineering Council (BMC). The speed of acclimatisation reflects the relative comfort and experience of our particular party at high altitude.
- 2) Comments on the condition of vehicle tracks, etc., can only be taken as correct at the time of our visit.
- 3) Unless otherwise noted (e.g. 29th December) weather conditions were amenable. Temperatures at 4500m reached approximately 10°C during the daytime, and were in the range 0-5°C overnight. Skies were predominantly clear, with some evening cloud build-up from the east. Wind was always present, and often strong enough to impede walking, but never a significant issue. Crampons and ice-axes were taken on the trip but not used.
- 4) Heights and mountain names are taken from the Alpenvereinskarte (see 'Appendix B'). Variant names and alternative height measurements are also in use, for example on the Andes Handbook website and IGM maps.

15th December 2018

Arrived in Santiago, collected our vehicles (see 'Logistics'), bought camping gas at a Santiago outdoor store. Spent night in a hostel a little north of Santiago.

16th December 2018

Drove north to Copiapo, stopping at a supermarket and large hardware store in La Serena to acquire food and desert driving supplies (see 'Appendix A').

17th December 2018

Drove east from Copiapo, taking the 31 road towards the Argentinian border at Paso San Francisco. Opted to take the minor road (marked as C-341 and then C-601 on some maps) by way of La Puerta and the Paypote Valley to visit the Laguna Santa Rosa before rejoining the 31 on the east side of the Maricunga salt flat. This diversion provided additional interest while acclimatising, and also partially followed the route taken by Charles Darwin on an inland excursion during his travels with the *Beagle*.

All sections of the 31 used to the Laguna Verde were of good tarmac/asphalt type surface, and nearer the border we subsequently found evidence of the road being upgraded to this standard. The minor road used was primarily dirt, but was of high quality and could be driven on at reasonable speeds (40-60 km/h for the most part), with obvious exceptions such as the steep switchbacks of the pass to Laguna Santa Rosa.

The timing of the journey is more representatively taken from our return drive (31st December entry), as we frequently stopped for acclimatisation exercise, and also visited the (deserted) carabineros post

at the Laguna Verde to deliver a copy of our government authorisation for mountaineering in the area (see 'Administration and Logistics').

We made camp late in the evening at 26°53'57.1" S, 68°37'18.2" W, just off the old international road and approximately 1km from the new road, as the plain begins rising towards Cerros Peña Blanca. At 4500m, this was 1500m higher than we had planned to sleep on this night, our initial plan changing based on assessment of the group's progress and wellbeing at intermediate halts during the day.

18th December 2018

Day primarily spent close to the campsite, acclimatising further. Left authorisation paperwork on doorstep of carabineros post.

19th December 2018

Walked 2-3 km from camp, acclimatising further and visiting local penitente fields.

20th December 2018

Walked up to 4800m on Cerros Peña Blanca from our campsite, descending when one member of the party reached their current limit.

21st December 2018

2 members of the party climbed Cerros Peña Blanca from our campsite by the south ridge, with the other 2 accompanying them to 5500m. An 11 hr round trip, but a slow pace was dictated by ongoing acclimatisation. An irregularly-used summit logbook dated back to around 2005, with ours apparently the first British ascent recorded in it.

22nd December 2018

Rested. Drove to the Arroyo Agua Dulce (26°54'10" S, 68°26'33" W) to confirm the availability of drinking water. Scouted much of the approach drive to Cerros de Barrancas Blancas (passable without use of 4WD) and also routes to Cerro Ermitano (4WD required for rougher later sections) and Cerro Laguna Verde (4WD recommended due to sand).

23rd December 2018

Ascended Cerro Mulas Muertas by the north ridge, having climbed directly onto the north-west shoulder of the mountain from the point where the old road leaves the international highway (approximately midway between the 250 and 255 km markings on the Alpenvereinskarte). 10 hr round trip from the international highway, but again moving reasonably slowly.

24th December 2018

Visited the Laguna Verde. Played 'Carols from King's' over lunch beside the water.

25th December 2018

Rested.

26th December 2018

Drove to the foot of Cerros de Barrancas Blancas, initially using an unmarked track from the international highway (around the 243 km mark on the Alpenvereinskarte, opposite a junction with the old, unpaved road) to a disused worksite, and then a much more minor (barely used) track to around 4850m, passable without use of 4WD.

Ascended the mountain via the NE spur which protrudes from the main ridge to the west of the summit, rather than by the spur which descends from the summit itself. This decision was only finalised at the foot of the mountain, after closer examination of the local options. While our route involved some descent after undulations and subsidiary tops on the ridge, and crossing a small permanent snowfield, it also avoided penitente fields at the foot of the mountain as well as steep scree on the spur which descends directly from the summit.

3 members of the party descended by the spur emerging from the summit, with 1 reprising the route of ascent to retrieve cached gear. Approximate time: 9.5 hours.

27th December 2018

Rested.

28th December 2018

Rested. Scouted initial approach to Incahuasi, replenished water supplies from the Arroyo Agua Dulce.

29th December 2018

Drove in towards Incahuasi from the international highway. Significant roadworks obscured the exact turn-off point, but as the way to the mountain leads through a large quarry/work area and then up a narrow V-shaped valley (visible from the main road), the further route is evident.

4WD (and occasional pushing and shovelling) was required for the latter sections of the valley due to awkward sand and gravel sections, with the 4x4 even more of a necessity later, when the track crossed a rough boulder field. Advancing 10 km towards the Incahuasi-El Fraile col was a 2 hour task, with the current track significantly further up the east side of the valley in later sections than is marked on the Alpenvereinskarte.

1 member of the party remained with the jeep at 5000m overnight, while the other 3 ascended to a minor gully at 5740m on the NW shoulder of Incahuasi (4.5 hours), digging a small sleeping platform there in preparation for a morning ascent to the summit by the mountain's northern ridge.

Throughout our trip we had observed significant electrical phenomena in the atmosphere each night (apparently not air to ground lightning) and evening cloud build-up in the Incahuasi area, but were still surprised to have our bivouac interrupted by extensive blizzards, given the otherwise ideal weather conditions we had experienced.

30th December 2018

Woke to find some 6 inches of powder snow in our gully, and a small but significant covering on the rest of the mountain, despite the scouring effect of the wind. Opted to descend as sleeping bags too wet for a second night out, and suspected that the snow would significantly delay any further ascent. Shovel-work required on drive out from mountain (due to sand and gravel, not snow).

31st December 2018

Packed up our campsite and worked to minimise or remove evidence of its presence. Returned to Copiapo by the same road used for the outward journey – approximately 4 hours of moderately fast driving.

1st – 4th January 2019

Days left free in trip schedule for additional acclimatisation, further objectives, etc., if required.

5th January

Departure from Chile.

Note of Ascents

- 1) Cerros Peña Blanca (6030m): Laurence Morris, David Proctor
- 2) Cerro Mulas Muertas (5878m): Laurence Morris, Victoria Morris, David Proctor, Mirva Salminen
- 3) Cerros de Barrancas Blancas (6119m): Laurence Morris, Victoria Morris, David Proctor, Mirva Salminen

Historic mountaineering activity in the area having been relatively limited (beyond the more famous peaks), we wondered whether any of the above were first British, Finnish or female ascents, noting:

- The relatively small number of foreign expeditions to the area recorded by the Chilean government.

- The apparent lack of British or Finnish names in the decade and a half covered by the summit logbook on Cerros Peña Blanca.
- The apparent lack of British and Finnish names in the records on the Andes Handbook website.
- That the Alpenvereinskarte map was apparently a predominantly central European undertaking.
- The coverage of John Biggar's excellent guidebook 'The Andes' (see Appendix B), and the number of expeditions recorded on his website and elsewhere. However, we also note the guidebook's disclaimer that some peaks have been included on the basis of a visual inspection rather than an ascent, and that Biggar was to lead an expedition incorporating Cerros Peña Blanca and Cerros de Barrancas Blancas in early 2019.

In speculating on this topic, we would welcome clarification from any British or Finnish walkers whose ascents preceded our own, and would be pleased to amend this section of our report if more information becomes available.

Administration and Logistics

Information sources: See Appendix B.

Maps: The 1:100,000 Alpenvereinskarte map of Ojos del Salado and the surrounding area is significantly better than other readily obtainable maps and a recommended purchase (ISBN 3928777947). The Chilean government's IGM maps presently require a Chilean social security number to order online, and are not commonly available from Chilean book or outdoor stores. Standard Chilean regional and road maps are of inadequate detail for field navigation. A variety of open cartographic data sources can supplement GPS systems and associated software. These include the Biblioteca del Congreso Nacional de Chile (BCN) (see https://www.bcn.cl/siit/mapas_vectoriales) and the Infraestructura de Datos Geoespaciales de Chile (IDE) (see <http://www.ide.cl/descarga/capas>).

Permissions and permits: A number of websites offer contradictory information on this point, the system having apparently evolved over the years, with a one-time fee for mountaineering activity in the area no longer enforced (a separate fee still applies for Ojos del Salado). We found:

- Authorisation is required for foreign mountaineers to access border areas, obtainable in advance online from the DIFROL agency of the Chilean government
- As their online submission form was not working, we simply emailed DIFROL the required information: the names, email and postal addresses, nationalities and passport numbers of expedition members, the dates of our expedition, our specific objectives and the contact details of the next of kin of the expedition leader
- We then received a letter of authorisation within 48hrs, copied to the Carabineros Dept, including terms and conditions for accessing the area of our expedition
- We subsequently received a further document of local instructions from the Atacama Office of the Ministry of the Interior, including instructions to present our documentation at the nearest carabineros post on entering our area of operations

It is consequently worth noting that the carabineros post at the Laguna Verde is not always manned, that the main Chilean customs post for the area is some distance away (not on the border), and that if it is not practically possible to present the authorisation, the open nature of the terrain means that 'discreet' camping would be challenging. We were unable to determine how strictly the official instructions are enforced in the field.

Financial costs: Approximately £1000 per person Europe-Santiago air fare. Vehicle hire was approximately 1,200,000 Chilean pesos for our 4x4 for 3 weeks, and around half that for the 4x2, having used an airport hire agency for convenience. Cheaper local options are presumably available. Food costs comparable to Western European prices.

Insurance: Arranged through the BMC by British members of the expedition. The Finnish expedition member had worldwide travel insurance from the Finnish sister company of a Norwegian insurer (renewable on an annual basis up to the age of 40).

Transport: We used a 4x4 and a 4x2 pick-up truck, and for future trips to the area would regard 4x4 as essential, with 4WD being required on numerous occasions. The 4x2 was solely used on roads (including dirt roads), and as a cheaper hire, enabled us to minimise costs, but it could not have coped with the off-road terrain encountered. We found the petrol vehicle performed better in cold

temperatures than the diesel vehicle, suspecting this was due to the use of summer oil in the diesel engine. Also see 'Appendix A' for additional supplies we brought with us for emergencies.

Fuel: We bought camping gas from a chain outdoor store before leaving Santiago, also noticing it on sale in a Copiapo garage, although its general availability is apparently limited. The available gas was a 75%-25% butane-propane mix, differing slightly from the 70%-30% mix usually on sale in the UK. We also found that stove screw threads were damaged by the grinding effect of sand over the course of our trip, so a set of stove spares is recommended.

Food: No commercial sources beyond the Copiapo area.

Water: Drinking water can be obtained from the Arroyo Agua Dulce ('fresh/sweet water stream') at the east end of the Laguna Verde, close to the road, and marked on the Alpenvereinskarte – 26°54'10" S, 68°26'33" W. Snow or ice penitentes can also be harvested and left to melt in the sun. However, due to the amount of dust which can be blown around, cutting out the centre from penitentes for this (discarding their potentially contaminated outer layers), and then filtering the resulting meltwater is advisable. It should also be noted that in addition to the issue of most water sources being saline, the arsenic levels of water in the area have been reported to be significantly higher than recommended safe levels for drinking, and even somewhat higher than recommended safe levels for bathing.

Communications: Non-existent with the wider world, due to the remote location. One of our vehicles could have been used to contact the nearest carabineros post or return to an area with a mobile phone or internet connection (probably Copiapo) if required. The lack of weather forecasts was mitigated by the lack of local data for available forecasts, although this situation is apparently set to improve in the coming year or so. Two-way radios aided communication between vehicles, proving of just as much use in Santiago as in the wilderness.

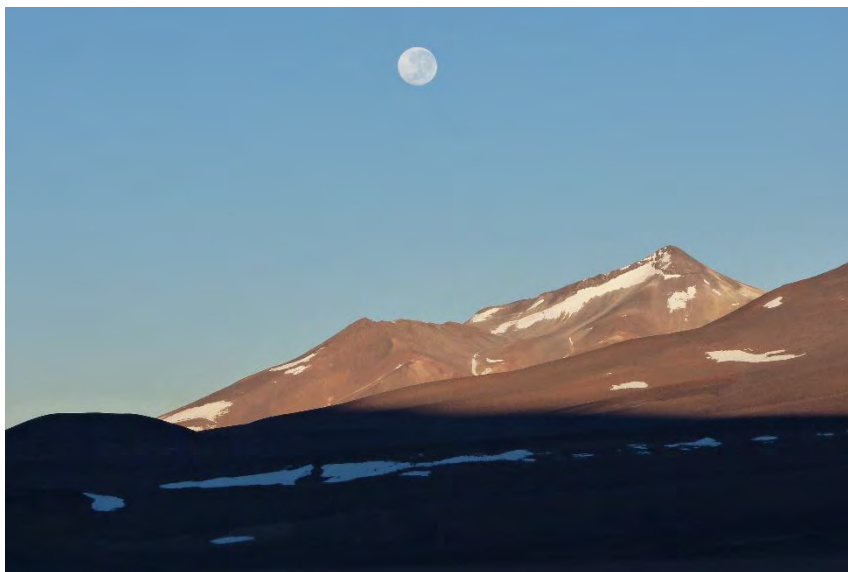
Risks: Those generally associated with independent travel in remote and high areas: altitude-related sickness, injury, general illness, transportation issues, food or water contamination (note presence of arsenic in area), poor communications, etc. Particular risk of sunburn and dehydration.

Environmental impact: Rubbish was transported out and disposed of in public waste bins in Copiapo, having been pre-sorted into the recycling categories used in Chile (glass, plastic, cans, paper). Our campsite was on an already-disturbed area alongside the international road, and prior to our departure we did what we could to remove any visible sign of our presence, including flattening tyre tracks and tent imprints. We also filled in the latrine which had been dug a short distance from basecamp. The impact of air travel on climate change remains a practically and morally problematic aspect of international mountaineering.

Photography

Photographs from the expedition are available from <https://bit.ly/2QAxNhs> or by request from laurencemorris@gmail.com

Any images from the expedition may be freely used for orientation or planning purposes, but should not be republished or redistributed without prior permission from the members of the expedition.



Moon over Pico Wheelwright



Flamingos at the Arroyo Agua Dulce

Appendix A: Kit List

Group Kit

2 two-person mountain tents
 2 additional groundsheets for use on rough ground
 Several rock pegs per tent
 Extra bungee cord for tying tents to rocks (attached before trip)
 Old drybags to fill with gravel and tie onto if necessary
 Group shelter
 Strong binding tape

2 stoves (capable of using various fuel types)
 Stove spares
 Cooking pots

First aid kit

Road map
 Mountain maps
 Details of supermarket, hardware and outdoor stores
 GPS and batteries
 Compass
 Mountain route info and photographs
 Chilean government authorisation

Shovel
 Rope
 Wooden boards (for use driving on sand)
 Fuel jerrycans
 Engine coolant & spare oil
 Tyre pump & pressure gauge

Large water containers
 Water purification options (filter and chlorine tablets)
 Food!

Personal kit

Sleeping bag (liner – optional)
 Sleeping mat
 Bivvy bag

Mug, bowl, eating utensils
 Water bottle and means of insulating it

Standard walking boots
 Plastic mountain boots
 Gaiters
 Light shoes/sandals for driving and basecamp (optional)

Crampons (taken, not used)
Ice-axe (taken, not used)
Trekking poles (optional)

Warm baselayer
Socks (liner and thick)
'Standard' walking clothes, softshell or other form of wind protection recommended
Additional layers – fleece and down
Thin gloves
Thick overgloves or mittens
Balaclava/buff/some kind of face covering
Warm hat
Waterproofs
Sun hat
Glacier goggles/high protection sunglasses
Clothes for basecamp (optional)

Insurance documents
Passport
Local currency
Driving licence
Translation tools (phone app or dictionary/phrasebook)
Notebook and pencil
Watch (with alarm)

Camera (optional) and spare batteries
Reading material (optional)
Mobile phone (optional)
Solar-powered charger for any personal electrical devices (optional)

Pee bottle
Tissues
Toothbrush & toothpaste
Personal wash kit
Hairbrush & hair-ties (optional)
Lightweight towel, soap etc.
Suncream
Personal first aid kit: aspirin, throat sweets, lip balm/Vaseline (recommended), personal medication, sanitary towels, etc.
Earplugs

Daysack (approx. 30 litres)
Large rucksack (approx. 60 litres)

Appendix B: Selected Resources and Contact Details

We would re-iterate the point that, at the time of writing, English-language information on mountain travel in the region seems hard to come by. That said, we found the following sources to be of particular interest from the available material:

- John Biggar's guidebook 'The Andes – A Guide for Climbers' is an excellent resource, now in its 4th edition (ISBN 9780953608744), and a recommended purchase. As well as offering useful general advice on Andean travel, it also provides information on suggested routes, including approach drives, water sources, etc.
- Sara Wheeler's travelogue 'Chile: Travels in a Thin Country' (first published 1994) is a distinctive general look at Chile, although we found Copiapo quieter than in 1994, when Wheeler was informed it was "rich, violent and full of cocaine."
- www.andeshandbook.org covers a number of mountains in region, and though detail varies from peak to peak, we obtained a number of useful photographs and route descriptions from it.
- The www.summitpost.org reports for famous hills such as Ojos del Salado may provide information on current expectations regarding authorisation, permits etc.
- Google satellite imagery was of (limited) use in scouting for off-road vehicle tracks.
- As noted in the 'Logistics' section of this report, the 1:100,000 Alpenvereinskarte map of Ojos del Salado and the surrounding area is significantly better than other readily obtainable maps and a recommended purchase (ISBN 3928777947). Off-road tracks appear to have shifted since the map was made.
- BMC and UIAA guidance on acclimatisation and travel in remote areas.

Contact details

Any questions or correspondence about this report should be sent primarily to Laurence Morris via laurencemorris@gmail.com

In the event of this email address being out of use, other members of the expedition can be contacted at the following addresses: Victoria Morris – mappamorris@gmail.com; David Proctor – davidproc@gmail.com; Mirva Salminen – mmt.salminen@gmail.com

The Membership Office of the Royal Geographical Society could also be asked to convey a brief request to get in contact to Laurence Morris or David Proctor.



Expedition members on Cerros de Barrancas Blancas
L-R: Mirva Salminen, David Proctor, Laurence Morris, Victoria Morris

“No hay camino, se hace camino al andar” – Machado