

**Persia and Iraq 1933 - Persian Concession Negotiations and Visit to Iraq Petroleum Co (IPC) Pipe Line Area**

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Description:	This document includes: <ul style="list-style-type: none"><li>- Map and Itinerary</li><li>- Private Diary, the notes (except where otherwise indicated) record the movements of the Chairman and Deputy Chairman together</li><li>- Concession documents including an APOC Draft Concession</li></ul>

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Appendix (3)

A BASIS OF ROYALTY PAYMENTS.

The problem under examination has been to find a Royalty basis which satisfies the following conditions :-

1. A minimum annual payment to the Persian Government of a substantial nature.
2. An annual payment which under normal working conditions will avoid violent fluctuations.
3. An annual payment which shall be in reasonable ratio to the Company's total profits.
4. A scale of payment which will remove the incentive from the P.G. to press for ever-increasing tonnage.
5. A method of payment which carries no shareholding but will give the P.G. some share in the prosperity of the Company without depriving them of a substantial minimum in lean years or in the event of a declining Persian tonnage.
6. A method of payment which obviates the necessity for an examination of the Company's accounts.

The following three schemes go a long way to meet this combination of requirements, point No.6 being alone unprovided for. It is hoped, however, that even in this respect the field of suspicion or dispute would be confined to narrow limits and, consequently, the cause for any desire to examine the accounts would disappear.

All schemes depend on the same fundamental principles, namely a combination of a tonnage Royalty and a Royalty tied to the profits of the Company, derived from all sources. A tonnage Royalty alone must necessarily increase with increasing production and provide the urge to the P.G. to press for increasing tonnage. A means has therefore been found to apply the "Profit Royalty" in such a way that it exerts a counteracting influence on the increasing tonnage Royalty that is to say the "Profit Royalty" on any fixed profit decreases as the tonnage increases. Moreover the "profit Royalty" though dependent on the profits from all sources has been purposely linked up with the Persian production on the assumption that it is sound in principle to express the total Royalty payable to the Persian Government in terms of the Persian production.



A BASIS OF ROYALTY PAYMENTS

The problem under examination has been to find a royalty basis which satisfies the following conditions:

1. A minimum annual payment to the Government of a substantial nature.
2. An annual payment which under normal working conditions will avoid violent fluctuations.
3. An annual payment which shall be in reasonable proportion to the Company's total profits.
4. A scale of payment which will remove the incidence of the P.G. tax from the Government's account.
5. A method of payment which carries no special burden but will give the P.G. some share in the Company's profits without depriving them of an essential minimum in lean years or in the event of a declining Persian tonnage.
6. A method of payment which obviates the necessity of an examination of the Company's accounts.

The following three schemes go a long way towards this combination of requirements, but even so, it is hoped, however, that even in respect of the field of application or dispute would be to narrow limits and, consequently, the cause for examining the accounts would disappear.

All schemes depend on the same fundamental principle, namely a combination of a Tonnage Royalty and a Profit Royalty, derived from a Tonnage Royalty alone and necessarily increase increasing production and provide the urge to the Government for increasing tonnage. A more detailed study to apply the "Profit Royalty" in such a way as to exert a counteracting influence on the increasing tonnage that is to say the "Profit Royalty" on any profit decreases as the tonnage increases. "Profit Royalty" though dependent on the profit of the Government has been purposely linked with the tonnage to express the total Royalty payable to the Government in terms of the Persian production.

**EXAMPLE.** In order to explain clearly the methods that have been adopted to arrive at these suggested solutions, an explanation of the formulae which have been used is given in an attached note headed "Investigation of the problem in general terms".

To turn to an examination of the results obtained from the two schemes.

SCHEME 1.

To pay a fixed tonnage Royalty plus a lump sum for every Shilling profit per ton made, above a certain minimum limit of profit per ton.

SCHEME 2.

To pay a fixed tonnage Royalty plus a lump sum for every Shilling profit per ton, no minimum limit

in each case profit per ton being the factor

$$\frac{\text{Total declared profits}}{\text{Total Persian Tonnage}}$$

Tables A and B give two examples of Scheme 1 and Table C an example of Scheme 2.

SCHEME 3.

To pay a tonnage Royalty on a fixed or sliding scale and a Profit Royalty on such a scale that the total Royalty payable shall amount to a fixed percentage of the total profits.

SCHEME 1.

Total Royalty is derived from

- (1) "Tonnage Royalty" of Sh.4/- per ton with a minimum of £.600,000, the equivalent of a production of 3,000,000 Tons.

- (2) (a) "Profit Royalty" is derived from the factor

$$\frac{\text{Total declared profits}}{\text{Total Persian Tonnage}}$$

and a payment is made, in Table A, of £.20,000 for each Shilling over Shilling 20/- obtained from this factor.

- (b) Alternatively in Table B £.30,000 for each Shilling over Shilling 15/- obtained from the same factor.



EXAMPLE.

Declared profits	£. 5,000,000
Persian tonnage	4,000,000 Tons
Factor = $\frac{5}{4}$	= £. 1. 5. 0 per ton.
Profit Royalty payable under (a) after deduction £.1	= £.20,000 x 5 = £.100,000
Profit Royalty payable under (b) after deduction Sh.15/-	= £.30,000 x 10 = £.300,000

These two Tables constitute reasonable negotiating limits but both Tonnage and Profit Royalties can, of course, be varied to produce in total, the Royalty which it is proposed to concede.

We have, in Tables A & B illustrating this scheme, arbitrarily fixed the tonnage Royalty at Sh.4/- per ton in view of the precedent created in the I.P.C. and K.O.C. Agreements and assuming that the P.G. would not be content with less. With tonnage Royalty on so high a scale, it has been necessary to introduce a limit to the Profit Royalty basis, below which no Profit Royalty will be payable.

This limit might be a source of contention in negotiating the point. But there is a perfectly logical answer in support of it, namely that the P.G. on their side receive a guaranteed sum on the Production, and the shareholders are equally entitled to a guaranteed first charge on the profits. The amounts obtained from these guaranteed minima between the most likely range of production 3 to 6 million tons would be

Alternative (a) with Sh.20/- limit	£. 3/2.6,000,000
(b) " Sh.15/- "	£. 2,250,000/£4,500,000

which is in very reasonable proportion to the sums required to cover fixed interest dividends, 5%/10% on Ordinary Shares and operating expenses.

This scheme can be translated very simply into words and a Draft Clause is attached. It is appreciated that the wording "declared profits" may be susceptible to



improvement and this point is left to Accountancy experts. Actually we have had in mind the total profit prior to appropriations to reserves etc. It is realised also that the introduction of "Profits" in any shape or form opens up the risk of an examination of the Accounts; but it is claimed that the field of dispute is minimised and perhaps removed by reason of the fact that there are no complications on account of deductions. It would be possible to base the "Profit Royalty" on the ordinary dividend appropriation by relating this appropriation to the Persian Crude Tonnage on the same principle. In order to do so, however, it is necessary to know the proper proportion which the ordinary dividend appropriation should bear to the Gross Profits in order to produce a total Royalty figure which is in proper relation to the Gross Profits. This information is not available in Abadan.

In Tables A and B the practical application of this scheme is shown.

It will be seen that the total amount of Royalty payable for productions of 1 and 2 million Tons is disproportionately high. (In Table A this applies, strictly, to 1 million Tons only). It is necessary therefore to exclude these two productions from the "Profit Royalty" Scheme and this has been done in the Draft Clause. It is logical to do so, in view of the fact that the P.G. are given a minimum Royalty of £.600,000 even though production falls below 3,000,000 Tons.

Similarly the Royalties derived from 7 and 8 million Tons Persian production are unduly high unless profits are in the order of £.6,000,000. We presume, however, that such a possibility is remote and the production is, in any case, within the control of the Company.

Turning to Tables A and B, if the 1 and 2 million Ton production zone is eliminated as impracticable

EXAMPLE

Declared profits	5,000,000
Tonnage	2,000,000
Factor	$\frac{5}{2} = 2.5$
(a) Profit Royalty payable under after deduction 2.1	$2.5 \times 2,000,000 = 5,000,000$
(b) Profit Royalty payable under after deduction 2.15	$2.5 \times 2,000,000 = 5,000,000$

These two Tables constitute reasonable limits but both Tonnage and Profit Royalties can be varied to produce in total, the Royalty which is proposed to concede.

We have, in Tables A & B illustrating arbitrarily fixed the tonnage Royalty at 2.4% in view of the precedent created in the I.P.C. and Agreements and assuming that the P.G. would not be with issue. With tonnage Royalty on so high a scale been necessary to introduce a limit to the Profit Royalty which will be payable. This limit might be a source of controversy.

But there is a perfectly answer in support of it, namely that the P.G. on receive a guaranteed sum on the production, and the holders are equally entitled to a guaranteed first on the profits. The amounts obtained from these minima between the most likely range of production million tons would be

Alternative (a) with 2.4% limit	£. 2,160,000
(b) " 2.15% "	£. 2,250,000

which is in very reasonable proportion to the sum to cover fixed interest dividends, before on ordinary and operating expenses. This scheme can be translated very simply words and a Draft Clause is attached. It is hoped that the wording "declared profits" may be accepted



(and safeguarded in the Clause) and the 7 and 8 million ton production scale eliminated as unlikely, we are left with a range comprising the most likely combinations of production and profits, namely 3 to 6 million tons per annum and 3 to 10 million Pounds profit. In approximately 75% of these combinations (encircled with a red line) the total Royalty payable would be less than 25% of the Gross Profits (in Table A it is below 20% in the majority of cases); in the remaining 25% of the combinations, the Royalty is derived from tonnage only and the higher percentage to the Gross Profits is therefore unavoidable in any case, if the "Tonnage Royalty" is to be the main basis of payment.

**SCHEME 2.** Judging the results of this scheme with the stipulations detailed at the commencement of this note, we have

1. A guaranteed minimum Royalty to the P.G. of £.600,000 p.a.
2. An annual payment which, within the most likely combinations of tonnage and profit varies but slightly. Taking the 5 million ton scale as an example (in Table A), the Royalty payable, when profits range from £.4,000,000 to £.8,000,000 increases only from £.1,000,000 to £.1,240,000. Alternatively with profit at say £.5,000,000 the Royalty varies only from £.867,000 to £.1,200,000 for production between 3 and 6 million tons.
3. An annual Royalty which is less than 25% of the Company's profits and in the Table A scale, generally less than 20%. Expressed as a rate per ton, the Royalty between the ranges of 4 and 6 million tons per annum is almost in every case between Sh.4/- and Sh.6.5/- per ton.
4. The incentive for the P.G. to press for ever-increasing tonnage is very largely removed. It will be seen for instance it is as much to the advantage of the P.G. to see the Company remain on a steady tonnage and strive for increased profits as it is for them to keep profits steady and increase tonnage. Again, as an illustration, the Royalty payable with profits of £.5,000,000, from the scale Table B, would be
 

On 3 Million Tons production	£. 1,150,000
" 4 " " "	£. 1,100,000
" 5 " " "	£. 1,150,000
" 6 " " "	£. 1,250,000
5. The method carries no shareholding rights but ensures for the P.G. a share in the prosperity of



the Company and a substantial minimum if Persian production declines.

6. Whilst not removing the possibility of a demand to examine the Accounts, the field of dispute is distinctly limited since the Profit Royalty is linked to the profits from all sources as published in the Accounts. Royalty increases with production. It should be stressed that the scale of Royalty has been arbitrarily fixed in these illustrations and could be adjusted to suit the monetary consideration it is intended to concede. As explained under Scheme 3, Table D can be used for the purpose of arriving at a Royalty basis, within a reasonable range of profits and productions, to suit whatever monetary consideration is regarded as reasonable.

A basis can very easily be devised from the same formulae used in Schemes 1 and 2 whereby both tonnage and Profit Royalty can be fixed at such levels as to produce a total Royalty which is a fixed percentage of the total profits.

**SCHEME 2.**  
In case the allowance of Sh.15/- or Sh.20/- per ton of Persian Crude, as a first charge for the shareholders, proved to be an insuperable obstacle in negotiations, an alternative Table C has been devised eliminating altogether this allowance, and producing in total a Royalty which is in reasonable proportion to the Gross Profits.

The principles of this Scheme are in all other respects precisely the same. The practical results have necessarily been to reduce the tonnage Royalty to Sh.3/- per ton and we foresee in this a more likely source of objection from the P.G. in that it compares unfavourably with the tonnage Royalties granted to the I.P.C. and K.O.C. A larger proportion of the total Royalty is also unavoidably thrown on to the "Profit Royalty" basis.

It will be seen that the scheme is again inapplicable to the 1 and 2 million ton production range and the necessary safeguard has accordingly been introduced into the Draft Clause attached. It is suggested that this range would also have to be covered by a minimum guarantee of say £.450,000 the equivalent of 3,000,000 Tons production.

Tables B are prepared to show these combinations of Tonnage and Profit Royalties with minimum on the Profit Royalty side (as a first charge for shareholders) of £.150,000, £.180,000, £.210,000, £.240,000, £.270,000, £.300,000, £.330,000, £.360,000, £.390,000, £.420,000, £.450,000, £.480,000, £.510,000, £.540,000, £.570,000, £.600,000, £.630,000, £.660,000, £.690,000, £.720,000, £.750,000, £.780,000, £.810,000, £.840,000, £.870,000, £.900,000, £.930,000, £.960,000, £.990,000, £.1,020,000, £.1,050,000, £.1,080,000, £.1,110,000, £.1,140,000, £.1,170,000, £.1,200,000, £.1,230,000, £.1,260,000, £.1,290,000, £.1,320,000, £.1,350,000, £.1,380,000, £.1,410,000, £.1,440,000, £.1,470,000, £.1,500,000, £.1,530,000, £.1,560,000, £.1,590,000, £.1,620,000, £.1,650,000, £.1,680,000, £.1,710,000, £.1,740,000, £.1,770,000, £.1,800,000, £.1,830,000, £.1,860,000, £.1,890,000, £.1,920,000, £.1,950,000, £.1,980,000, £.2,010,000, £.2,040,000, £.2,070,000, £.2,100,000, £.2,130,000, £.2,160,000, £.2,190,000, £.2,220,000, £.2,250,000, £.2,280,000, £.2,310,000, £.2,340,000, £.2,370,000, £.2,400,000, £.2,430,000, £.2,460,000, £.2,490,000, £.2,520,000, £.2,550,000, £.2,580,000, £.2,610,000, £.2,640,000, £.2,670,000, £.2,700,000, £.2,730,000, £.2,760,000, £.2,790,000, £.2,820,000, £.2,850,000, £.2,880,000, £.2,910,000, £.2,940,000, £.2,970,000, £.3,000,000.

Tables B are prepared to show these combinations of Tonnage and Profit Royalties with minimum on the Profit Royalty side (as a first charge for shareholders) of £.150,000, £.180,000, £.210,000, £.240,000, £.270,000, £.300,000, £.330,000, £.360,000, £.390,000, £.420,000, £.450,000, £.480,000, £.510,000, £.540,000, £.570,000, £.600,000, £.630,000, £.660,000, £.690,000, £.720,000, £.750,000, £.780,000, £.810,000, £.840,000, £.870,000, £.900,000, £.930,000, £.960,000, £.990,000, £.1,020,000, £.1,050,000, £.1,080,000, £.1,110,000, £.1,140,000, £.1,170,000, £.1,200,000, £.1,230,000, £.1,260,000, £.1,290,000, £.1,320,000, £.1,350,000, £.1,380,000, £.1,410,000, £.1,440,000, £.1,470,000, £.1,500,000, £.1,530,000, £.1,560,000, £.1,590,000, £.1,620,000, £.1,650,000, £.1,680,000, £.1,710,000, £.1,740,000, £.1,770,000, £.1,800,000, £.1,830,000, £.1,860,000, £.1,890,000, £.1,920,000, £.1,950,000, £.1,980,000, £.2,010,000, £.2,040,000, £.2,070,000, £.2,100,000, £.2,130,000, £.2,160,000, £.2,190,000, £.2,220,000, £.2,250,000, £.2,280,000, £.2,310,000, £.2,340,000, £.2,370,000, £.2,400,000, £.2,430,000, £.2,460,000, £.2,490,000, £.2,520,000, £.2,550,000, £.2,580,000, £.2,610,000, £.2,640,000, £.2,670,000, £.2,700,000, £.2,730,000, £.2,760,000, £.2,790,000, £.2,820,000, £.2,850,000, £.2,880,000, £.2,910,000, £.2,940,000, £.2,970,000, £.3,000,000.

Tables B are prepared to show these combinations of Tonnage and Profit Royalties with minimum on the Profit Royalty side (as a first charge for shareholders) of £.150,000, £.180,000, £.210,000, £.240,000, £.270,000, £.300,000, £.330,000, £.360,000, £.390,000, £.420,000, £.450,000, £.480,000, £.510,000, £.540,000, £.570,000, £.600,000, £.630,000, £.660,000, £.690,000, £.720,000, £.750,000, £.780,000, £.810,000, £.840,000, £.870,000, £.900,000, £.930,000, £.960,000, £.990,000, £.1,020,000, £.1,050,000, £.1,080,000, £.1,110,000, £.1,140,000, £.1,170,000, £.1,200,000, £.1,230,000, £.1,260,000, £.1,290,000, £.1,320,000, £.1,350,000, £.1,380,000, £.1,410,000, £.1,440,000, £.1,470,000, £.1,500,000, £.1,530,000, £.1,560,000, £.1,590,000, £.1,620,000, £.1,650,000, £.1,680,000, £.1,710,000, £.1,740,000, £.1,770,000, £.1,800,000, £.1,830,000, £.1,860,000, £.1,890,000, £.1,920,000, £.1,950,000, £.1,980,000, £.2,010,000, £.2,040,000, £.2,070,000, £.2,100,000, £.2,130,000, £.2,160,000, £.2,190,000, £.2,220,000, £.2,250,000, £.2,280,000, £.2,310,000, £.2,340,000, £.2,370,000, £.2,400,000, £.2,430,000, £.2,460,000, £.2,490,000, £.2,520,000, £.2,550,000, £.2,580,000, £.2,610,000, £.2,640,000, £.2,670,000, £.2,700,000, £.2,730,000, £.2,760,000, £.2,790,000, £.2,820,000, £.2,850,000, £.2,880,000, £.2,910,000, £.2,940,000, £.2,970,000, £.3,000,000.



**SCHEME 3.** Alternatively it would be a simple matter to prepare a possible source of objection to the scales illustrating Schemes 1 and 2 in Tables A, B and C is that although the total amount of "Profit Royalty" increases with increasing profit for any fixed production, the percentage to the total profits of the Company diminishes. altogether and cover Taking the 4 m.t. production as an example (Table A) "Profit Royalty" increases £.100,000 for every additional £.1,000,000 profit over £.5,000,000. The percentage to total profits diminishes, however, from 18% with £.5,000,000 profit to 14% with £.10,000,000 profit.

A basis can very easily be devised from the same formulae used in Schemes 1 and 2 whereby both tonnage and "Profit Royalty" can be fixed at such levels as to produce a total Royalty which is a fixed percentage of the total profits.

In Tables D attached will be found values of tonnage and "Profit Royalty", based on a total payment to the P.G. of 20% of the total declared profits and covering a wide range of profit and production. Values of tonnage and "Profit Royalties" for a total payment greater or less than 20% can therefore be obtained pro rata from these tables.

Although in these Tables D, the tonnage and Profit Royalty both vary with varying production and profit, yet for a reasonable range of likely production and profit an average figure for tonnage Royalty and for Profit Royalty can be struck which would give a total payment to the P.G. equal to approximately 20% (or pro rata, to any lower percentage).

Tables D are prepared to show these combinations of tonnage and Profit Royalties with minima on the Profit Royalty side (as a first charge for shareholders) of 5/-, 10/-, 15/- and 20/- and with no minimum at all.



Profit Clause.

Alternatively it would be a simple matter to prepare Tables with a fixed tonnage Royalty of X Shillings per ton and a Table of varying Profit Royalty to give a total Royalty of fixed percentage to the total profits, although in this combination of circumstances it would be simpler to dispense with "Profit Royalty" Tables altogether and cover the point by stating that a Royalty on profits will be paid of amount which, added to the tonnage Royalty, will give to the P.U. a total Royalty payment equal to Y% of the profits.

- (a) all water and gas used within Perak
- (b) all substances used within Perak
- (c) all substances returned to the natural reservoir.

The Company undertakes that the annual payment to the Government by way of Royalty shall not be less than £.600,000.

**NOTE:-** The following two safeguards could be introduced at this point but it may be considered desirable, on grounds of policy, particularly if the Royalty payments compound for any or all forms of taxation, to omit them altogether.

1. In the event provided always that the oil resources of the Concessional Area permit of the production of a minimum amount of 3,000,000 Tons during the year in respect of which Royalties are payable and that such quantity can, with reasonable diligence on the part of the Company, be delivered at the seaboard.

2. If in any calendar year the total of the Tonnage Royalty due by the Company under the first paragraph of this Article is less than £.600,000 then the difference between the said total of the Tonnage Royalty due by the Company and the sum of £.600,000 shall be recoverable by the Company without interest in subsequent years of the Concession by way of deductions from Royalty out of any excess over £.600,000 of Royalty which may be due to the Government in any subsequent year of the Concession but shall not be otherwise recoverable.

Provided that the total tonnage of substances comprised in Article 1 (other than natural gas) won and saved at the seaboard in any one year shall not be less than 3,000,000 Tons and that the profit per ton of the said substances exceeds twenty Shillings then in that year the Company shall pay an additional Royalty of £.20,000



SCHEME 1.

Draft Clause.

In consideration of the privileges conceded, the Company shall pay to the Government a Royalty of four Shillings per ton of the substances (other than natural gas) comprised in Article 1 hereof won and saved in storage at the seaboard by the Company, but for the purpose of this provision the Company shall be entitled to deduct from the gross quantity so won and saved

(a) all water and foreign substances.

(b) all substances used within Persia by the Company for its operations hereunder.

(c) all substances returned to the natural reservoir.

The Company undertakes that the annual payment to the Government by way of Royalty shall not be less than £.600,000.

NOTE:- The following two safeguards could be introduced at this point but it may be considered desirable, on grounds of policy, particularly if the Royalty payments compound for any or all forms of taxation, to omit them altogether.

is, i.e. "provided always that the oil resources of the Concessional Area permit of the production of a minimum amount of 3,000,000 Tons during the year in respect of which Royalties are payable and that such quantity can, with reasonable diligence on the part of the Company, be delivered at the seaboard.

If in any calendar year the total of the Tonnage Royalty due by the Company under the first paragraph of this Article is less than £.600,000 then the difference between the said total of the Tonnage Royalty due by the Company and the sum of £.600,000 shall be recoverable by the Company without interest in subsequent years of the Concession by way of deductions from Royalty out of any excess over £.600,000 of Royalty which may be due to the Government in any subsequent year of the Concession but shall not be otherwise recoverable."

Provided that the total tonnage of substances comprised in Article 1 (other than natural gas) won and saved at the seaboard in any one year shall be not less than 3,000,000 Tons and that the profit per ton of the said substances exceeds twenty Shillings then in that year the Company shall pay an additional Royalty of £.20,000



for every Shilling in excess of twenty Shillings profit per ton.

The profit per ton of the said substances for purposes of this provision shall be fixed in manner following.

The declared profits of the Company for the year shall be divided by the total tons of the said substances won and saved at the seaboard during the same year.

EXAMPLE.

Declared profits of the Company for the year = £. 5,000,000
Total of said substances won and saved = 3,000,000 Tons.

Government by way of Royalty shall be £. 1. 13. 4 profit per ton.
Deduct £. 1. 0. 0 profit per ton
Balance £. 0. 13. 4 profit per ton.

Therefore the additional Royalty which the Company shall pay is, in this instance £. 20,000 x 13 1/3 = £. 266,666.13.4.

The Company shall also pay a Royalty of two pence per thousand Cubic Feet of all natural gas won in Persia that it sells, calculated at an absolute pressure of one atmosphere and a temperature of 60 degrees Fahrenheit.

EXAMPLE.

Declared profits of the Company for the year = £. 5,000,000
Total of said substances won and saved = 3,000,000 Tons.

Therefore the additional Royalty which the Company shall pay is, in this instance

£. 20,000 x 13 1/3 = £. 266,666.

The Company shall also pay a Royalty of two pence per thousand Cubic Feet of all natural gas won in Persia that it sells, calculated at an absolute pressure of one atmosphere and a temperature of 60 degrees Fahrenheit.

in consideration of the privileges conceded, the Company shall pay to the Government a Royalty of four Shillings per ton of the substances (other than natural gas) comprised in Article I won and saved in storage at the seaboard by the Company, but for the purpose of this provision the Company shall be entitled to deduct from the gross quantity so won and saved

- (a) all water and foreign substances.
(b) all substances used within Persia by the Company for its operations hereunder.
(c) All substances returned to the natural reservoir.

The Company undertakes that the annual payment to the Government by way of Royalty shall not be less than £. 2,000,000.

NOTE: The following two alterations could be introduced at this point but it may be considered desirable on grounds of policy, particularly if the Royalty payments compound for any or all forms of taxation, to omit them altogether.

1. "provided always that the oil resources of the Concessional Area permit of the production of a minimum amount of 3,000,000 Tons during the year in respect of which Royalties are payable and that such quantity can, with reasonable diligence on the part of the Company, be delivered at the seaboard."

If in any calendar year the total of the Royalty due by the Company under the first paragraph of this Article is less than £. 2,000,000 the difference between the said total of the Royalty due by the Company and the sum of £. 2,000,000 shall be recoverable by the Company without interest in subsequent years of the Concession by way of deduction from Royalty out of any excess over £. 2,000,000 of Royalty which may be due to the Government in any subsequent year of the Concession but shall not be otherwise recoverable."

Provided that the total tonnage of substances comprised in Article I (other than natural gas) won and saved at the seaboard in any one year shall be not less than 3,000,000 Tons and that the profit per ton of the said substances exceeds twenty Shillings then in that year the Company shall pay an additional Royalty of £. 20,000



for every Shilling in excess of twenty Shillings profit per ton.

The profit per ton of the said substances for purposes of this provision shall be fixed in manner following.

The declared profits of the Company for the year shall be divided by the total tons of the said substances won and saved at the seaboard during the same year.

EXAMPLE.

Declared profits of the Company for the year	=	£. 5,000,000
Total of said substances won and saved.		3,000,000 Tons
<hr/>		
	=	£. 1. 13. 4 profit per ton.
Deduct		£. 1. 0. 0 profit per ton
Balance		£. 0. 13. 4 profit per ton.

Therefore the additional Royalty which the Company shall pay is, in this instance  $£. 15,000 \times 32\frac{1}{3}$  = £. 500,000.

The Company shall also pay a Royalty of two pence per thousand Cubic Feet of all natural gas won in Persia that it sells, calculated at an absolute pressure of one atmosphere and a temperature of 60 degrees Fahrenheit.

SCHEME 2.  
Draft Clause.

sells, In consideration of the privileges conceded, the Company shall pay to the Government a Royalty of three Shillings per ton of the substances (other than natural gas) comprised in Article 1 hereof won and saved in storage at the seaboard by the Company, but for the purpose of this provision the Company shall be entitled to deduct from the gross quantity so won and saved

- (a) all water and foreign substances.
- (b) all substances used within Persia by the Company for its operations hereunder.
- (c) all substances returned to the natural reservoir.

The Company undertakes that the annual payment to the Government by way of Royalty shall not be less than £.450,000.

Provided that the total tonnage of substances comprised in Article 1 (other than natural gas) won and saved at the seaboard in any one year shall be not less than 3,000,000 tons the Company shall pay an additional Royalty of £.15,000 for every Shilling profit per ton.

The profit per ton of the said substances for purposes of this provision shall be fixed in manner following.

The declared profits of the Company for the year shall be divided by the total tons of the said substances won and saved at the seaboard during the same year.

EXAMPLE.

Declared profits of the Company for the year	=	£. 5,000,000
Total of said substances won and saved.		3,000,000 Tons
<hr/>		
	=	£. 1. 13. 4 profit per ton.

Therefore the additional Royalty which the Company shall pay is, in this instance  $£. 15,000 \times 32\frac{1}{3}$  = £. 500,000.

The Company shall also pay a Royalty of two pence per thousand Cubic Feet of all natural gas won in Persia that it



In consideration of the privileges conceded, the Company shall pay to the Government a Royalty of three Shillings per ton of the substances (other than natural gas) comprised in Article 1 hereof won and saved in storage at the seaboard by the Company, but for the purpose of this provision the Company shall be entitled to deduct from the gross quantity so won and

- saved
- (a) all water and foreign substances.
  - (b) all substances used within Perak by the Company for its operations hereunder.
  - (c) all substances returned to the natural reservoir.

The Company undertakes that the annual payment to the Government by way of Royalty shall not be less than £450,000.

Provided that the total tonnage of substances comprised in Article 1 (other than natural gas) won and saved at the seaboard in any one year shall be not less than 2,000,000 tons the Company shall pay an additional Royalty of £15,000 for every Shilling profit per ton.

The profit per ton of the said substances for purposes of this provision shall be fixed in manner following:—  
The declared profits of the Company for the year shall be divided by the total tons of the said substances won and saved at the seaboard during the same year.

EXAMPLE.

Declared profits of the Company for the year	=	£1,800,000
Total of said substances won and saved.	=	3,000,000 tons
Therefore the additional Royalty which the Company shall pay is, in this instance		
$£15,000 \times \frac{1}{3}$	=	£5,000,000

The Company shall also pay a Royalty of two pence per thousand cubic feet of all natural gas won in Perak that is

cells, calculated at an absolute pressure of one atmosphere and a temperature of 60 degrees Fahrenheit.

*[The following text is extremely faint and largely illegible due to the quality of the scan. It appears to contain technical specifications and financial clauses.]*



Faint, mostly illegible text on the left page, possibly bleed-through from the reverse side.

INVESTIGATION OF THE PROBLEM IN GENERAL TERMS.

- R = Tonnage Royalty in Pounds per ton.
- P = Production in Tons.
- A = Gross Profit of Company in Pounds. (2)
- S = Amount in Pounds paid as "Profit Royalty" for every Sh.1/- total Gross Profit (all sources) per ton production from Persia, irrespective of production.
- L = Limit in Shillings per ton of profit, below which no "Profit Royalty" is payable. (1)
- K = Total payment (Tonnage Royalty plus Profit Royalty). (3)

SCHEME 1.

A tonnage Royalty plus a lump sum for every Shilling profit per ton made, above a certain minimum limit of profit per ton.

In this case  $K = RP + S\left(\frac{20AS}{P} - L\right)$  (1)

SCHEME 2.

A tonnage Royalty plus a lump sum for every Shilling profit per ton, no minimum limit.

In this case  $K = RP + \frac{20AS}{P}$  (2)

It is apparent in both (1) and (2) that whereas the tonnage Royalty  $RP$  increases with production, the profit Royalty  $\frac{20AS}{P} - SL$  or  $\frac{20AS}{P}$  decreases with production. The purpose of a limiting factor "L" is to cause the profit payment to cut out entirely if production increases out of proportion to profit.

In each case, if the total payment is to be uninfluenced by production, then K must remain constant for all productions. That means that the rate of change of K with production P, must be Zero.

Continued



R = Tonnage Royalty in Pounds per ton.  
 P = Production in tons.  
 A = Gross Profit of Company in Pounds.  
 B = Amount in Pounds paid as "Profit Royalty" for every Sh.1/- total Gross Profit (All sources) per ton production from Pounds.  
 L = Limit in Shillings per ton of profit, below which no "Profit Royalty" is payable.  
 K = Total payment (Tonnage Royalty plus Profit Royalty).

SCHEME 1.

A tonnage Royalty plus a lump sum for every Shilling profit per ton made, above a certain minimum limit of profit per ton.

(1) In this case  $K = RP + S \left( \frac{20AS}{P} - L \right)$  .....

SCHEME 2.

A tonnage Royalty plus a lump sum for every Shilling profit per ton, no minimum limit.

(2) In this case  $K = RP + \frac{20AS}{P}$  .....

It is apparent in both (1) and (2) that whereas the tonnage Royalty increases with production, the profit Royalty  $\frac{20AS}{P}$  or  $\frac{20AS}{P} - L$  decreases with production.

The purpose of a limiting factor "L" is to cause the profit payment to cut out entirely if production increases out of proportion to profit.

In each case, if the total payment is to be uninfluenced by production, then K must remain constant for all productions. That means that the rate of change of K with production must be zero.

Continued

By the differential calculus therefore  $\frac{dK}{dP}$

But  $\frac{dK}{dP} = R - \frac{20AS}{P^2}$  from either (1) or (2)

$\therefore R = \frac{20AS}{P^2}$  which is the condition to be satisfied if the total payment is to remain constant irrespective of production.

The equations for Scheme 1 are therefore

$K = RP + S \left( \frac{20AS}{P} - L \right)$  .....

and  $R = \frac{20AS}{P^2}$  .....

Combining these  $K = 2RP - L$  .....

The equations for Scheme 2 are

$K = RP + \frac{20AS}{P}$  .....

and  $R = \frac{20AS}{P^2}$  .....

Combining these  $K = 2RP$  .....

It is apparent that R and S vary with production and therefore with profit.

In Tables D 1 - 5 values of R and S are tabulated over a wide range of production and profit in such a way that for any condition of production and profit selected the values of R and S tabulated against this will give a total Royalty payment equal to 20% of the profits.

Table D.1 assumes profit payment operative with no lower limit on profit per ton and therefore corresponds to Scheme 2.

Table D.2 is based on a profit payment operative above a minimum profit per ton of Sh.5/- per ton.

Table D.3 is based on a profit payment operative above a minimum profit per ton of Sh.10/- per ton.

Table D.4 is based on a profit payment operative above a minimum profit per ton of Sh.15/-.



Table D.5 is based on a profit payment operative above a minimum profit per ton of £.l. considered, and values of R and S. Although R and S vary with production and profit over the whole range of production and profit yet within narrower limits of these it is possible to strike a fixed R and a fixed S which will give a total Royalty payment of approximately 20%.

As an example, if production varies from 4 to 6 m. tons and profit from 4 to 8 m. Pounds, take say Table D.4.

The middle point in these limits is a production of 5 m. tons and a profit of 6 m. Pounds which gives a tonnage Royalty of 3.5/-

and a Profit Royalty of £. 36,400 for each Sh.1/- over Sh.15/- .

On this basis total Royalty is tabulated below:-

PROFIT.	PROFIT.				
	4	5	6	7	8
Production	380,000	1,060,000	1,250,000	1,430,000	1,610,000
4 m. tons	22%	21.2%	20.8%	20.4%	20.1%
5 m. tons	22.8%	21.2%	20%	19.3%	18.6%
6 m. tons	26.3%	22.2%	20.5%	19.3%	18.4%

Total Royalty varies, with the exception of the one case of 6 m. tons production and 4 m. Pounds profit (where total payment is 26.3% of profits, due to tonnage Royalty only) from 22.8% to 18.4% of the profits, which is reasonably approximate to 20%.

Furthermore, the Royalty for 6 m. tons production and 4 million Pounds profit is not so great as for 4 million tons production and 5 million Pounds profit, which fact counteracts the incentive for increased production at the expense of profits.

By the differential calculus therefore

$$\frac{dR}{dP} = \frac{dS}{dP} \quad \text{and} \quad \frac{dR}{dP} = \frac{dS}{dP}$$

which is the condition to be satisfied if the total payment is to remain constant irrespective of production.

The equations for scheme 1 are therefore

$$(1) \quad R = RP + S \quad \text{and} \quad \frac{dR}{dP} = \frac{dS}{dP}$$

$$(2) \quad R = \frac{S}{P} \quad \text{and} \quad \frac{dR}{dP} = \frac{dS}{dP}$$

Combining these

The equations for scheme 2 are

$$(3) \quad R = RP + S \quad \text{and} \quad \frac{dR}{dP} = \frac{dS}{dP}$$

$$(4) \quad R = \frac{S}{P} \quad \text{and} \quad \frac{dR}{dP} = \frac{dS}{dP}$$

Combining these

It is apparent that R and S vary with production and with profit.

In Tables D.1 - 5 values of R and S are tabulated over a wide range of production and profit in such a way that for any condition of production and profit selected the values of R and S tabulated against this will give a total Royalty payment equal to 20% of the profits.

Table D.1 assumes profit payment operative with no lower limit on profit per ton and therefore corresponds to Scheme 1.

Table D.2 is based on a profit payment operative above a minimum profit per ton of Sh.3/- per ton.

Table D.3 is based on a profit payment operative above a minimum profit per ton of Sh.10/- per ton.

Table D.4 is based on a profit payment operative above a minimum profit per ton of Sh.15/- .



Table D.3 is based on a profit payment operative above a minimum profit per ton of 2.1. Although R and S vary with production and profit over the whole range of production and profit yet within narrower limits of these it is possible to strike a fixed R and a fixed S which will give a total royalty payment of approximately 20%.

As an example, if production varies from 4 to 6 m. tons and profit from 4 to 8 m. pounds, take say Table D.4. The middle point in these limits is a production of 5 m. tons and a profit of 6 m. pounds which gives a tonnage royalty of 3.8/- and a profit royalty of 2.38, 400 for each 25.1/- over 25.12/-.

On this basis total royalty is tabulated below:-

PROFIT.		4 m. tons		5 m. tons		6 m. tons	
A	B	C	D	E	F	G	H
280,000	1,060,000	1,250,000	1,430,000	1,620,000	1,810,000	200,000	20.12
210,000	1,060,000	1,200,000	1,380,000	1,570,000	1,760,000	190,000	20.42
1,050,000	1,110,000	1,260,000	1,410,000	1,560,000	1,710,000	1,860,000	21.22
1,050,000	1,110,000	1,260,000	1,410,000	1,560,000	1,710,000	1,860,000	21.22
1,050,000	1,110,000	1,260,000	1,410,000	1,560,000	1,710,000	1,860,000	21.22

Total Royalty varies, with the exception of the one case of 6 m. tons production and 4 m. pounds profit (where total payment is 25.32 of profits, due to tonnage royalty only) from 22.22 to 25.32 of the profits, which is reasonably approximate to 20%.

Furthermore, the royalty for 6 m. tons production and 4 million pounds profit is not so great as for 4 million tons production and 2 million pounds profit, which fact counteracts the incentive for increased production at the expense of profits.

Similarly other Tables can be compiled for whatever range of production and profits is to be considered, and values of R and S tabulated in Tables D to give total payment equal to 20%, can be pro rated for a total payment of any other percentage "y" of total profits.