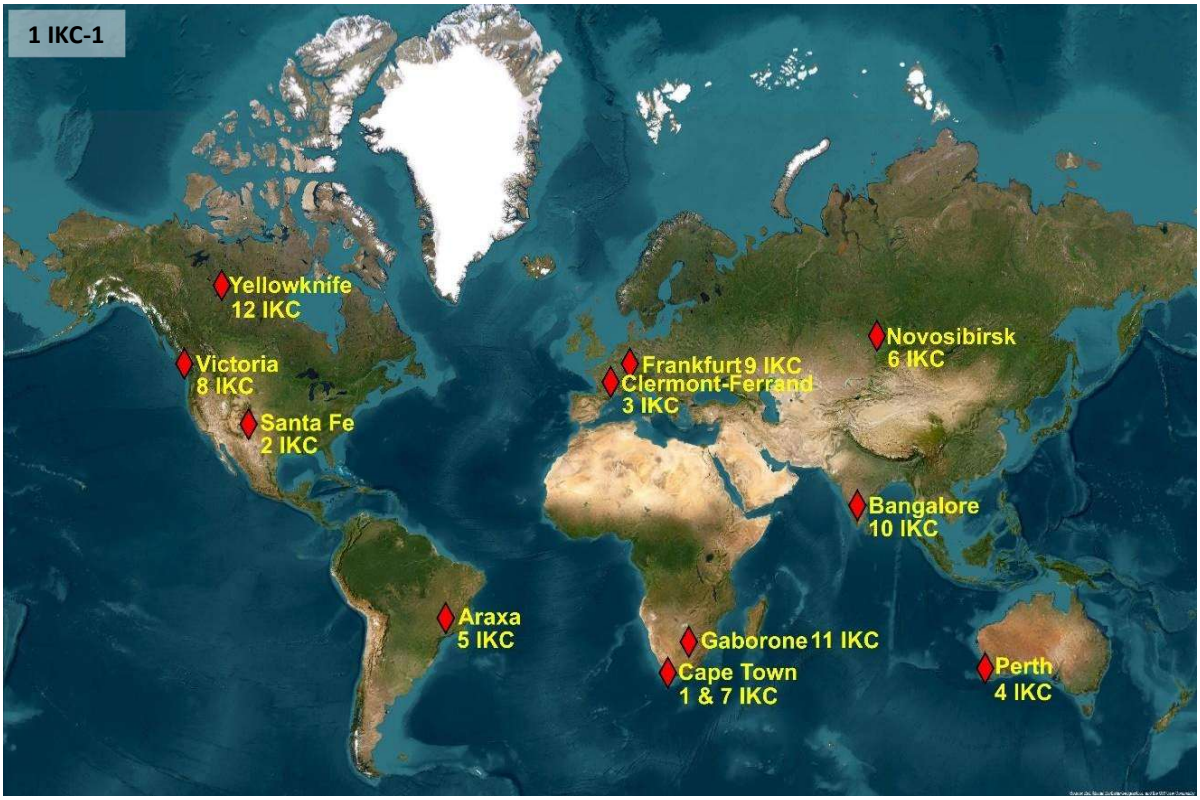
1st INTERNATIONAL KIMBERLITE CONFERENCE
CAPE TOWN, SOUTH AFRICA
1973

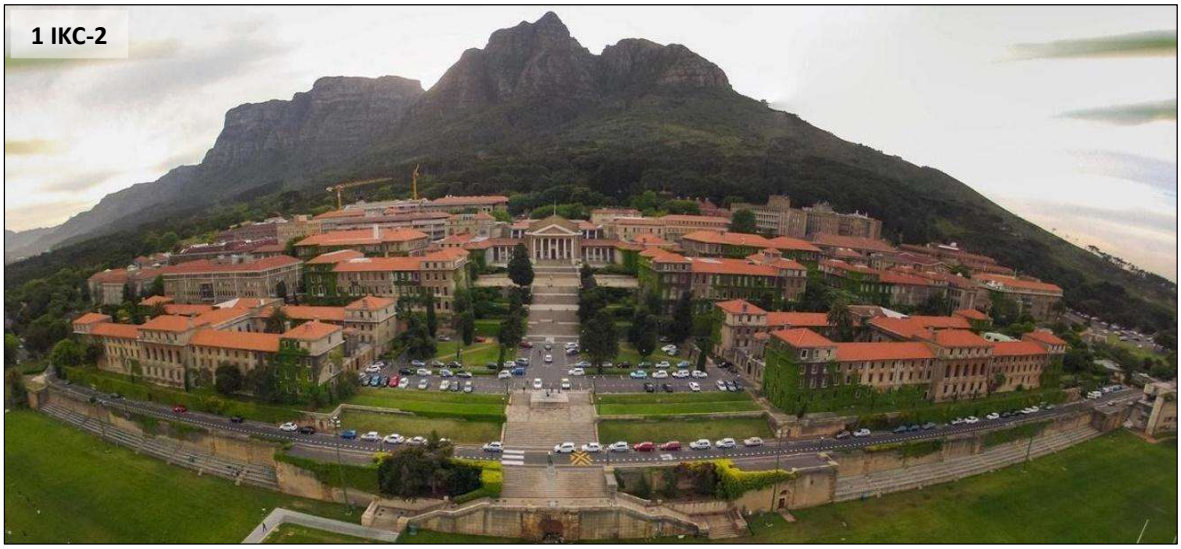
INTERNATIONAL CONFERENCE ON KIMBERLITES

International Kimberlite Conferences (IKC) have been held at 11 different locations around the world since the 1 IKC in Cape Town (1973) to the most recent 12 IKC in Yellowknife (2024). The idea of an IKC was first proposed at a fortuitous meeting of Joe Boyd, Henry Meyer, Ian MacGregor, Tony Erlank and John Gurney, who all happened to attend the Lunar Science Meeting in Houston in early 1970, to discuss the Lunar geology and early Apollo 11 analytical results. The initial idea proposed was to hold a conference in southern Africa to assemble international academic and industry delegates interested in kimberlites, diamonds and mantle rocks. Southern Africa was chosen due to its century of diamond mining history that created access to kimberlites, diamonds and mantle xenoliths for research. John Gurney was responsible for approaching De Beers in South Africa (Barry Hawthorne) and the United Nations mission in Lesotho (Peter Nixon), for participation in the conference and facilitating field trips to active mines and kimberlites. The positive confirmations from Hawthorne and Nixon ensured that the conference became a reality and a success.

Given its success more than 50 years ago, the IKC has been held more or less every four years after its launch in Cape Town, the conference has been held in all the cities shown on the map (**Figure 1 IKC-1**). The IKC has provided the perfect venue for sharing and discussing new discoveries and ideas that use kimberlites and diamonds as windows on the mantle, with emphasis on the evolution of the lithosphere and asthenosphere in Earth history.



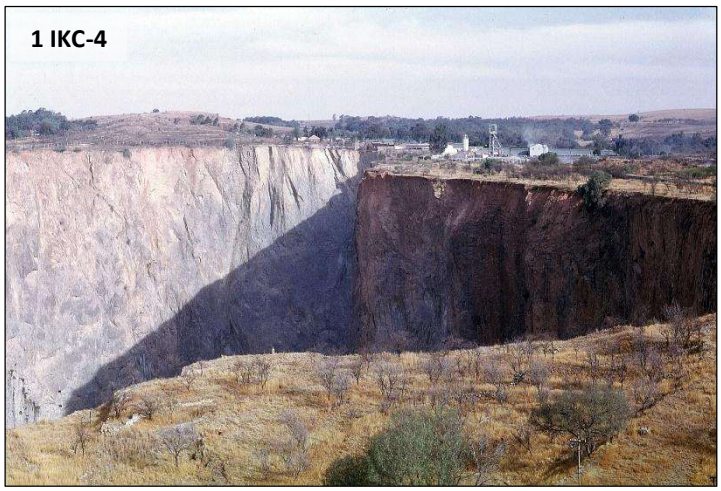
The first IKC Conference was held in Cape Town (**Figure 1 IKC-2**) with pre- and post-Conference field trips to look at kimberlites in South Africa and then Lesotho.


1 IKC-2

John Gurney (1940-2019) was the convenor of the first IKC and a detailed obituary about John can be found on pages 78-81 in the GSSA Geobulletin, Vol.62, No. 4. Also, in this edition of the Geobulletin, pages 47-63, is an unauthored compilation of articles held by John since 1973 showing the publicity impact the first Conference generated including two post conference appraisals. An important centre piece of the article, however, is a collection of photographs, (pages 53-56) taken of delegates who attended the pre-conference field trip whilst in Kimberley with some additional coloured pictures of the Lesotho fieldtrip. All the photographs are suitably identified. The article also shows the first group photograph of the delegates (**Figure 1 IKC-3**), (taken in Cape Town), a feature which has endured for most of the subsequent conferences.


1 IKC-3

The pre-Conference field trip started with the Premier group of kimberlites, near Pretoria, then went south to the Kimberley area to include the Bultfontein dumps and the kimberlites of Loxtondal and Roberts Victor. The mines around Barkly West were then visited before finishing with the kimberlites in the Koffiefontein area. There was also an underground visit to the Wesselton mine. The after-Conference field trip to Lesotho first examined some lowland outcrops before visiting the highland kimberlites.



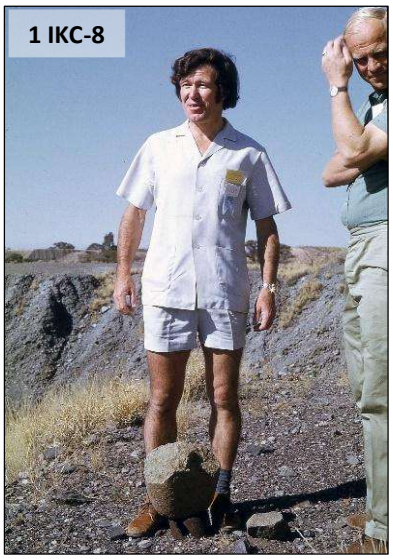
Even from the top of the main mine shaft at Premier (now Cullinan) it is still difficult to photograph into the Mine, as shown by **Figure 1 IKC-4.**

Figure 1 IKC-5 shows a new extensive tailings dump at Cullinan with old tailings in the foreground.

The Cullinan kimberlite is part of a cluster and **Figure 1 IKC-6** shows the flooded Schuller mine, situated 14 km due south of Cullinan. The size and quality of the diamonds made this kimberlite uneconomic.

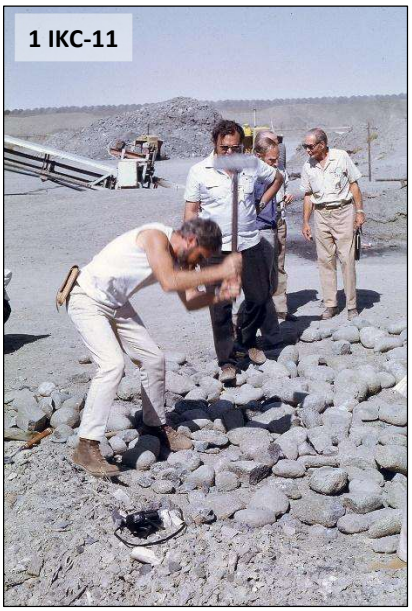
In 1973 the Bultfontein dumps just outside Kimberley were very extensive as shown in **Figure 1 IKC-7**, with delegates looking for mantle nodules. Since 1973, this deposit has been reworked and essentially no longer exists. The waste from the reworked material was deposited into the 'big hole' of the De Beers mine in Kimberley, which is now totally full.

Figure 1 IKC-8 shows Peter Nixon (centre) and Len Krol guarding a nodule from this locality and, the then Barbara Scott, **Figure 1 IKC-9**, replacing a film in her camera.

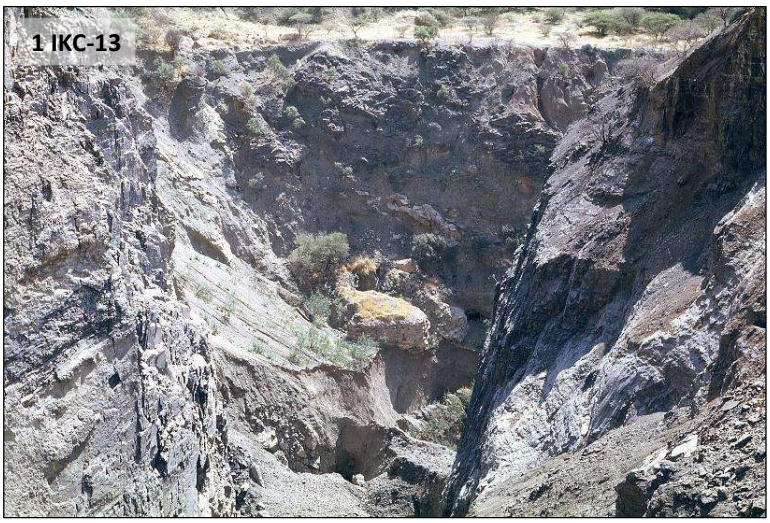


Avid collection of nodules at Roberts Victor mine is shown in **Figure 1 IKC-10**, although a couple of more senior delegates prefer a pipe and some conversation. The red shirt belongs to Pete Wyllie and the 'man in black' is Joe Smith.

In some cases, delegates only needed half a nodule, **Figure 1 IKC-11**. The long-abandoned fissure at Roberts Victor is shown in **Figure 1 IKC-12**.



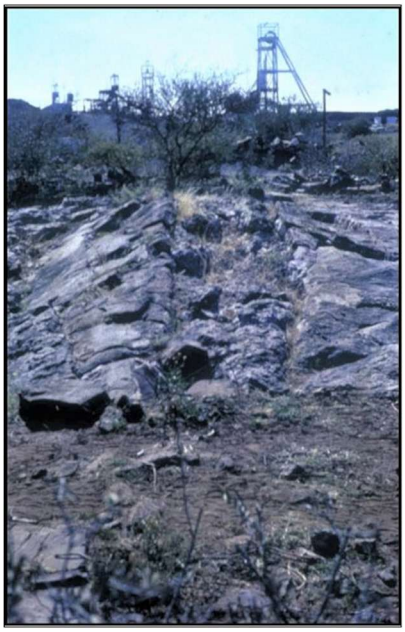
In the Barkly West area, the Frank-Smith and Weltevreden kimberlites are two pipes approximately 300m apart joined by a 30-40m wide dyke, known as the Windsor Block. The Frank-Smith mine is shown in **Figure 1 IKC-13**, looking from the Windsor Block dyke.

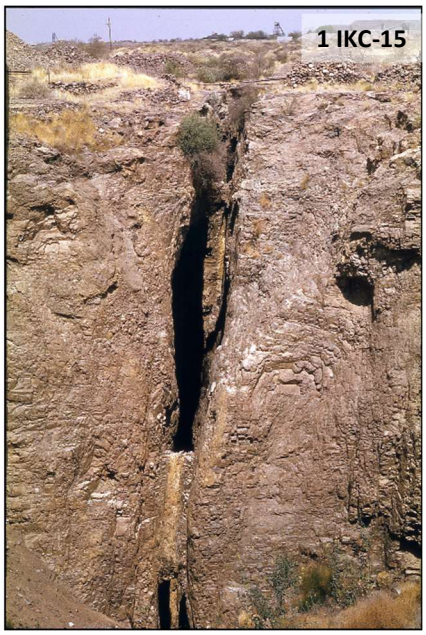


The Weltevreden pipe with a kimberlite wall on the right is shown in **Figure 1 IKC-14**.

A section of unmined and mined Bellsbank fissure kimberlite is shown in **Figure 1 IKC-15**. The dyke is often only a metre wide. Note how the local dolomite has been forced upwards by the kimberlite.

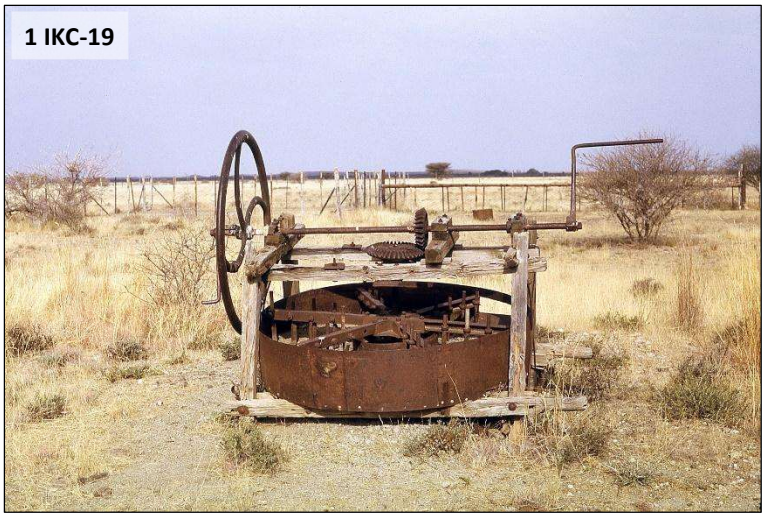
Along the fissures are small, rounded kimberlite 'blows' two of which are shown in **Figure 1 IKC-16**, the front one being more obvious.





The kimberlites at Newlands, 25km NW of Barkly West occur as five blows ranging from 40m down to 15m in diameter along a dyke 600m long. **Figure 1 IKC-17** shows blow No. 5 with the fissure beyond. Delegates are collecting both peridotitic and eclogitic nodules, the latter sometimes diamondiferous.

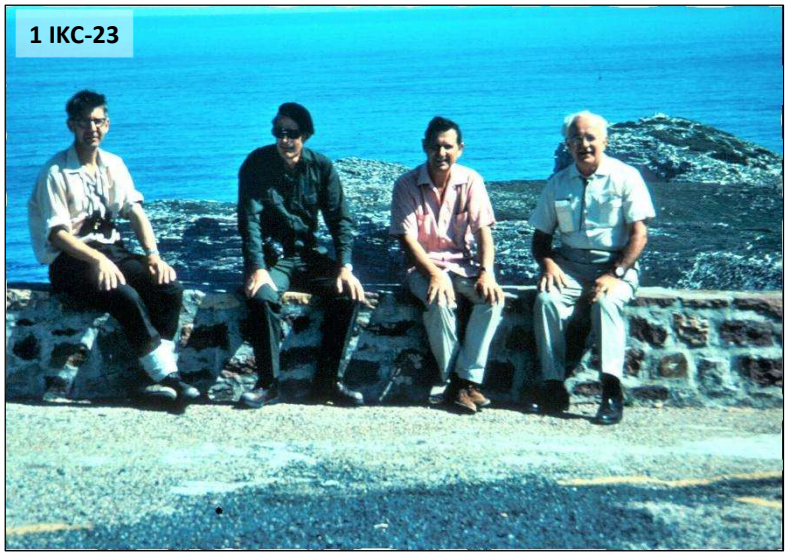
The concentrate pile at No. 1 pipe is being examined by Pete Nixen, **Figure 1 IKC-18**.



A historic rotary pan (**Figure 1 IKC-19**) not far from No. 1 pipe pictured in Figure 1 IKC-18.

The Koffiefontein mine is about 100km SSW of Kimberley. In 1973 opencast mining had reached the 120m level as shown in **Figure 1 IKC-20**. Here bench heights were 12m. **Figure 1 IKC-21** shows the west side of the pipe with delegates taking in the view.

To show the development of this mine, **Figure 1 IKC-22** is how the pipe looked in 1986. The roadway is still there, but the mine has no base due to the draw down. Close inspection of **Figure 1 IKC-22** will show an adit in the central part of the exposed kimberlite. This tunnel was part of an earlier chambering recovery process and is around the 268m level.



Pictures of delegates who attended the Conference in Cape Town are not well represented. **Figure 1 IKC-23** shows Henry Emeleus, Joe Smith, Brian Mason and Parl Seel sitting on a wall perhaps on the top of Table Mountain close to the cable-car station.

At some point in the Conference some delegates visited the Lanzerac Hotel in Stellenbosch. **Figure 1 IKC-24** shows Barry Hawthorne with arm raised, next to Margie Hawthorne and Joe Boyd with Barbara Scott in a yellow jacket and Roger Clement facing.

An Unknown sits between Joe and Roger. To the right of this group, in **Figure 1 IKC-25**, we have Roger Clements, an Unknown, Bram Janse, John Ferguson, John McIver, Bobby Danchin, an Unknown, and Dave Eggler.

The fieldtrip to Lesotho started in Bloemfontein in RSA, two buses taking us from the airport to Maseru. The principal kimberlites of Lesotho are shown on the map in **Figure 1 IKC-26**.

1 IKC-26

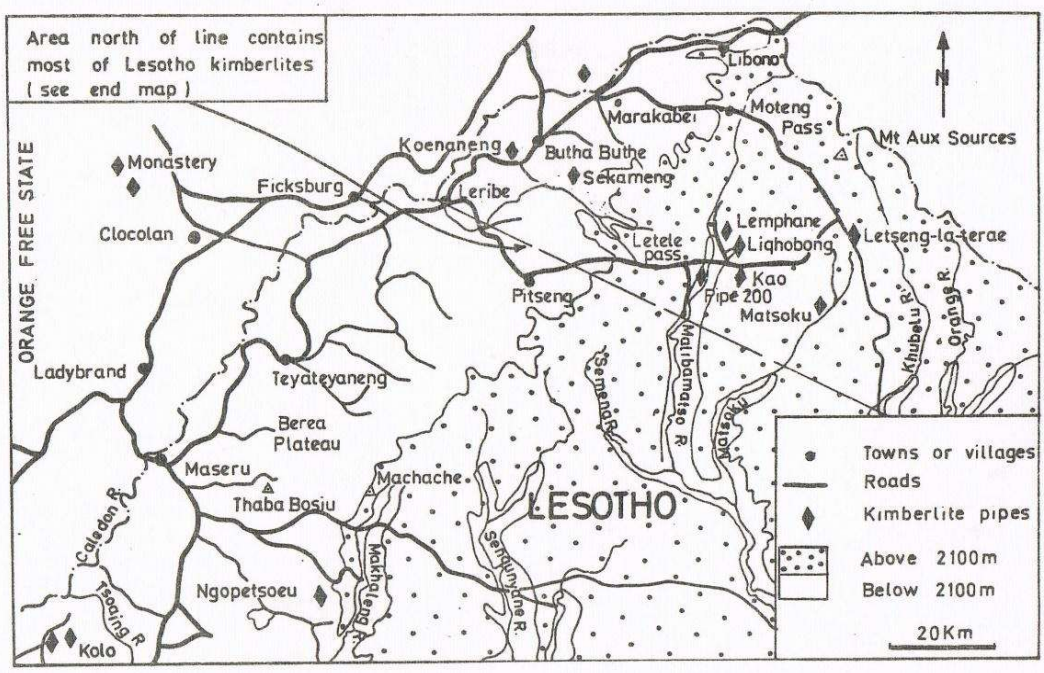
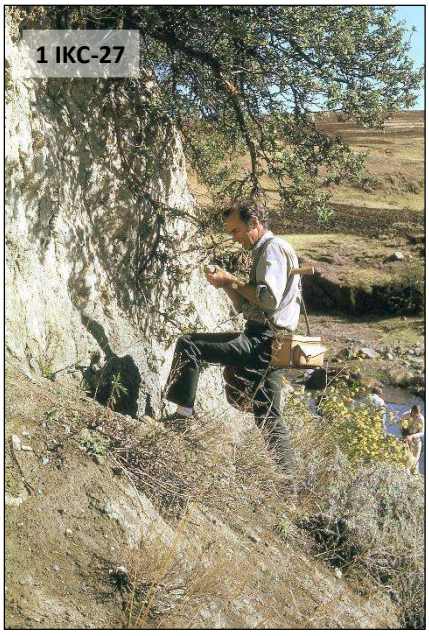


Figure 1 Sketch map of northern Lesotho showing the route from Maseru, Butha-Buthe, the Moteng Pass, Letseng-la-terae and on to the Kao area.

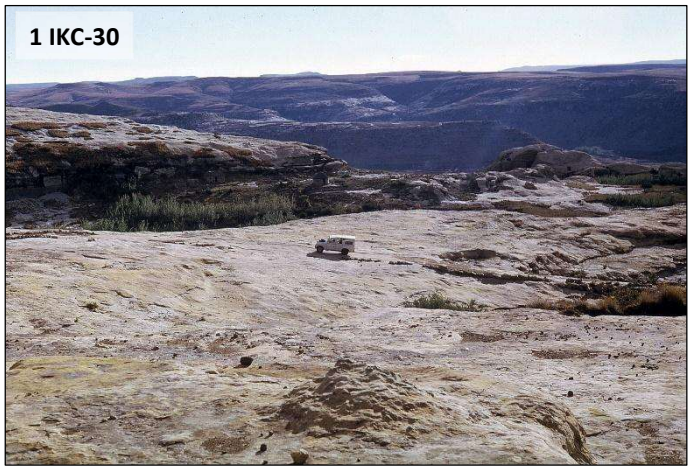
The first lowland kimberlite was at Ngopestsoeu shown in the SW of the map. This small pipe is cut by a river and **Figure 1 IKC-27** shows Howard Wiltshire hard at work. The party prepares to go and look at the Marakabaki kimberlite dykes in **Figure 1 IKC-28**. Note the beautiful day for fieldwork.

1 IKC-27



1 IKC-28

Figure 1 IKC-29 shows kimberlite dykelets in the local sandstone at Marakabaki.



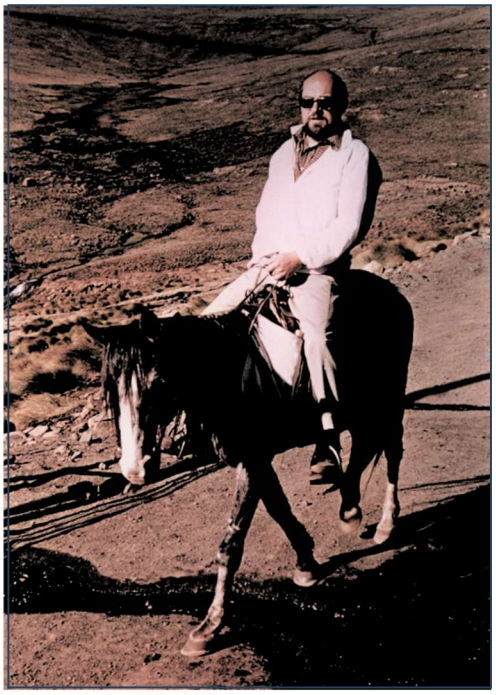
A land rover moves from the lowlands to the beginning of the highlands in **Figure 1 IKC-30**.

In 1973 the Moteng Pass was a principal route to the Lesotho highland (3000m) but was just a narrow track as shown in **Figure 1 IKC-31**. Note two trucks that did not complete the journey. The road is now wider and tarred.

After a brief stop at Oxbow at the head of the pass shown in **Figure 1 IKC-32,** we then hit the snow line. Near Letseng we stopped for a snowball fight, Mike O'Hara leading the way and then helped a truck stuck in the mud and snow.

Figure 1 IKC-33 is of the Letseng mine in 1973, showing only surface trenching, but lower down the slope there was an adit into the kimberlite at the 60m level.

For the 10-12km round trip from Letseng to Matsoku, some Lesotho ponies were provided. **Figure 1 IKC-34** shows Orson Anderson and Henry Meyer taking advantage of this largesse, the latter picture being called 'the second coming' by John Gurney.



There was considerable enthusiasm by the delegates on arrival at Matsoku, **Figure 1 IKC-35**. Nodules were collected and returned to Letseng via a mule-train.

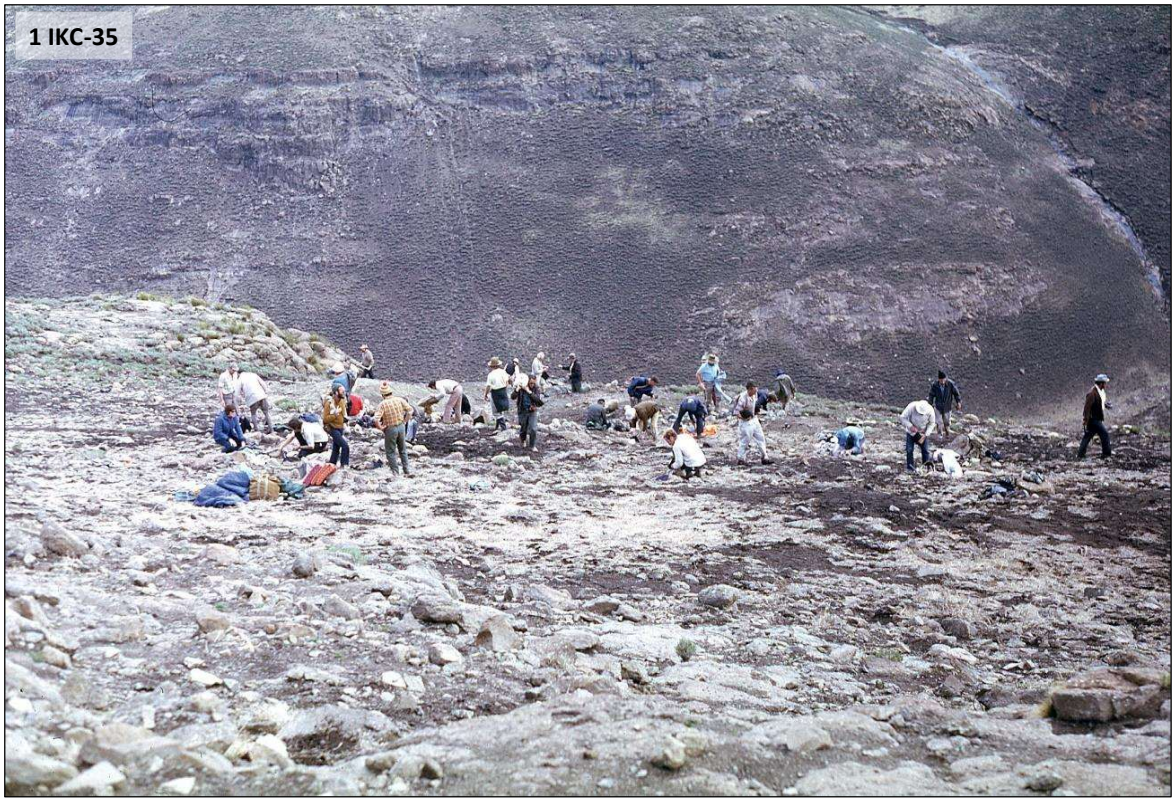
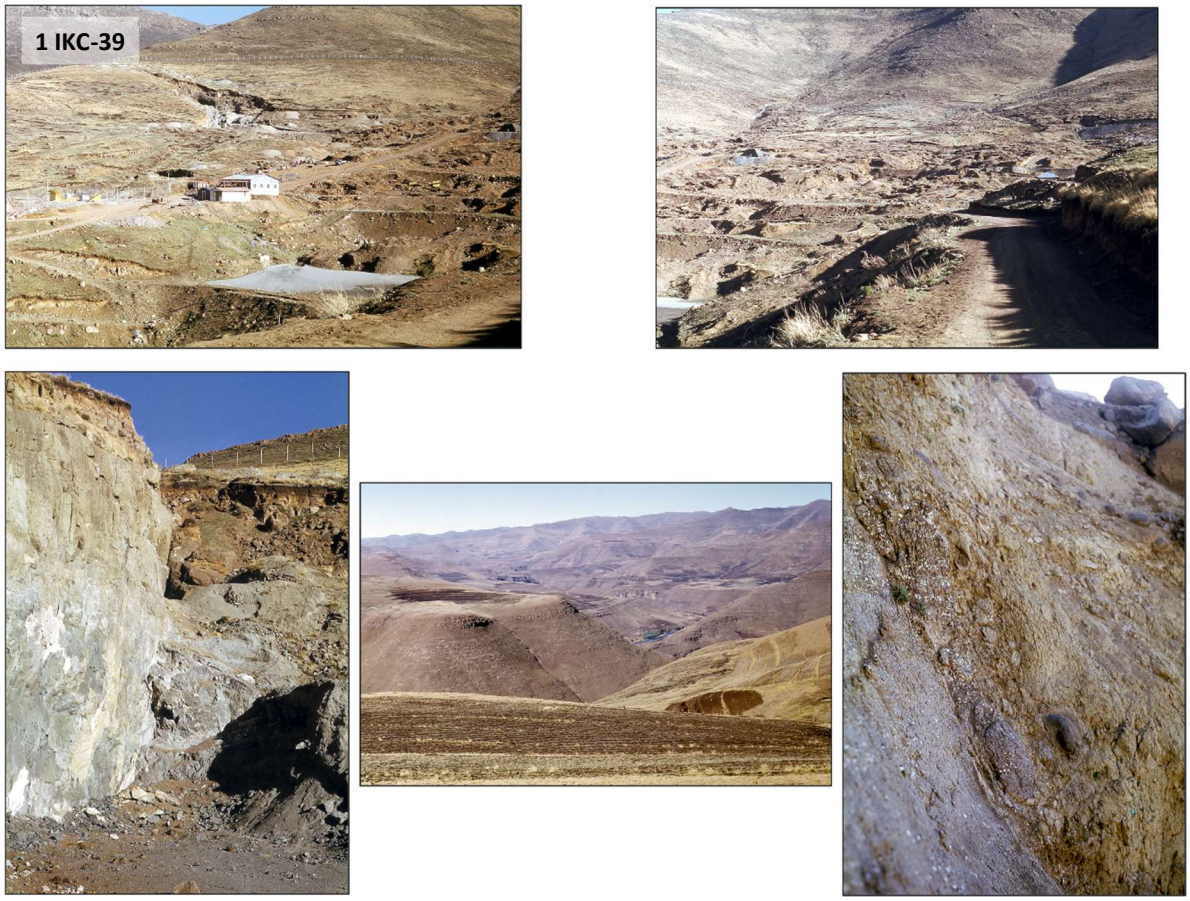


Figure 1 IKC-36 shows a re-crossing of the Matsoku river, nearest in this picture is Keith Whitelock, then Alex van Zyl and then Bill Gait. For those who walked 'home', the four-kilometre incline shown in **Figure 1 IKC-36** was a serious strain, especially at 3000m. Delegates can be seen in a line just right of centre. The effort was worth it for Barry Dawson, as he recovered 'the whopper' nodule.

The visit to Thaba Putsoa was also a walk. **Figure 1 IKC-37** shows the delegates assembling, then trekking across the veldt and the author and Henry Meyer taking a break and admiring the view.

Figure 1 IKC-38 shows our final destination, delegates searching for nodules, which on this occasion they carried out.

In 1973 the Kao kimberlite was in its infancy as shown in **Figure 1 IKC-39**. Beyond the building is the so-called quarry area which is on one side of the pipe. The hummocky ground in the top right picture is the remnants of artisan mining which defines another side of the pipe. Two kimberlite contacts with country rock outcrops are shown separated by a scenic view of the local mountains.



En-route to the Liqhobong kimberlite some obstacles in the track had to be negotiated, **Figure 1 IKC-40**. There are two kimberlites at Liqhobong the satellite defined in **Figure 1 IKC-40** by the artisan mining, the third picture being the main pipe on which artisan miners were working, their accommodation shown in the background.

Joe Boyd at Liqhobong is **Figure 1 IKC-41.**

Figure 1 IKC-42 shows sieved concentrate and Marianne Reichart and an artisan miner looking for diamonds in the 'eye' of one of the concentrates.

We left the Lesotho highlands via the Moteng pass, shown again in **Figure 1 IKC-43**.