for a reception given by His Worship the Mayor of Johannesburg at Wemmer Pan, where, on a beautiful evening, members of the symposium were able to watch the unusual musical fountains. After a buffet meal by the lake, the Mayor gave a special welcome to the foreign guests.

The technical programme continued on Tuesday with contributions on project design, mine and open-pit planning, and geological modelling. The ladies spent the day in Pretoria with a visit to the Union Buildings, a very interesting tour of the South African Bureau of Standards and lunch at the headquarters of the Transvaal Provincial Administration. The most interesting pavilion of the Chamber of Mines at Milner Park showgrounds was the venue for a cocktail party and buffet supper for all delegates and their wives given by Mr J. W. Shilling, President of the Chamber of Mines, in the evening. Permanent displays and mining films made a lively background to a pleasant party.

On Wednesday, technical discussion was set aside for a choice from six day-tours. One of the most popular was the visit to the Libanon and Venterspost gold mines; a chance to go underground, see a stope and look over a reduction works. An alternative was the tour of the impressive steelworks of the South African Iron and Steel Corporation at van der Byl Park. Of special interest, too, was a visit to the National Institute for Metallurgy. A visit, by air, to Kimberley made another exciting alternative; it included a tour of the Kimberley mine of De Beers Consolidated Mines, their unique diamond exhibition and most interesting museum, as well as a flight over the 'Big Hole'. The fifth tour went to the Chamber of Mines to see some of the extensive work at the research laboratories. Finally, for those seeking a broader view of South Africa, there was a drive around the Soweto African township to the south of Johannesburg, continuing to the Krugersdorp game park with a braaivleis at the nearby bird sanctuary and, afterwards, a visit to Sterkfontein caves, the scene of the discovery of man's earliest ancestors. That night delegates were invited by Professor Bozzoli, Principal of the University of Witwatersrand, to a cocktail party as part of the celebrations marking the University's Golden Jubilee.

Technical sessions were resumed on Thursday with discussion on production, operations and technical planning, ventilation and rock control. For ladies it was a free day in Johannesburg. In the evening, Professor H. Zemanek, President of the International Federation for Information Processing, was the guest speaker for the symposium dinner at the President Hotel, which was attended by most of the delegates and their wives. A world authority on computers, he gave a fascinating description of cybernetics and an account of its history.

The Friday sessions dealt with process control and market analysis and ended with a panel discussion. The ladies spent the morning touring a diamond cutting works. Some of their husbands, having defected from the technical sessions to join this tour, found they had made an expensive mistake when persuaded to buy 'samples'. The programme for the ladies concluded with a farewell lunch at the Johannesburg Country Club.

The symposium was over. However, an extra tour of Libanon Gold Mine was arranged on Saturday morning at the request of those who had opted for some other tour on Wednesday. There followed the five-day post-symposium tour for the forty delegates who had booked for it.

The tour left Johannesburg early on Sunday morning on the first stage to Phalabora via Magoebaskloof and through the beautiful scenery of the escarpment. The next morning was spent at the huge Palabora Mining Company open-pit and included a tour of the milling plant, smelter and refining works. In the afternoon the delegates left for the Kruger National Park and stopped at Olifants camp for the night. The following day was devoted to game watching. Plentiful rains and thick bush made the rare animals difficult to spot. However those new to South Africa found the herds of buck, giraffe, wildebeest and many smaller animals and birds exciting. Camped at Skukuza that night with the sounds of game all around there was a memorable 'braai'. The next morning was again spent in the park, when a few lions were seen at a distance. In the afternoon the tour continued to Witbank where the following day was spent visiting the Highveld Steel and Vanadium Corporation. It was an interesting opportunity to learn about the unique Highveld process. Returning to Johannesburg that evening, the tour ended after five hectic but happy days.

The social events had been diverse, exhausting and enjoyable. Outstanding among many pleasant memories is, perhaps, the memory of the hospitality of every individual and organisation that entertained the delegates.

Flotation of cassiterite by D. A. Viljoen

Presented at the Colloquium on Flotation

Author's reply to discussions

The comments by Mr Chaston were constructive and much appreciated.

Considering firstly the recovery of cassiterite from fine deslimed material. A size distribution analysis shows that 58 per cent of cassiterite in Union Tin flotation concentrate reports in the minus 15 micron (quartz) size range. This is achieved at a recovery of 67 per cent and concentrate grade of 42,6 per cent.

It is of interest to note that at Altenberg in East Germany 85 per cent of the tin in deslimed minus 43 micron material is recovered into a 14 to 16 per cent Sn concentrate using para-tolyl arsonic acid as collector. Reconcentration of this material is then carried out using two shaking table stages which recover 53 per cent of the tin in a 50 per cent Sn concentrate. Flotation was resorted to after recovery rates of 35 per cent and concentrate grade of 30 per cent had been achieved in a 275 ton per day plant comprising 130 tables. Tests on tabling of deslimed minus 43 micron material have not been carried out at Union Tin.

The cost of equipment actually associated with cassiterite flotation amounts to about R60 000. The

balance of R300 000 capital requirements mentioned, includes the cost of slimes dam reclamation, pumps, pipelines, storage tanks, desliming equipment, sulphide flotation, magnetic separation, tailings disposal arrangements and a new slimes dam area. All these associated costs amounting to R240 000, would apply whether gravity concentration or flotation had been considered as a suitable recovery process. At present day prices the cost of one table plus its installation including civils, building, floors, launders, pumps, etc. is considered to be about R2 500.

Flotation plant tailings are passed over shaking tables which recover coarse cassiterite not extracted by the flotation process.

The comment on surface characteristics of cassiterite particles under acid conditions is interesting, and will be investigated.

VISIT TO PILKINGTON BROS. AND ZINC CORPORATION

On the 17th May, 1972 a party of 56 members were the guests of Messrs. Pilkington Brothers (S.A.) (Pty) Limited before noon and of Messrs. Zinc Corporation Limited during the afternoon.

Visit to Pilkington Brothers (S.A.) (Pty) Limited

The guests were met by the senior executives of the organisation at the Recreation Club. After an official welcome by the General Manager a film on glass production was shown. This was followed by a talk by the Sales Manager during which members were able to ask questions. They made good use of this opportunity.

Thereafter the visitors were split up into small parties for a conducted tour of the factory.

All the phases of sheet glass production by means of the drawing process were seen by the visitors. These included the selection and mixing of raw materials; the feeding thereof into the furnaces; and so through to the various end products in the warehouses ready for despatch to the customers.

The visit finished in time to proceed to Springs for lunch.

All present agreed that it was a very interesting excursion and a special vote of thanks is recorded for the manner in which we were received and entertained by our hosts.

Visit to Zinc Corporation of S.A.

The visit started with a talk given by Mr H. E. Cross, Consulting Metallurgist of Gold Fields of South Africa. He gave details of methods adopted and the problems that had to be overcome in converting a uranium plant into a zinc producer.

The sources of the raw materials were given, and a brief description of the production sequence was appreciated by all present. The Manager thereafter addressed the gathering and gave some interesting operational information.

This was followed by a conducted tour of the works which was most interesting and enjoyed by all present.

The manner in which the practical problems associated with the commissioning of a plant of this nature were overcome was indeed a creditable performance.

The visit ended at 4.30 p.m.

The Institute records with gratitude and appreciation the hospitality afforded to its members by the Managements of the concerns visited.

P.A.v.W.

NOTICES

South African Council for Professional Engineers

The Registrar has requested us to publish the following notices:

COUNCIL'S POLICY REGARDING LATE APPLICATIONS IN TERMS OF SECTION 18(4) (b) OF THE PROFESSIONAL ENGINEERS' ACT, 1968 (ACT NO. 81 OF 1968)

Laat aansoeke om registrasie as Professionele Ingenieurs

Die Suid-Afrikaanse Raad vir Professionele Ingenieurs (SARPI) vestig die aandag daarop dat daar 'n mistasting bestaan oor die vraag of 'n persoon sonder erkende ingenieurskwalifikasies wat nie in 1969 aansoek gedoen het om registrasie as professionele ingenieur nie, nie meer aansoek mag doen nie. Diegene wat voor 14 Februarie 1969 minstens 3 jaar aanvaarbare ingenieurswerk gedoen het kan nog oorweeg word. Die werk moet egter voldoen aan die standaarde deur SARPI neergelê: dit

Suid-Afrikaanse Raad vir Professionele Ingenieurs

DIE WET OP PROFESSIONELE INGENIEURS, 1968 (WET NO. 81 VAN 1968): JAARGELD: 1972/73 BOEKJAAR

Kragtens die bepalings van Artikel 18(9) (b) van die Wet verval die Registrasie van 'n persoon wat as 'n ingenieur of ingenieur-in-opleiding geregistreer is as sodanige persoon versuim om die voorgeskrewe jaargeld binne ses maande nadat dit betaalbaar word, te betaal.

Aandag word ook vriendelik daarop gevestig dat persone wat kragtens Artikel 18(4) (b) van die Wet geregistreer is (dit wil sê persone wat nie oor 'n erkende akademiese kwalifikasie beskik nie) en wat toelaat dat hulle registrasie verval, moontlik nie weer vir registrasie in aanmerking sal kan kom nie. Vir persone in hierdie kategorie is dit dus van kardinale belang om toe te sien dat hulle jaargeld binne die voorgeskrewe tydperk betaal word.