

Daniel Craig as 007 makes the climb on foot, stomping over a Mars-like rock field in a well-cut suit while cradling a submachine gun. Like most real-life visitors, I ascend this bleak desert peak in a rented 4x4 instead; perched 2,400m (7,900ft) above sea level, the air is thin up here.

It's called Cerro Paranal, and it's the Chilean home to the most powerful optical observatory ever. Up on this dynamite-flattened peak, under some of the least cloudy skies on the planet, stand four 8.2m reflectors and their associated smaller telescopes. Collectively, they are known as the Very Large Telescope (VLT).

This year, Paranal became a movie location after the producers chose it for the villain's secret lair in the latest Bond film, *Quantum Of Solace*. But unlike the professional astronomers, the film-makers have no interest in the mountaintop VLT itself, which has been electronically wiped from all of the footage. Instead, the star of the show is the 'Residencia', a semi-subterranean residential facility 4km (2.5 miles) away.

The four-level structure is built into a natural depression, topped by a 35m (115ft) diameter Perspex dome, beneath which lies a swimming pool and tropical garden. VLT staff take refuge here from the desiccating 10 per cent humidity and high UV that prevails on this high point of the Atacama, the world's driest desert.

Astronomical instruments see better in the absence of water vapour but humans find such conditions a

SOLACE IN CHILE

Sean Blair heads for an Andes observatory that's doubling as the villain's lair in the latest Bond epic

lot harder to take. So, for a modest 12 million Euros (£9.5 million) – two per cent of the VLT budget – the European Southern Observatory (ESO) built their employees a home from home.

Hidden gem

Approaching from the road, the Residencia is all but undetectable except for its entrance and the topmost curve of its dome. But from the other direction, hotel-style balconies rise from the slope. Looking at this view it's clear why the film's producers chose to base their villain here. It fits the classic template for a Bond foe's 'des res': a beautiful yet

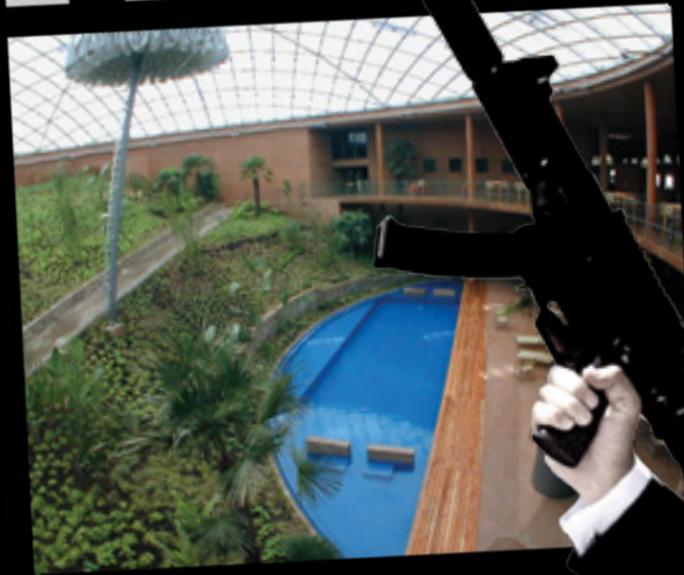
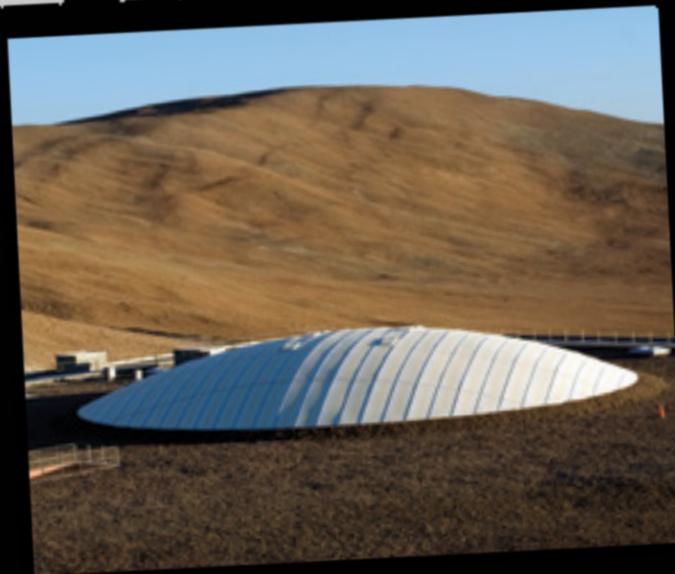
inaccessible setting, camouflaging a habitat that's pretty much invisible until you're right on top of it. For as well as megalomaniac ambition and plenty of jump-suited goons, classic Bond villains require a secret base for their nefarious antics, concealed in a pretty place that's also pretty difficult to reach.

Dr No's Caribbean island of Crab Key set the pattern (*Dr No*, 1962), while SMERSH boss Ernst Blofeld resided inside a Japanese volcano (*You Only Live Twice*, 1967). Julius Stromberg went one better by plotting World War Three from his undersea city (*The Spy Who Loved Me*, 1977). Then Hugo Drax topped all previous bad guys with his own space ▶

The Residencia, where staff from the Very Large Telescope live when they're working at the site, lies in a natural depression overlooked by the facility's four scopes

ESO/H. HEYER





► station (*Moonraker*, 1977). A previous astronomical connection cropped up in *GoldenEye* (1995), as rogue agent 006 employed the vast Arecibo radio telescope in Puerto Rico (Cuba in the movie) to control an electromagnetic pulse-projecting satellite.

Scarce resources

Maximum realism is the order of the day for this latest reincarnation of Bond, but the Residencia gives new nemesis, billionaire environmentalist Dominic Greene, a hide-out in the grand tradition. It's from here that Greene plots to control South America's water. In the film, the Residencia plays an eco-hotel located in Bolivia rather than Chile. This change of location is good for the plot: Bolivia is both inaccessible and unstable – plus, in 2001, its government collapsed over water resource protests.

The Bond team have been sourcing exotic backdrops for four decades – often the locations come first and the plots crystallise around them. For *Quantum Of Solace* they sought a desert location to mirror Bond's psychological isolation as he broods over the death of his lover in *Casino Royale*.

▲ **Left to right: the VLT stands watch on Cerro Paranal; the dome of the Residencia; hotel-style balconies along the side; the lush interior of the Residencia; and the rocky plains of the Chilean desert, a metaphor for Bond's state of mind in *Quantum Of Solace***

Researching the Atacama Desert led them to the Residencia. They're not above improving on reality, however, by adding some artificial rocks to dress the landscape and carefully excluding all views of the Pacific Ocean, which is a surprisingly close 12km (7 miles) away. After all, that's not what you'd expect of a landlocked nation. And *Quantum Of Solace* ended up featuring only the exterior of the Residencia. The interiors were painstakingly recreated at Pinewood Studios, near London, so they could be blown up in the film's finale.

The inside of the real thing resembles a top-flight university's hall of residence rather than a rich psychopath's bolthole. Around the pool are red-tinted concrete walls to mirror the red desert beyond. There are 100 compact but comfortable bedrooms, plus a cinema/conference room – perfect for briefing minions – along with a cafeteria dining area.

Emphasising the challenge of keeping any secret base truly secret, in reality all food, fuel and supplies have to be driven 100km (60 miles) from the nearest city. Keeping the VLT functioning represents an ongoing logistical achievement: it needs a tankerload of drinking water

daily (non-drinking water is recycled), and a weekly visit by an oil tanker to power the VLT's generators.

Filming took place only during the daytime, so astronomers could maintain their normal nightly schedule. As night falls the super-sensitive VLT telescopes glide silently into action – and everything possible is done to keep that darkness pristine. Driving is permitted with parking lights only and the Residencia's dome is automatically covered; all other windows are blacked out. Residencia exits are airlocked – handy for maintaining a comfortable interior humidity, but mainly a way to minimise stray light leaking out.

Day-to-day life

Normally only engineers and maintenance staff are active by day. Once every 18 months they take the massive primary mirrors down to a facility beside the Residencia at the base camp. There the mirrors receive a fresh coat of reflective aluminium, which gets tarnished over time by desert sand and occasional bird droppings.

As well as mirror cleaning, the base camp is also used for storage

and maintenance, and in the movie it became a Bolivian airport. Before the Residencia was finished in 2002, everyone lived here, so its completion has done much to improve the quality of life. However, VLT technicians and astronomers are still limited to a maximum 10-day stay on Cerro Paranal before returning to sea level – ESO's human resources are a little more caring than SMERSH's would be.

The problem is less to do with physical rigours and more about the mental isolation inherent in seeing the same people in a bleak setting for days on end. Also, the nearest hospital is a two-hour

drive away, so any distraction could be dangerous. For a real emergency, a helicopter evacuation is possible – like any self-respecting Bond base, Paranal boasts a chopper pad.

Whether by helicopter or the more usual 4x4, Paranal tours have always been popular with astronomy enthusiasts, but *Quantum Of Solace* is bringing this unique environment to a whole new audience, and promises a great deal of interest in the site worldwide – Bond movies often influence tourism trends. Right now, however, you can see it for the price of a movie ticket. ☺

"We've been expecting you, Mr Bond..."

The VLT is open to visitors, but you have to get yourself there first. Flights from London to Santiago start from around £800 return, typically with stopovers in New York or Miami. Then you can take a two-hour flight with national airline LAN to get from Santiago to Antofagasta, the nearest city to the VLT in northern Chile. Alternatively, a 20-hour bus trip will do the journey for around £40. There's no public transport for the last leg of the journey from Antofagasta to the VLT, a two-hour desert drive,

but car hire is easy to arrange. Public tours of the VLT facilities take place on the last two weekends of every month except December. The free tours begin at 2pm local time and last about two hours. A visit to the Residencia is included in the itinerary, as well as a trip to the mountain top some 200m (650ft) above it – although visitors are not taken inside any telescope housings. To apply, visit: www.eso.org/public/about-eso/visitors/paranal/tourist.html

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