DEPARTMENT OF
MINERALS AND ENERGY

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

RESTRICTED

Record 1973/97

OVERSEAS VISIT, L.W. WILLIAMS, 1-21 June 1973

by

L.W. Williams

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Approval was given for L.W. Williams, Assistant Director (Petroleum Exploration), to visit Indonesia and Singapore to attend the Indonesian Petroleum Association 1973 Convention and a post-Convention field trip, and to discuss petroleum exploration with companies and Pertamina.

I.P.A. Convention

The Convention was held at the City Hall, Jakarta, on 4-5 June. The venue was satisfactory and the organization was adequate although some problems did occur because attendance was larger than expected. Numbers were estimated at between 350 and 400. There was a small attendance from Australia and a large representation from oil companies based in Jakarta and Singapore. All proceedings were in English.

The papers were generally of a high standard although there were some problems with presentation. The problems arose because English was not the native language of some authors. Some of the slides were poor and others were difficult to read because of low powered projectors. Viewgraphs were more successful than slides.

If a BMR paper is presented next year, I suggest that prior information be obtained on type of projector, projection distance, screen size etc. and the slides be designed accordingly. Otherwise viewgraphs should be used.

Pre-prints were provided for all papers, but not in sufficient numbers because of the unexpectedly large attendance. Copies of most of them have been passed to BMR Library.

The organizers appreciated receiving a paper from Australia and, in fact, deleted another paper to make time for it. It is probable that a paper from BMR will be requested again next year. If so, I suggest that the paper be presented, if possible, to emphasize Australia's interest in the general area and to confirm our willingness to assist where we can.

There were no geophysical papers this year and, unless the content of the program is changed next year, I suggest that a geologist should attend.

Field trips

The field trip which I attended (7-8 June) was to an area in the South Serayu Range, about 135 km west of Jogjakarta. Overnight accommodation was in a geological students' camp at Kerangsambung. The camp

is used by students from the Institute of Petroleum at Bandung and from universities at Jogjakarta.

Pre-Tertiary rocks are exposed in the core of the Range and Cainozoic sediments are exposed on the flanks. Visits were made to 9 areas of outcrop. (Geological Guide Book in Library)

One strik ng feature was the amount of distortion which has taken place in the Tertiary sediments.

The tour guide was Dr Soekandra from the Institute of Petroleum at Bandung.

Department of Mines, Indonesia

Under the Minister for Mines there are two Directorates - Minerals, and Oil and Gas. There is a Director-General for Minerals, but the Minister runs the Oil and Gas Directorate (MIGAS). Pertamina and Lemigas come under MIGAS.

Pertamina (the National Oil and Gas Company) is governed by a special law (Act No. 8, 1971). It has a Board of Commissioners consisting of the Ministers for Mines, Finance, and Development. It is a company which pays normal taxes.

The duty of the company is to ensure a supply of crude oil to satisfy the needs of local consumption and to export crude to improve Indonesia's foreign exchange position.

The company has an exploration staff of about 40 geologists and geophysicists to do their own exploration and supervise the contracting companies. Their supervision of geological and geophysical exploration is not extensive, but they take a much closer interest in drilling, particularly production, for which they are well staffed with petroleum engineers.

At present Pertamina are running 7 seismic crews and 2 rigs on their own areas. They would like to become more active in operations themselves, but have been unable to do so because of lack of money. They will extend their onshore exploration, but will also issue production sharing contracts for onshore exploration in areas which are expensive to operate and in areas near one refinery which is becoming short of crude.

Lemigas is partly a service and contracting organization. It also carries out some geological mapping. It receives some technical assistance from Pertamina.

Industry will be forced to use those services which Lemigas is able to provide. At present these are restricted to palaeontology, minor geophysical surveys, chemical analyses, and some petroleum engineering and reservoir studies.

Their petrochemical laboratories are much larger. They can carry out distillations and can analyse crudes for minerals. However, the largest function appears to be quality control on refined products.

Production sharing contracts

The Netherlands Indies Mining Acts, under which 'concessions' could be granted, were replaced in 1960 by the Oil and Gas Law (Act No. 44, 1960). Concessions were replaced by Work Contract agreements, which were accepted after long negotiations by those companies with production in Sumatra and Kalimantan, viz. Shell, Stanvac, and Caltex.

Some of these work contracts still exist, but all new agreements take the form of production sharing contracts.

Under the provisions of Act No. 8, 1971, Pertamina is the only company entitled to hold an authority to mine petroleum. However, Indonesia desires participation in exploration by foreign companies because it lacks finance, sufficient personnel, and some of the expertize necessary to undertake all exploration itself at present. To overcome the problem, foreign companies are given the status of contractors to Pertamina.

Selected companies (normally those who have shown an interest in an area) are invited to apply for a contract over a particular area. The application, which is in a standard form, includes a cash bid for any available information, a work program (in money), proposals for production bonuses and for the various levels of production at which specified profit share splits should apply, and proposals for the percentage of area to be relinquished after specified periods. (Copy of draft contract is held by L.W. Williams - the application virtually consists of filling in the gaps in this).

A committee, on which Pertamina and the Mines Department are represented, selects the company to be granted the contract.

The contracts are normally for a term of 30 years. However, if petroleum is not discovered within 6 years the contractor may terminate the contract or apply for two extensions of 2 years each. If petroleum is not discovered in 10 years the contract is automatically terminated. The contract cannot be terminated by either party within the first 2 years, except as the result of a major breach of contract.

The contractor is required to submit an annual exploration program to Pertamina. Although this is not normally queried it can be, in which case a meeting is held to resolve the differences. Pertamina, as manager, would be in a strong position. Pertamina frequently has a representative visit the field operations, but the Mines Department has, in the past, restricted its interest to safety aspects. This may be changing as the Mines Department now requires copies of all reports submitted by the contractor to Pertamina.

If a discovery is made, the contractor is encouraged to proceed to production as quickly as possible.

After production has commenced the contractor is allowed to take up to 40% of the production to cover his costs (cost share). The allowable costs are cumulative (i.e. any costs in excess of 40% of production may be carried forward) but apply only to costs incurred on the particular contract area. They include the normally allowed costs such as administration and overheads, but do not include any bonuses that are paid.

The remainder of the production (profit share) is split 65% to Pertamina and 35% to contractor up to a specified level of production, 67½% and 32½% up to another specified level, and then 70% and 30% for the remainder. Also the contractor is obliged to sell to Pertamina a part of the contractor's entitlement from the profit share at a price of 20 cents per barrel to 'fulfill its obligation towards the supply of the domestic market in Indonesia'.

Ownership of the cost share, and its portion of the profit share, of production passes to the contractor only at the point of export.

The normal practice is for the contractor to sell all the crude although there is provision for each party to take their share in kind. In the event that Pertamina did decide to sell its share of the crude (6 months notice required), the contractor could ask Pertamina to also sell the contractor's share.

It is of interest that Pertamina pays the tax on all production. The contractor is free of all taxes except personal income tax.

The company reaction to production sharing contracts is generally that the Indonesian area is so prospective for petroleum that the companies are prepared to operate there under virtually any conditions, provided that the conditions are known and are such that the companies can expect to receive a reasonable profit in the event of a discovery.

There is some opinion that companies would rather be the concession holder than a contractor. This arises from apprehension that, at some time in the future, Pertamina may become more active in directing the work which companies carry out. This does not happen to any great extent on exploration at present, but contractors are under pressure to use as high a rate of production as possible. This is another concern of the contractors as ultimate production will be reduced.

In early contracts there was some problem with wording as far as United States companies were concerned. Acting as contractors rather than as concession holders prejudiced their U.S. tax position. The problem apparently has now been overcome satisfactorily.

Some difficulties in operating in Indonesia are a common experience. However, these difficulties are more related to the machinery of government than specifically to production sharing contracts.

The relative profitability of operating in Australia or Indonesia depends on various factors. The percentage of gross income from production which companies receive nett of tax is greater in Australia than Indonesia. The difference becomes more marked with increasing exploration in areas other than that being produced (costs are tax deductible in Australia but not in Indonesia). However, the present difference in price of crude between the two countries is generally sufficient to compensate for the lower percentage of gross income received in Indonesia (costs are about the same).

Geophysics

Aquatronics have been supplying equipment for GSI for telemetered seismic surveys. The equipment has been used very satisfactorily on a shallow-water marine survey for Union. It has also been used on land surveys in jungle areas, and more emphasis seems to be being given to this application. The units have a 20-km range, which allows quite a large area to be surveyed without shifting the recording equipment.

The GSI processing centre in Singapore has some equipment which is not yet in the Sydney centre. A large computer enables them to run the full 700 package; Sydney can not do this yet but should have the equipment before the end of the year.

There is also an interactive terminal in Singapore. This is a very flexible system which allows interpretation to be injected at various stages of the processing. The intention is that a company could hire the terminal and have their own operator rework some data using different ideas on

geology, velocities etc. To date the only people capable of operating the terminal efficiently are GSI operators and there does not seem to be much enthusiasm to use the terminal among the exploration industry.

The Digicon processing centre is much smaller and appears to be conventional. The staff are very keen on 'Velstack', a method of determining average and interval velocities from CDP data. (Reported in Geophysics, Vol. 37, No. 5, October 1972). It is an expensive process and probably more suited to detailed investigation of problem areas than to production processing.

Western Geophysical are very active and operate 7 seismic boats from Singapore. These are at present spread from India to Fiji. They are quite happy about having their processing centre in Perth and have no plans to shift it to Singapore.

Conclusions

Companies are attracted to exploration in Indonesia rather than Australia mainly because of the more attractive geological conditions. They are satisfied with their operating conditions under production-sharing contracts, which appear to be fairly stable. Another attraction is the higher price for crude oil received in Indonesia than Australia.

The level of exploration is probably increasing, with companies building up the strength of their exploration staff. The enthusiasm and optimism of both companies and contractors is in marked contrast to the attitude of most companies operating in Australia.