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Report to  
**USAID**  
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# ***The Promotion of Hydrocarbon Exploration in Liberia***

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 **Arthur D. Little, Inc.**    *Reference 88430*

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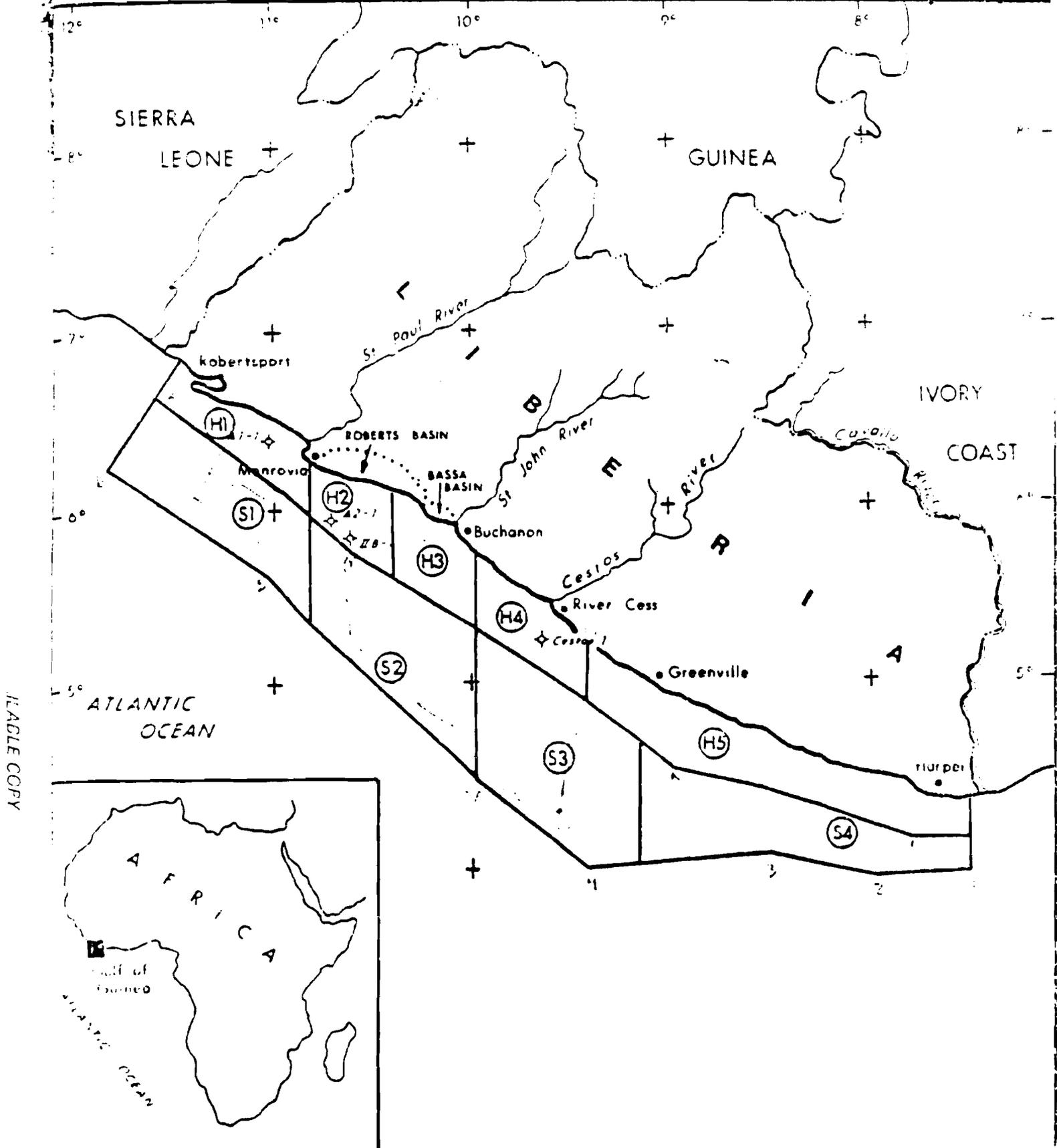
APPENDIX A

## I. BACKGROUND

In 1979, the Ministry of Lands, Mines and Energy commissioned Ferrand and Associates, a geological consulting firm in Houston to evaluate the hydrocarbon potential of Liberia. The work was financed by a World Bank loan and consisted of two phases. The first phase dealt with the gathering, reprocessing and interpretation of previous geophysical and geological data, and a report was submitted in April 1980. The second phase consisted of the acquisition, processing and interpretation of 2,500 kilometers of new geophysical data. This new information was consolidated with the previous information and delivered to the Government in early 1982. The seismic was shot by CGG and was mostly on the Continental Shelf, although some lines extended into the slope area. The Ministry believes that the new seismic information indicates that certain of the four exploratory wells drilled in the 1969-70 period missed their targets. The World Bank loan was also used to develop a new model contract with the assistance of Duncan, Allan, and Mitchell, a Washington law firm which has some experience in the preparation of production sharing agreements. The total value of the World Bank loan was \$5 million and the Government of the Ivory Coast has also contributed \$1 million to the effort.

As shown in Figure 1 the offshore areas have been divided into 5 blocks on the Continental Shelf (defined for the purposes of this exercise as representing the seabed up to a submerged depth of approximately 200 meters) These 5 blocks range from 2,000 to 3,500 square kilometers in area with the exception of Block H5 which is approximately 8,000 square kilometers. In addition, the slope (representing the transitional area of seabed linking the Continental Shelf and the deep sea floor up to a depth of about 3,000 meters) has been sub-divided into four blocks ranging from 6,400 square kilometers to 9,800 square kilometers. The companies were required to submit proposals by June 30, 1982 indicating a minimum drilling program and expenditure commitment as well as the percentage of production which the Government would receive under a production sharing agreement. The submission deadline was subsequently extended to September 30. Only companies which agreed to purchase the Ferrand report (\$50,000), the 1981 geophysical survey data (\$250,000), and the previous technical data (\$50,000) for a total of \$350,000 were qualified to propose. To date only four companies are understood to have purchased any data. Chevron and Elf purchased the Ferrand report and Marathon purchased the Ferrand report and the old data. Only one company, Amoco, has purchased the old data, the new data and the Ferrand report. This response has clearly been a disappointment.

Up to now the Liberian promotional efforts have been confined to holding two seminars--one in early April in Monrovia and a second in Houston from April 21 to 23. During these seminars, the first day was devoted to the geological presentation by Ferrand and Associates, the second day dealt with legal and contractual matters and the third day was largely devoted to informal contacts. A list of the attendees at both seminars is given in Table 1.



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- ◆ WELL LOCATIONS
- WATER DEPTH IN METERS
- (H) SHELF BLOCK
- (S) SCOPE BLOCK

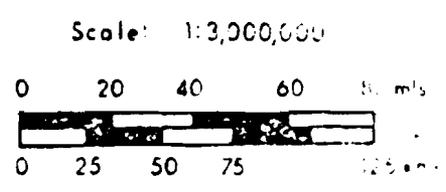


FIGURE 1: LIBERIAN EXPLORATION AREAS

TABLE 1

LIBERIA: EXPLORATION PROMOTION  
COMPANIES ATTENDING MONROVIA AND HOUSTON CONFERENCES

Monrovia

Agip  
Amoco  
Bentley International  
B.P.  
Burmah Oil  
Chevron  
Clu Enterprises, Inc.  
Crescent Oil  
Delta Oil  
Deminex  
Durkee Drilling  
Elf  
Esso/Exxon  
Gulf  
Hispanica de Petroleos S.A.  
Hunt Oil Co.  
Katana  
Liberia Offshore Oil Corp.  
LPRC  
Mapco  
Marathon  
Mobil  
Petrobras  
Petrofina  
Phillips  
Richland Oil  
Shell  
Total

Houston

Amoco  
Arco  
Baird  
Chevron  
Cities Services  
Conoco  
Esso  
Getty  
Gulf  
Hudbay  
Husky Oil International  
Katana  
Ladd Petroleum Corp.  
Liberia Offshore  
Bennett Energy  
Odeco Oil & Gas  
Oxoco  
Pecten (Shell)  
Petrofina  
Phillips  
Superior  
Terra Resources  
Texaco  
Texas Eastern  
Transworld  
Union Texas

The Liberians have noted a dramatic change in the attitude of companies between early 1981 and the present. There has been a further significant deterioration in interest from the time the seminars were held in April. In early 1981 Phillips, AGIP and TOTAL appeared interested in acquiring the entire shelf area and AGIP indicated it would repay the World Bank loan. In addition, Getty, among others, showed strong interest. The area of primary interest appeared to extend from a line half-way between Block H2 to the eastern edge of Block H4 and extending beyond the shelf to the slope and rise areas.

The first seismic was shot in Liberia in 1968 by Conoco and Chevron with subsequent surveys as shown in Table 2. Concessions were awarded in 1969 to Union Carbide (with Ashland as a partner), Chevron (with Amoco as a partner), Frontier International, and Syracuse Oils. These concessions were relinquished in 1972 after the drilling of four wells during 1971, none of which reached basement although two bottomed in rift-associated volcanics. Union Carbide drilled two wells, A1-1 to 5,500 feet and A2-1 to 10,400 feet. Chevron drilled one well, 11B-1 to 9,600 feet and the Frontier group drilled Cestos No. 1 to 10,400 feet. All wells encountered shows but either drill stem tests were not performed or were unsuccessful. The Liberians have found it difficult to obtain all the past data since Union Carbide has since ceased international exploration, Syracuse has been taken over by Bow Valley, and Frontier (a subsidiary of Husky) was taken over by Nova.

It is noted in the Ferrand geological report that there was an absence of good reservoirs in the areas drilled, together with significant interpretational problems. On the other hand, on the favorable side, the report notes areas of thick sediments (particularly on the slope), organic-rich thermally-mature shales, individual sand intervals with fair to good porosities, potential structural and stratigraphic traps, and hydrocarbon shows in the wells drilled.

Given the somewhat disappointing response of the companies to their promotional efforts, the Liberian Government requested USAID to undertake an independent review of the promotion process, to try to assess the reasons for the negative reaction of the companies and to advise on future strategy. This review has been undertaken during the last three months by Arthur D. Little, Inc., on behalf of USAID. The review process consisted of conducting informal discussions with a number of companies, and reviewing the terms of the proposed Liberian Model Contract. Finally, consideration was given to the promotion process used by the Liberians and suggestions are made as to how to proceed in the future.

Table 2

SEISMIC COVERAGE OFFSHORE LIBERIA  
1968-1981

Year	Entity	General Area	Miles	Energy Source	Coverage Stack %
1968	Continental	Shelf	150	Vibroscis	1200
1968	Chevron	Shelf	233	Aquapulse	1200
1969	Syracuse	Shelf	710	Air Guns ( 900 ci)	1200
1969	Union Carbide	Shelf	711	Air Guns ( 600 ci)	2400
1970	Chevron	Shelf	988	Air Guns ( 900 ci)	2400
1970	Union Carbide	Shelf	137	Air Guns ( 600 ci)	2400
1970	Mobil	Slope & Rise *	820	Air Guns ( 500 psi)	100 & 1200
1970	Frontier	Shelf	960	Air Guns ( 900 ci)	2400
1971	Crystal	Shelf	56	Aquapulse	2400
1971	Union Carbide	Shelf	72	Air Guns ( 600 ci)	2400
1971	IDOE	Slope & Rise *	3,353	Sparker ( 160 kj)	100
1972	Ashland	Shelf	18	Maxipulse	1200
1976	GSI	Slope & Rise	500	Air Guns (1450 ci)	100 & 2400
1977	IFP/CEPM	Slope & Rise	430	Flexihoc ( 50 kj)	2400
1980	IFP/CEPM	Slope & Rise *	1,248	Flexihoc	2400
1981	Liberia	Shelf & Slope *	246	Vaporchoc	4800
1981	Liberia	Shelf & Slope *	1,052	Vaporchoc	9600
<b>Total Mileage</b>			<b>11,684</b>		

\* Data integrated as part of Phase II study (6,719 miles) in addition to the data interpreted during Phase I (4,965 miles).

Abbreviations:

ci: cubic inch  
psi: pound/square inch  
kj: kilojoule

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## II. COMPANY VIEWS ON THE LIBERIAN EXPLORATION PROMOTION EFFORT

When considering new areas, exploration companies move along a decision tree as follows:

- Geology

Does the area offer favorable geological prospects? And if so,

- Terms

Does it appear that terms can be negotiated with the Government's current administration which properly reflect the economics of finding and development in the area? And if so,

- Political Risk

Is it reasonable to expect that any terms negotiated now would be honored by the current and successive Government regimes, should hydrocarbons be found?

Strongly impacting this decision tree is the current industry environment which plays an important role in how companies perceive short-term exploration opportunities. The 1973 and 1979 oil crises with their attendant price increases caused strong surges in exploration interest. The rapid increase in industry cash flow which became available for investment, together with the perceived shortage of new investment opportunities, caused companies to bid-up terms in even marginal geological areas. One manifestation of this was the skyrocketing of lease bonuses paid for U.S. acreage. Internationally companies showed renewed interest in areas of perceived marginal geological prospectivity which had not been considered under the previous cost/price environment.

The current outlook of uncertain oil prices, coupled with the commitments made during the 1979-81 crisis period, have created a much poorer environment today in which to promote new exploration activities. Companies find themselves overcommitted relative to their cash flow generation capability and are trying to lay-off these commitments through farm-outs and by carrying out the minimum work obligations needed to hold the acreage. Areas where geological prospectivity is relatively low are suffering the most in this environment and this has been reflected in the comments we have received about Liberia in our interview program. Very few of the companies in fact had "crossed the geological bridge" and thus few had made more than a superficial review of the Liberian model contract.

Given the current state of the industry, the companies are in a strong bargaining position vis-a-vis new deals. It is thus unlikely that the kind of terms which would have been acceptable earlier would be negotiable now. This comment applies both to work obligations (such as commitments to drill a specific number of wells of a minimum depth during a defined exploration period or to spend a specific exploratory budget) and to fiscal provisions

(the profit-sharing formula and taxation terms). A country of marginal prospectivity may now have to decide whether to relax its required work obligations and/or its fiscal terms in the interests of getting some near-term activity or whether to wait for a more auspicious negotiating environment. It is unclear whether there is in fact a trade-off in the minds of the companies between work program obligations and fiscal provisions and this can only be ascertained through specific discussion with interested bidders.

In order to directly test the company views of Liberia, a number of companies (who had attended either the Monrovia or Houston conferences) were informally contacted by Arthur D. Little, Inc. These contacts were made with individuals in the companies concerned with whom we had already had prior contacts (regarding other areas) or with individuals who attended either of the two conferences. These conversations were held during October and November 1982, and mainly during the latter part of November. Most of the contacts were made by telephone although some were also made during the course of meetings on other subjects; a total of 24 companies, as identified in Table 3, have been contacted to date. (ADL is frequently in contact with the companies involved in international exploration and if further feedback is obtained, this will be passed on to USAID.)

In general, in the view of the companies contacted, the geological prospects in Liberia must be considered low. We have segregated the comments made into the following sub-issues:

- Geological prospects and potential future interest;
- The current exploration environment;
- The Liberian fiscal terms and model contract; and
- Reactions to the promotion process.

The following notes summarize, without specific attribution, the comments received under each heading from the companies. We have identified those companies who expressed a possible future interest in Liberia, since we believe that future contact with these companies should form an important part of Liberia's future strategy.

#### 1. Geological Prospects and Potential Future Interest

Some 7 or 8 companies out of the 24 contacted have indicated some level of interest in the geological prospects in Liberia. However, this interest cannot be considered as high except for Amoco who we believe intends to submit a bid to the Liberian Government. With one exception (Terra Resources) the companies appear to have little or no interest in the shallow water continental shelf area; their interest is mainly in the deeper water, continental slope areas. This interest cannot be considered as high, and is not expected to lead to additional bids at the present time. The companies believe the structures in these areas are likely to be small and they are concerned about the high cost of exploration and the difficulty and high cost of development of any discoveries made in these deep water environments.

TABLE 3  
LIBERIA EXPLORATION PROMOTION  
COMPANIES CONTACTED BY ADL

Murphy	Terra Resources
Exxon	Superior
Pecten	Husky
Gulf	Hudbay
Deminex	Ladd Petroleum
B.P.	Odeco
Burmah	Baird
Chevron	Union Texas
Amoco	Arco
Elf Aquitaine	Oxoco
Marathon	Getty
Phillips	Texas Eastern

Most of the companies we contacted simply felt that the geology of offshore Liberia was not sufficiently interesting to merit further consideration in the current environment. Many companies felt that the geological prospectivity was so low that they would not purchase the seismic data package offered by Liberia.

From our discussions, it is difficult to discern how "real" the expressions of possible interest might actually be. In a sense, the companies prefer to respond with interest rather than to make an absolute rejection, so that if and when the environment improves, or when their views change as new data and concepts become known in the industry, they are still able to bid; they hesitate to finally close the door. We have also noticed in the past that it may only take one company to express serious interest and negotiate a deal to create a competitive environment in which several companies may show more serious interest in what was initially regarded as uninteresting acreage. If Liberia is able to conclude a contract with Amoco, the industry's interest could increase.

The list of companies which follows is of interest primarily because it provides some possible follow-up leads to the Liberian Government; we recommend that the Government maintain contact with these companies whom it may wish to encourage to visit Liberia for further discussions regarding the available geological and geophysical data. It is also possible that one or more of these companies might be sufficiently interested to attempt to form a consortium of potentially interested companies to undertake further seismic work, for example, through a group shoot in the deeper water areas, as a prelude to drilling later in the 1980s.

The companies which indicated some level of possible future interest were as follows:

- Amoco

Based on our conversation with Amoco we understand that they intend to submit a bid to the Liberian Government. Of the companies we contacted, Amoco has indicated by far the greatest level of interest in Liberia.

- Elf-Aquitaine and Marathon

Both these companies indicated separately that they could be interested in Liberia once their individual cash flow situations improve. These indications of interest should probably be taken seriously by the Liberian Government.

- Terra Resources

Terra Resources was the only company to express interest in the shallow water. Terra would not be prepared to "go-it-alone" but would be interested in a partnership with others. Terra may also therefore be worth early contact by the Liberian Government.

• Superior, Husky, Union Texas and Arco

These companies all indicated some interest in the longer-term regarding the deep water continental slope areas. Generally speaking their review of the shallow water shelf geology was negative. The Liberian Government should therefore contact these four companies with a view to assessing their real interest in the blocks not of interest to Amoco.

• BP and Murphy

Both these companies indicated very tentative interest which is unlikely to become more serious until the exploration environment improves. We are uncertain how real this interest might actually be.

2. The Current Exploration Environment

The current environment is extremely unfavorable for the promotion of new exploration activities. Company cash flows are constrained at the present time by declining profitability and prior commitments. The companies are faced by an array of international and domestic U.S. investment opportunities from which to choose and many are trying to farm-out acreage and delay commitments. In this environment, it is extremely difficult to promote what is generally viewed as high risk, marginally prospective acreage.

Many comments received confirmed the above views; perhaps six or seven companies specifically commented on the limitations of their cash flow and said that this had influenced their negative position on Liberia. Several others indicated that the general environment was bad for new, risky exploration investments and that new activities were being constrained by management. Others mentioned that Liberia's timing was bad and that it would have been easier for Liberia to promote this acreage two or three years ago but, in 1982, Liberia had picked the worst possible time. Several companies said that lack of funds had prevented them from purchasing the seismic data offered by the Liberians; the data package was viewed as too expensive given the quality of the acreage. It is, however, our view that if the companies were really interested in Liberia, they would not have been deterred by the cost of the data package. We also note that comments on timing are being made with the benefit of hindsight: it would have been difficult to predict the course of events affecting the E&P environment since 1979.

3. The Liberian Fiscal Terms and Agreement

Most of the companies with whom discussions were held claimed not to have reviewed the Liberian model contract in any degree of detail due to their lack of geological interest. In some cases, our contacts were with technical staff and other individuals were identified by respondents with whom we should discuss terms. Given the general lack of technical interest we have not, as yet, made specific contacts to discuss terms in any greater detail with these companies.

Several other companies commented that they viewed the terms as "generally acceptable". A few indicated that they were overly complex and one or two seemed to feel that they were inappropriately rigid given the current difficult exploration environment, and particularly in view of the perceived low prospectivity. Some companies said such terms would have been more appropriate two or three years ago when interest would have been higher in Liberia.

As indicated in the introductory section of this memorandum, these comments generally confirm that companies first make a "go or no-go" geological decision before they seriously review the fiscal and agreement terms. In general, the companies like to see terms which are appropriate given their perceptions of the geological prospectivity of the areas under consideration; more risky areas should have more liberal terms whereas more highly prospective areas can be expected to attract tougher terms. The companies are also concerned that if the terms appear too liberal, they may subsequently be changed once a discovery is made.

ADL's review of the Liberian model contract follows in Section III of this memorandum.

#### 4. Reaction to the Promotion Process

The companies generally commented in a positive fashion on the promotion process used by the Liberian Government. There were some concerns about timing and several companies expressed the view that it would have been better for Liberia to have undertaken its promotion process some two to three years ago rather than during 1982. Several companies mentioned that they felt the presentations in Monrovia and Houston were effective. One or two companies said the data review period had been too short and as indicated above, several companies mentioned that they felt the cost of the data package was too high.

Two or three companies indicated that Liberia should wait until the environment improves before again offering this acreage. Industry cash flow improvement would assist in creating a more positive level of interest in Liberia, which is viewed as lacking geological prospectivity. Once higher quality acreage again becomes scarce, or if resources are again perceived to be globally constrained, the companies will show interest in what they now tend to view as marginally prospective areas.

Some companies felt that Liberia had already been well picked-over in the sense that interesting shallow water prospects in the shelf area were drilled in the 1970s and that they saw little new to attract them in the data presented in 1982. Others felt that the deep water could be more interesting but many seemed to feel that the prospects for sizable traps and accumulations are not strong, and that given the potentially high cost of both exploration and the extreme difficulties of production development in deep water, the area is simply not worth further investigation at the present time. As mentioned above, some other companies indicated that Liberia should put the area "on-hold" for the present and wait until the cash flow situation of the companies and the general exploratory environment improve. Liberia might then expect to receive a better response from the industry.

### III. REVIEW OF THE LIBERIAN MODEL AGREEMENT

#### 1. General

The Liberian model contract (attached as Appendix A) conveys a relatively tough stance, although in general it is well drafted and well constructed. By itself it should not pose a deterrent to the companies. We note, however, that a better approach might have been to draft a Heads of Agreement and pre-test this through discussions with the companies. Such feedback would likely shorten the process since the companies are unlikely to accept the model contract as written. Our general comments, however, reflect how we think the companies might react to the model contract and the importance we would attach to these reactions.

The model contract requires the companies to "fill in a lot of blanks" without having a strong sense of how much importance the Government attaches to each provision. There seems also to have been an expectation that the companies would have been able to do this in a relatively short period of time following the geological presentation and the issuance of the model agreement. Companies, in general, prefer to have relatively few bidding elements so as to have a clear idea of the basis of the award. Ideally the companies would like all the terms to be fixed except one: say, the work program or the company/Government profit oil split. In practice, however, it is common for the companies to have to propose both a work program and profit oil share. It is not uncommon for the profit oil share to become uniform for all participants through the negotiating process such that the work program becomes the main basis of the award.

The model agreement calls for companies to propose on a range of items including:

- The length of the initial exploration period and of each of the two subsequent extensions;
- The duration of the production license which however is stated to be extendible for an additional ten years;
- The sole risk premium stated as a multiple of the relevant expenditures under which a contractor can buy-back into a discovery it had previously deemed to be non-commercial and which the Government then elected to develop at its sole risk and expense.
- The education fee in dollars per year which the contractor would spend to train Liberian nationals during the exploration phase.
- The work program expressed both in activity measures (numbers of wells, minimum well depth) and the total expenditure level for each of the three exploration periods.
- The Government shares for each of the three profitability tiers of the production sharing agreement. These profitability tiers

represent inflation-indexed rates of return above which the profit sharing ratios between the company and the Government automatically readjust.

As indicated above, we would prefer to limit the "number of blanks" by testing company reaction to work program and profit oil split.

## 2. Profit Sharing Formulation

The profit sharing formulation is designed to be fiscally efficient by causing the incremental cash flow above a series of profitability criteria to accrue selectively to the Government. Formulations of this type were first introduced in Papua New Guinea in 1976 and subsequently incorporated in the 1981 Tanzania agreement signed by Shell and in the 1981 Madagascar agreement signed by Mobil (where the maximum marginal rate is approximately 75%). In the Tanzania agreement there are two profitability tiers, 17% and 22%, to each of which is added the change in the U.S. consumer price index (i.e., the 17% and 22% are intended to be real rates of return). In the Madagascar agreement there are three tiers--15%, 20% and 25% rate of return--to each of which needs to be added the average LIBOR (London Interbank Offered Rate) interest rate in the year considered. In each of these agreements the profit oil shares so calculated are net of all income taxes.

In the Liberian model agreement there are three profitability tiers--30%, 40% and 50%-- to each of which is added the seasonally-adjusted index of U.S. industrial production. In addition, the company's income is subject to a 50% income tax which is not deductible in calculating the threshold at which the various production sharing percentages are triggered. The highest marginal government profit share is 80% but the marginal rate of government take is 90% because the company share is subject to income tax. Also the pre-tax real rates of return shown in the model agreement are difficult to interpret because of the tax effect but are effectively lower than what they seem. Finally, adding the index of industrial production does not have the intended effect of inflation indexing the fixed rates of return prescribed as the triggers for adjustments in profit sharing ratios since this index generally measures the rate of growth of the U.S. economy in physical terms. For example, from 1975 to August 1982, the consumer price index increased by 82%, whereas the index of industrial production increased by only 17%.

The general intent of having the Government share of production increase after certain profitability thresholds are passed is conceptually sound. Such a formulation tends to make the agreement fiscally efficient over a wide range of possible exploratory outcomes. By giving the companies a high share of the production below some minimum return, the companies can be encouraged to look for relatively small high-cost targets. At the same time, in the event of a large low-cost discovery, the formula would work to capture the excess economic rent. It would be necessary, however, to simulate the exploratory process under Liberian conditions to judge how efficient the formulation is. For example, the choice of the profitability thresholds, which at a first pass look high (i.e., 30, 40, and 50% real), may be substantially lower through the workings of the 50% income tax applied to company profits. Also, as noted the index of industrial production which is added to these percentages does not seem to have much logic.

Overall, the system is complex to analyze and this alone would act as something of a deterrent to the companies who would prefer a simpler formulation (although as noted companies have accepted similar formulations in other areas). The system thus might be hard to sell in today's exploration environment. The formulation is also more difficult to administer creating difficulties for the Government tax authorities and potentially becoming a source of conflict. An administratively simpler system which directionally tries to accomplish what the Liberian formula is seeking is a formulation where profit oil share is variable with cumulative production. Since large fields tend to be lower in cost than small fields, a formulation where the company share decreases with cumulative production (and thus with total reserves) tends to selectively tax the lower cost fields. We would prefer this formulation to the Liberian approach since we think it easier both to negotiate and administer. However, we do not have strong views on this and would be inclined to test both ideas with any companies showing interest.

### 3. Other Elements of Government Take

The primary source of Government take in the Liberian model agreement is the Government share of production which as noted above is a function of the "contractors' pre-tax real rate of return" plus the 50% income tax on the contractors' production share. The Liberian agreement however also introduces a number of other elements of Government take which of themselves are not unusual but are rarely all found in a single agreement. The Liberian agreement can in fact be characterized as containing all known forms of Government take.

#### o Carried Interest Provision

Perhaps the most burdensome, from the company point of view, is the carried interest provision under which the Liberian Government can acquire up to a 30% interest in a commercial discovery with reimbursement of its share of costs prior to development payable without interest out of 50% of the Government's share of profit oil (i.e., the contractor begins to be reimbursed once the first threshold return level is exceeded and the Government begins to receive a share of the contractor's portion of net hydrocarbons). Companies tend to find a carried interest provision to be particularly onerous in areas where there is high exploration risk since the contractor risks all of the money during the exploration phase but participates only in a portion of the subsequent development phase profits. Contractors will attempt to seek compensation for the carried interest through a higher profit oil share but such tradeoffs are difficult to make.

- Bonus Rental and Royalty Payments

The Liberian agreement includes a provision for the payment of a bonus to the Government at the time of signature and a requirement for the payment of rent for the concession area although both of these are nominal. It also includes a 12½% royalty which is rare but not unknown in production sharing agreements (a royalty also somewhat enhances tax creditability from the U.S. Internal Revenue Service standpoint). As noted above, the agreement also requires payment of annual education fees during the exploration period.

- Amortization Provisions

The agreement calls for four-year amortization of exploratory and pre-production operating expenditures and eight-year amortization of pre-production appraisal, development and production expenditures. It is not, however, totally clear whether intangible drilling expenses incurred for development wells fall in the four-year or eight-year category nor whether after production is established they can be expensed in the year incurred. Also amortization is to be on a straightline basis. These amortization provisions tend to be fairly tough (particularly if intangibles are in the eight-year category and cannot be expensed after production is established) but probably would not be considered particularly onerous. The agreement does allow bonuses to be amortized (although these are trivial) and also allows interest to be deducted as an expense (presumably another concession to the U.S. IRS) without requiring that the overall financial plan be approved by the Government.

#### 4. Other Features

Although the agreement contains other features which the companies might find objectionable, we do not feel these are of sufficient importance to be a deterrent to company proposals. There is, in fact, considerable precedent for similar provisions.

- Antiflaring. The agreement has a relatively strong antiflaring clause stating that the gas should be reinjected unless the Minister authorizes flaring for production tests, when reinjection would not be in accordance with good oil field practice or when required by technical and financial circumstances. The companies would be concerned as to how the Government might interpret the financial circumstances test.
- Gas Pricing. This issue is always troublesome in exploration agreements. In the case of the Liberian model contract, sales for the export market are based on the net realized FOB price and this could create ambiguity for a possible LNG project raising the issue of where the gas is to be valued (i.e., as liquid, at the wellhead, at the plant inlet, etc). A question could also arise if a sale of LNG were made to an affiliate whether it would have to be at the equivalent CIF price of Arabian Light crude oil

(Section XIV-A2B). Sales to the Liberian market are fixed by mutual agreement but a question could arise as to what constitutes the Liberian market. For example, if gas were sold to a domestic ammonia plant with the ammonia destined for export, would this constitute a domestic market sale?

Outside of a relatively few countries, companies are basically exploring for oil. Thus it is unnecessary for the gas provisions to be specified in detail. For example, with regard to pricing, a simpler formulation might be preferable under which gas for the local market would be based on a mutually agreed value which reflects the prices of the fuels displaced and the economics of delivering the gas (in fact, similar wording is used in the Liberian model agreement). For specific gas-based projects, the gas value could be based on agreement between the Government and the contractor reflecting the economics of gas production and its value in the gas-based project (LNG, methanol, ammonia, etc.).

- o Production License. The program for applying for a production license suggests that the Government could impose some burdensome constraints. For example, the program includes training and the employment of Liberian nationals, plans to maximize the use of Liberian goods and services, and plans to protect the environment. The Government may also require the contractor to make such revisions as are reasonable to contribute to the efficient development of Liberian infrastructure and to assist other national needs without, however, (it is noted) significantly impairing the economic viability of the field's development. Companies would seek assurances that these stipulations would be in keeping with general practice in comparable areas. In addition the companies might find burdensome the obligation to submit any contract to competitive tender when its value for goods and services is in excess of \$3 million (Section XXIB).

## 5. Summary

The overall package of terms falls within the range which companies have found to be generally acceptable although the package is more complex than it might be based on today's financial environment and the low perceived prospectivity of Liberia. These comments have been confirmed by our informal contacts with the companies. The companies would no doubt prefer a simpler formulation which would facilitate internal analysis. Those companies with geological interest will propose in any event, although very probably with an alternative formulation. The basic production sharing formulation is potentially complex and difficult to understand and analyze. Thus it may not be worth retaining if companies express strong reservations and if in any event the prospect of finding large low-cost fields is highly unlikely. Similarly the companies may find the carried interest provision in an area of low prospectivity to be particularly burdensome and Liberia may want to revise its views on this.

#### IV. REVIEW OF THE LIBERIAN PROMOTION PROCESS WITHIN THE CONTEXT OF THE GENERAL EXPLORATION ENVIRONMENT

##### 1. The General Exploration Environment

Prior to the oil price increases of the 1970s, it had often proved difficult for governments of the smaller developing countries, without proven geological prospectivity, to induce large-scale commercial oil and gas exploration by the international industry. Such governments had basically been forced to wait until they received an approach from a commercial company requesting a concession or license agreement often on the basis of limited or fragmentary technical information. In some offshore areas limited seismic information may have been available from research lines shot by organizations such as the U.S. Geological Survey or from group shoots. Since other areas held the prospect of high success rates onland, there was little these governments could do to encourage new exploration. In some instances governments signed agreements commonly known as "seismic options", which did not contain a firm drilling commitment, but which often gave the company an exclusive long-term right to conduct seismic work on the basis of which it could select the best area prior to drilling. This situation changed following the 1973 price increases, although the companies still tended to seek acreage in the proven prospective areas (for example in the Middle and Far East), rather than in areas where little data was available. A key problem faced by governments was in fact to obtain sufficient data to provide encouragement for a competitive bidding process which might lead to agreements containing some firm work obligations and fiscal terms commensurate with the prospective geological risk and cost environment.

The impetus to the developing countries to urgently promote exploration activities was a direct result of the successive price increases since oil imports consumed a much greater proportion of foreign exchange and there was a need to quickly ascertain whether indigenous resources were available to replace what were rapidly becoming unaffordable oil import costs.

During the 1970s, a wide range of new agreements were developed under which foreign companies could become involved in exploration. Many of the newer agreements were designed to provide a more equitable sharing of economic rent and to give the host governments greater control. Significantly some of these agreements also provided a greater degree of stability since they placed the foreign companies in the role of a contractor working for the government or national oil company. Prior to negotiating these agreements, governments often needed to quickly obtain more data as a basis for assessing prospectivity and ultimately negotiating the new terms. The governments had several options available ranging from the seismic option contract referred to above, through financing such work themselves (or through loans provided by organizations such as the World Bank) to the commissioning of a speculative seismic survey to be undertaken by a qualified company who would subsequently offer the data to the industry for purchase. Another intermediate alternative was a "group shoot", financed by a group of companies, as the basis for subsequent bidding.

In Liberia, the Government chose to use a World Bank loan to finance a seismic survey which was undertaken by CGG with interpretation by J.C. Ferrand and Associates. Although we believe it is possible that Liberia could have contracted with a geophysical company to undertake a speculative seismic survey (the cost of which would likely have been recovered through sales to interested companies at no expense to the Liberian Government), it is also true that the seismic companies were extremely busy by the late 1970s. In agreeing to undertake such speculative work, the seismic companies tend also to judge the prospectivity of the area so as to assure themselves that the package will be saleable once they have completed the work. Although Liberia has not yet proven to be highly prospective, we note that other African countries of varying prospectivity were able to arrange speculative seismic surveys.

Since late 1981 the general environment has deteriorated significantly: faced with declining cash flows, companies have been forced to defer and reduce commitments. This, as indicated elsewhere in this memorandum, has affected their attitude towards new exploration areas such as Liberia. More importantly, however, it is clear that they have a generally negative view about the geological prospects in Liberia. Even in the currently bad general environment, interested companies bid on acreage they view as prospective--as apparently is the case of Amoco in Liberia.

## 2. The Bidding Process and the Liberian Model Agreement

The Liberian process was undertaken through the issuance of a general brochure, followed by the sale of a seismic data package and a report, the dissemination of a model agreement and conferences in Monrovia and Houston.

Another alternative would have been to prepare a brochure, describing the geology and the general agreement format (for example, in the form of a Heads of Agreement) which would have been sent to a very large number of companies. Later these companies would have been contacted directly (on an individual basis) to set up meetings on their premises. A Liberian Government delegation (with consultants) would then have visited oil companies who expressed specific interest to discuss historic exploration activity in Liberia, the results of the recent seismic work and the general format proposed for the new agreement. This would have given the companies individually an opportunity to interact with the Government at a technical/geological level and to influence the formulation of the ultimate model agreement. The companies would also have had, in such a process, an opportunity to study the information and prepare themselves prior to the meeting. Attendance by top Government officials would have been facilitated using this approach. We believe that the use of a more general "Heads of Agreement" rather than the detailed "model contract" would have been beneficial. The rigid format of the model contract may tend to create a negative impression in the minds of certain companies.

The model contract proposed by Liberia is complex: companies may have perceived the combination of low geological prospectivity and a rigid complex model contract as being mutually incompatible. Although we do not

feel that the terms of the contract have stopped anyone from bidding, we nevertheless believe that a less formally structured approach to the agreement (such as would have been achieved by using a more general Heads of Agreement) would have put the companies in a better frame of mind.

It was indicated by several companies that the cost of the Liberian data package was too high given the current constrained cash flow environment and the lack of general prospectivity of the Liberian acreage. We tend to interpret this comment as being related to the perceived lack of prospectivity rather than to the cost of the data. We also have some concerns regarding the timing of the bidding process: a period of only two months following the Houston seminar was initially allowed for the companies to respond to the model contract. The companies requested an extension which was granted and, in fact, the Liberian Government has now allowed this extension date (September 30) to lapse and in effect is prepared to consider offers from companies on a continuing basis. We believe this to be the correct posture given the environment.

In general terms, we believe the Liberian Government has adopted a sound approach to the whole process of encouraging exploration in offshore Liberia. The comments above reflect minor variations to a process which has been successfully used elsewhere to encourage foreign company involvement. It is quite clear from our discussions and our review that the major problem faced by the Liberian Government has been the perceived lack of geological prospectivity. In view of this, we provide in the final section of this memorandum some specific recommendations which the Government of Liberia may care to consider in deciding how to proceed.

## V. RECOMMENDATIONS

We have developed a series of recommendations as to the future course of action to be pursued by the Liberian Government in attempting to promote foreign company involvement in offshore exploration activities in Liberia. These recommendations fall under the following general headings:

- o Timing,
- o Negotiations with Amoco,
- o Company contacts,
- o The Liberian terms,
- o Simulation exercise,
- o Further seismic work, and
- o Reoffer of acreage.

### 1. Timing

From our discussions with the companies we believe that the Liberian Government should continue its policy of informally extending the deadline for responses to the invitation to bid. Thus, should any companies indicate interest, the Government should be positive in responding and should not formally close the invitation to bid process at the present time.

### 2. Negotiations with Amoco

We believe that Amoco intends to submit a bid to the Liberian Government. The Government should adopt an open attitude toward the Amoco discussions. In particular it should be prepared to negotiate on terms and to consider fiscal formulations other than those suggested in the original model contract. While it is important to obtain a firm work program commitment from Amoco, we believe that in the current difficult environment, the Government should be prepared to strike a reasonable balance between work program requirements and fiscal efficiency. Thus, the Government should ensure that Amoco fulfills a minimum reasonable work program, but should also ensure that it will not be embarrassed in the event a discovery is made in the future, through having awarded Amoco a fiscally liberal agreement in the current environment, just to get a deal now.

### 3. Contact with the Companies

As indicated in Section II above, a number of companies have indicated some level of possible interest in Liberia. The Government should contact these companies with a view to ascertaining the extent and seriousness of their interest. If an agreement can be successfully concluded with Amoco, this may lead to a resurgence of interest by some of these companies. Thus, maintaining contact with them is important.

We also believe that it would be worthwhile contacting those companies who attended the Houston and Monrovia meetings but who have not recently been re-contacted by ADL. Past experience shows that these informal follow-ups can have a positive influence on generating interest, where it may not

previously have existed. The industry shows a tendency to "follow the leader" and the successful negotiation of a deal with Amoco, coupled with informal and formal contacts by the Government and its consultants, could lead to a resurgence of interest and further critical discussions with some of the companies.

Finally, it may well be worth recalling some of the companies informally contacted by ADL to discuss fiscal terms. It is also important for the Government to maintain some level of informal contact with the companies such that when the general exploratory environment improves (and the companies again have greater concern about spreading their international exploratory efforts and have the cash to do so) Liberia is on their list and is known to be ready to offer acreage.

#### 4. The Liberian Terms

We believe the Government should be prepared to adopt a flexible attitude towards its terms. Contacts should be held with the companies to obtain more specific views and to see how they would like to see the terms modified, given the generally low level of perceived prospectivity and the current difficult environment. The Government need not, at this stage, commit itself to altering the terms but rather should seek to obtain company views on the current version of the model contract.

#### 5. Simulation Exercise

We feel it is vitally important for the Government to have a cost and profitability simulation exercise undertaken. The purpose would be to assess the impact of the various terms (and of variations in the most critical of them as suggested in Section III above) on government take and company profitability in the Liberian geological and cost context. This will provide the Government both with vital information and with a position for forthcoming negotiations. Such a simulation process should be carried out preparatory to the negotiations with Amoco who will certainly have prepared their own simulation exercise for Liberia. Unless the Government also has such an analysis, it could find itself at a disadvantage in these important discussions.

#### 6. Speculative Seismic Work

The Government may wish to contact the geophysical research companies to assess their interest in undertaking a speculative seismic survey in the deeper water slope areas preparatory to formally reoffering the acreage when the environment improves.

Although we have some concerns about seismic options, in the case of offshore Liberia there may be a case for offering a seismic option in the deeper water (slope) areas. Such an option should be for a limited period and would result in generating information for the Government prior to a subsequent formal reoffering of the area when the environment improves and when there is a greater likelihood of the companies being interested in developing higher cost discoveries in the continental slope area.

## 7. Reoffer of Acreage

Ultimately, the only option open to the Liberian Government may be to reoffer the acreage at some point in the future when general conditions improve and when the companies are more ready to consider these more marginal areas.

It is apparent from this review of the promotion process undertaken by Liberia, that timing is critical in the international exploration business. Thus, the Government should carefully monitor developments in the international environment with regard to oil supply, demand and price and should judge the tempo of international exploration activity and the resurgence of company interest in foreign exploration. This is critical to knowing when to again offer the Liberian acreage. Although it is easy to say that Liberia's timing was bad, it is also clear that such a judgment is being made now with the benefit of hindsight since events in the oil industry since the late 1970s would have been impossible to predict with confidence.

APPENDIX A

APPENDIX A

ANNEX TO THE  
PETROLEUM CODE OF  
1982, OF  
THE REPUBLIC OF LIBERIA

MODEL PETROLEUM  
AGREEMENT

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ANNEX  
TO THE  
PETROLEUM CODE OF 1982,  
OF  
THE REPUBLIC OF LIBERIA

— — — — —  
MODEL PETROLEUM AGREEMENT

This Contract is made and entered into by and between:

The Republic of Liberia (hereinafter called the "Government"), represented by its Minister of Lands, Mines and Energy, and Minister of Finance

and

a corporation organized and existing under the laws of \_\_\_\_\_ hereinafter called the "Contractor"), represented by \_\_\_\_\_

The Government and the Contractor are hereinafter referred to individually as a "Party" or collectively as the "Parties".

WITNESSETH:

WHEREAS, title to Hydrocarbon existing within the territory of the Republic of Liberia (hereinafter called the "Republic"), including its Submarine Area, is vested in the Government, and all rights related to Petroleum Operations pertain exclusively to the Government;

WHEREAS, the Government wishes to promote the development of Hydrocarbons deposits within the Contract Area for the economic and social benefit of Liberia, and the Contractor desires to join and assist the Government in the exploration and development of potential Hydrocarbons within the Contract Area;

WHEREAS, the Contractor has the financial ability, technical competence and professional skills necessary to carry out Petroleum Operations;

WHEREAS, the Petroleum Code provides that petroleum Agreement in the form of this Contract may be entered into between the Government and foreign capital investors;

NOW, THEREFORE, in consideration of the undertakings and covenants contained herein, the Parties hereby agree as follows:

#### SECTION I

#### SCOPE AND DEFINITIONS

##### A. Scope

1. This Contract is a production sharing contract. In accordance with the provisions contained herein, the Minister shall be responsible for administering the Petroleum Operations contemplated hereunder.

2. The Contractor shall be responsible to the Government for the execution of Petroleum Operations in accordance with the provisions of this Contract and is granted the exclusive right to conduct Petroleum Operations within the Contract Area.

B. Definitions

Unless otherwise provided in this Contract, the words defined in the Petroleum Code shall have the same meanings in this Contract. In this Contract, unless the context indicates otherwise,:

1. Affiliate means a Person which controls or is controlled by a Party to this Contract, or a Person which controls or is controlled by another Person which controls a Party to this Contract. For the purposes of this definition, "control" means the power to direct and administer a Person through the ownership of such Person's voting stock or other rights and interests of control;

2. Barrel means a quantity or unit of Crude Oil equal to forty-two (42) U.S. gallons at a temperature of sixty (60) degrees Fahrenheit;

3. Budget means the itemized estimate of costs of all items included in a Work Program;

4. Calendar Quarter means a period of three (3) consecutive months beginning January 1, April 1, July 1 or October 1 and ending on the following March 31, June 30, September 30 or December 31, respectively, according to the Gregorian calendar;

5. Calendar Year means a period of twelve (12) consecutive months beginning January 1 and ending on the following December 31, according to the Gregorian calendar;

6. Contract means this Petroleum Agreement and its Appendices 1 and 2, which are hereby incorporated herein; references to a "Section" in this Contract mean the relevant section of this Contract, and references to a "subsection" mean the particular subsection in the section or subsection of this Contract in which the reference appears;

7. Contract Area means the area which is the subject to this Contract and is delimited in Appendix 1 as reduced by relinquishments in accordance with the provisions of Section 111;

8. Contract Year means a period of twelve consecutive months beginning on the Effective Date of this Contract or on an anniversary of such Effective Date, according to the Gregorian Calendar;

9. Effective Date means the date determined pursuant to Section XXVIII;

10. Exploration Period means the period of time, including any extension thereof, specified in the Exploration Licence referred to in Section II;

11. Field means a Hydrocarbons deposit within the Contract Area which is delimited by area and horizon;

12. Person means any corporation, individual, partnership, joint venture, association, trust, estate, unincorporated organization or Government or any agency or political subdivision thereof;

13. Petroleum Code means the Petroleum Act of 1969, as amended by the Petroleum Code 1982; references in this Contract to an "Article" are to the relevant article of the Petroleum Code;

14. Petroleum Costs means all expenditures, as specified in Appendix 2, incurred in the execution of Petroleum Operations;

15. Petroleum Operations means all activities of exploration, development, extraction, production, treatment, transportation, storage and marketing of Hydrocarbons pursuant to this Contract;

16. Production Period means the period of time, including any extension thereof specified in any Production Licence issued pursuant to Section V;

17. Royalty means any payment to be made by the Contractor to the Government pursuant to Section XI C;

18. Subcontractor means any Person hired to carry out Petroleum Operations either (i) by the Contractor or (ii) by any Person who has been hired by the Contractor to carry out Petroleum Operations; and

19. Work Program means an itemized statement of Petroleum Operations as set forth in Section VIII.

SECTION II

EXPLORATION LICENCE

A. The initial duration of the Exploration Licence to which this Contract relates shall be \*/ Contract Years, starting on the Effective Date.

B. The initial duration of the Exploration Licence shall be extended for two (2) successive periods of \*/ Contract Years each upon the Contractor's application to the Minister at least ninety (90) days prior to the termination date of the current portion of the Exploration Period provided the Contractor has fulfilled the work and expenditure obligations set forth in Section IV for the preceding period of that Licence.

C. The Minister shall grant a further extension to the duration of the Exploration Licence for such time as he determines may be reasonably necessary to complete drilling, logging, testing or plugging of any well which is actually being drilled, logged, tested or plugged at the end of the Exploration Period.

\*/ :Note: These durations will vary depending upon whether the Contract Area covers a Shelf or Deep Water Area

SECTION III

AREA RELINQUISHMENTS

A. 1. At or before the end of the initial Exploration Period the Contractor shall surrender at least thirty (30) percent of the original Contract Area less any area which is covered by a Production License.

2. At or before the end of the first extension to the Exploration Period the Contractor shall surrender an additional area which shall be at least thirty (30) percent of the original Contract Area less any area which is covered by a Production License.

3. At or before the end of the second extension to the Exploration Period the Contractor shall relinquish the remainder of the original Contract Area which is not covered by a Production License.

B. The Contractor may, upon giving the Minister ninety (90) days prior notice, at any time relinquish its rights to any portion of the Contract Area, and all such voluntary relinquishments shall be credited toward the mandatory relinquishments specified in subsection A.

C. No relinquishment shall relieve the Contractor or its guarantor of their respective obligations under Section IV.

D. Each area which is relinquished shall be not less than ten (10) percent of the original Contract Area and shall be composed of continuous blocks which shall conform to the geometric requirements of Article 39.

SECTION IV

WORK AND EXPENDITURE OBLIGATIONS

A. 1. The Contractor shall carry out during the initial Exploration Period at least the following work obligations: geological and geo-physical work to be specified and

\_\_\_\_\_ (\_\_\_\_\_) well(s) drilled to a minimum depth of \_\_\_\_\_ (\_\_\_\_\_) meters.

The Contractor shall also incur Petroleum Costs of at least \_\_\_\_\_ (\_\_\_\_\_) dollars during this period.

2. The Contractor shall carry out during the first extension to the Exploration Period of at least the following work obligations:

\_\_\_\_\_ (\_\_\_\_\_) well(s) drilled to a minimum depth of \_\_\_\_\_ (\_\_\_\_\_) meters.

The Contractor shall also incur Petroleum Costs of at least \_\_\_\_\_ (\_\_\_\_\_) dollars during this period.

3. The Contractor shall carry out during the second extension to the Exploration Period at least the following obligations:

\_\_\_\_\_ (\_\_\_\_\_) well(s) drilled to a minimum depth of \_\_\_\_\_ (\_\_\_\_\_) meters.

The Contractor shall also incur Petroleum Costs of at least \_\_\_\_\_ (\_\_\_\_\_) dollars during this period.

B. 1. Fulfillment of any expenditure obligation set forth in subsection A shall not relieve the Contractor of the corresponding work obligation therein, and vice-versa. If the continuation of any drilling activity is precluded for justifiable technical reasons, the Minister may authorize

the Contractor to terminate such activity and may deem the Contractor to have met that work obligation or may specify an appropriate and reasonable substitute work obligation.

2. If, during either the initial Exploration Period or the first extension thereof, the Contractor exceeds the work obligation or incurs Petroleum Costs which exceed the expenditure obligation for such period, then such excess may be credited toward the respective obligation of the next succeeding extension of the Exploration Period.

C. The Contractor shall provide to the Government, at the beginning of the initial Exploration Period and each extension thereof, a bank guarantee from an institution and in a form acceptable to the Government, the amount of which shall correspond to the expenditure obligation during the relevant portion of the Exploration Period. If, at the end of the initial Exploration Period, any extension thereof or upon the date of termination of this Contract, the Contractor has not incurred Petroleum Costs equal to the expenditure obligation for the Exploration Period or extension thereof, the Contractor or its guarantor shall immediately pay the amount corresponding to the unexpended obligation to the Government.

#### SECTION V

#### PRODUCTION LICENCES

A. The Contractor shall notify the Minister within three (3) days after Petroleum Operations indicate the existence of Hydrocarbons within the Contract Area. This notice shall include all available details of the discovery.

B. Within ninety (90) days after the date of the notice of the discovery, the Contractor shall submit for approval to the Minister a detailed appraisal Work Program and Budget to evaluate the commercial development of

the Field to which the discovery relates. This Work Program shall include all drilling, testing and evaluation of the Field and the preparation of all technical and economic studies related to recovery, treatment and transport of Hydrocarbons, and the duration of this Work Program shall not exceed twenty four (24) months unless otherwise agreed by the Minister. Upon receiving the Minister's approval of this Work Program and Budget, the Contractor shall proceed with the appraisal of the Field.

C. If, upon completion of the appraisal of the Field, the Contractor considers that the Field may be commercially developed, it shall so advise the Minister and immediately apply for a Production Licence, giving the Minister a detailed development Work Program and Budget for the construction, establishment and operation of all facilities and services related to the recovery, treatment, transportation and storage of Hydrocarbons from the Field. This Work Program shall include design and engineering, necessary infrastructure investments, training and employment of Liberian nationals, plans to maximize the use of Liberian goods and services, plans to protect the environment and detailed studies indicating the sources and amount of financing and prospective cash flows and rates of return. The application for the Production Licence shall also specify the area over which it is made, which shall be of rectangular shape and restricted to the Field from which commercial production is expected. The Minister may require the Contractor to provide within a specified time period such further information as it may reasonably need to evaluate this Work Program and Budget. The Minister may also require the Contractor to make such revisions to the development Work Program and Budget as are reasonable to contribute to the efficient development of Liberian infrastructure and to assist other national needs without, however, significantly impairing the economic viability of the Field's development.

D. Within ninety (90) days after receipt of the application for a Production Licence, the Government shall issue to the Contractor a Production Licence over the presumed area of the Field, provided that the Contractor's development Work Program and Budget have been approved by the Minister and provide for the optimum development of the Field.

E. The duration of a Production Licence shall be \* / years from its date of issue. If at the expiration of the initial term of the Production Licence commercial production from the Field subject to the Licence remains possible, the Minister shall, at the Contractor's request which must be given to the Minister at least ninety (90) days prior to the expiration of the initial period, extend the Production Licence for a further period which shall not exceed ten (10) years.

F. If, subsequent to the issuance of a Production Licence, the extent of the Field subject to the Licence is demonstrated to be different than that for which the Licence was issued, the area subject to the Licence shall be adjusted accordingly, provided that the area covered shall be entirely within the Contract Area.

G. If the Contractor makes more than one commercial Hydrocarbons discovery within the Contract Area, each shall be subject to a separate Production Licence.

\* / Note the duration may vary.

SECTION VI

SOLE RISK

A. If, prior to the election of the Government to participate under Section XVIII and at the end of an appraisal Work Program for a Field, the Contractor decides not to apply for a Production License for that Field, the Contractor shall relinquish this area and the Government or a Government corporation may appraise, develop and produce independently from this Field at its sole risk and cost. However, if a reasonable possibility exists that the commercial development of a Field or "Prospect" (which, for the purposes of this Section, shall be defined as a portion of the Contract Area in which seismic and other data indicate the reasonable likelihood of the existence of a Field), then the Contractor shall not be required to relinquish that portion of the Contract Area in which a Field is located for the time necessary for the Contractor to carry out further exploration and appraisal of the adjacent Field or Prospect, so long as the Contractor has submitted and is carrying out Work Programs acceptable to the Government for the Fields and Prospects involved.

B. If the Contractor relinquishes an area containing a Field and the Government or its corporation carries out appraisal and development work regarding such area, the Government shall give the Contractor all technical and other data developed in connection with this work. If the Government concludes that this Field may be commercially developed, then it may issue a Production License for the Field to itself or its corporation.

C. The Contractor shall have the right to purchase an undivided interest in any Production License issued to the Government or its corporation which covers an area relinquished by the Contractor pursuant to sub-

section A. The Contractor must exercise this right by giving the Minister notice thereof during the sixty (60) days following the date of issue of such Licence. The amount of the interest to be purchased by the Contract shall be one hundred (100) percent less the percentage specified by the Government in connection with the exercise of its option under Section XVIII.

D. If the Contractor elects to purchase an interest in the Production Licence as specified in subsection C, it shall reimburse to the Government the Contractor's pro rata participation share of the total costs incurred by the Government or its corporation in connection with the appraisal and development of the Field subject to the Licence. The Contractor shall also pay to the Government a premium equal to seven hundred (700) \*/ percent of the total of such appraisal and development costs. The Contractor shall pay these reimbursement and premium amounts to the Government within thirty (30) days after exercising its right to purchase.

E. If the Contractor exercises its right to purchase as specified in subsection C, the Production Licence and all Petroleum Operations carried out in connection therewith shall be subject to this Contract.

## SECTION VII

### TECHNICAL OBLIGATIONS

A. The Contractor shall provide all technology and expertise necessary to conduct Petroleum Operations.

\*/ Note: This premium percentage may be subject to change.

B. 1. The Contractor shall conduct Petroleum Operations diligently and in accordance with the generally accepted standards of the petroleum industry designed to enable the efficient and safe exploration and production of Hydrocarbons and to maximize the ultimate economic recovery of Hydrocarbons from the Contract Area. The Contractor shall ensure that all materials, equipment and facilities used in Petroleum Operations comply with generally accepted engineering norms, are of proper and accepted construction and are kept in optimal working order.

2. The Contractor shall also:

a) ensure that Hydrocarbons discovered and produced within the Contract Area do not escape and are not wasted in any other way;

b) prevent damage to any adjacent Hydrocarbons and water-bearing formations;

c) prevent non-intentional entrance of water into Hydrocarbons formations;

d) take all necessary precautions to protect navigation and fishing and to prevent pollution of the environment.

3. The Contractor shall also inform the Minister of any operator that will perform Petroleum Operations, and the Contractor and any such operator shall be registered in Monrovia, Liberia.

C. The Contractor shall perform all measurements on the Hydrocarbons produced from the Contract Area and not used in Petroleum Operations. Government personnel may inspect these measurements and the instruments used. If it is necessary or desirable to modify these instruments, the Contractor shall so inform the Minister in advance, and Government personnel may verify such modification.

SECTION VIII

WORK PROGRAMS AND BUDGETS

A. Within thirty (30) days after the Effective Date the Contractor shall prepare and submit to the Minister an initial Work Program and Budget which summarize the Petroleum Operations that the Contractor proposes to carry out and the Petroleum Costs to be incurred during the Exploration Period and which also specify the Petroleum Operations that the Contractor proposes to carry out and the Petroleum Costs to be incurred during the first Contract Year.

B. At least ninety (90) days prior to the beginning of each subsequent Contract Year, the Contractor shall prepare and submit to the Minister an annual Work Program and Budget specifying the Petroleum Operations of an exploration nature that the Contractor proposes to carry out and the related Petroleum Costs to be incurred during the ensuing Contract Year.

C. The Parties recognize that details of a Work Program required under subsections A or B may require change in light of unforeseen circumstances, and the Contractor may make such changes it deems necessary in these circumstances, provided that the changes do not alter the general objectives of that program. In no event, however, shall the work and expenditure obligations set forth in Section IV be excused, except in accordance with the provisions of that Section.

D. The Contractor shall also prepare and submit to the Minister the appraisal and development Work Programs and Budgets required under Section V. The Minister shall promptly review each such appraisal and development Work Program and Budget and advise and review with the Contractor any changes the Minister considers appropriate. The Minister shall approve each such Work Program and Budget, as revised in accordance with Section V, within sixty (60) days after their receipt from the contractor. If the Minister does not advise the Contractor of any changes

or does not request further information from the Contractor within sixty (60) days after receipt of any appraisal or development Work Program and Budget, the Government shall be deemed to have accepted such Work Program and Budget. The provisions of this subsection shall likewise apply to any change to an appraisal or development Work Program or Budget proposed subsequently by the Contractor to the Minister which are required due to unforeseen circumstances.

E. At least ninety (90) days prior to the beginning of each Calendar Year after the approval of an appraisal or development Work Program and Budget by the Minister, the Contractor shall prepare and submit to the Minister an annual Work Program and Budget specifying the Petroleum Operations that the Contractor proposes to carry out and the Petroleum Costs to be incurred during the ensuing year relating to the Field for which the appraisal or development Work Program and Budget was issued. Each such annual Work Program and Budget shall be in conformity with the appraisal or development Work Program and Budget approved by the Minister.

#### SECTION IX

#### INFORMATION AND CONFIDENTIALITY

##### A. Information

1. The Minister shall make available to the Contractor all technical information in the Government's possession pertaining to the Contract Area.

2. The Contractor shall keep the Minister fully informed of all Petroleum Operations. The Contractor shall notify the Minister in advance of all individual Petroleum Operations scheduled, such as geological and geophysical surveys and initiation of drilling, and Government personnel may attend and inspect all such Operations.

3. Within thirty (30) days after the end of each Calendar Quarter the Contractor shall provide the Minister with a report on all Petroleum Operations for that Calendar Quarter, including any Hydrocarbons produced and sold. Within ninety (90) days after the end of each Calendar Year the

Contractor shall furnish to the Minister a report on all Petroleum Operations for that Calendar Year, including any Hydrocarbons produced and sold.

4. The Contractor shall furnish to the Minister the following reports, data and information pertaining to the Contract Area immediately after they have been prepared by or have become available to the Contractor:

a) one set of geological studies and composite reports and the maps, sections and other documents related thereto;

b) one set of geophysical recordings, measurements, studies and interpretive reports with all maps, profiles, sections and other documents relating thereto, all original recordings (tapes or otherwise) and all supporting data;

c) one set of initial, daily and final reports, and composite logs representing the lithology and other parameters relating to each well drilled;

d) a representative portion of all cores, samples, fluids and other materials taken in outcrops and wells; and upon the relinquishment of any portion of the Contract Area, all cores, samples, fluids and other materials (properly identified) in the Contractor's possession relating to that portion of the Area; and

e) one set of any work, study, measurement, analysis or other result in any form produced by the Contractor in connection with Petroleum Operations.

All information, data and materials specified in this subsection 4 shall be in a form suitable for reproduction, use or processing, as the case may be.

5. After the Effective Date and regardless of whether the Government has exercised its right to participate under Section XVIII, the Government shall be given prior notice of and shall have the right to attend all meetings held among persons that constitute the Contractor and shall receive all information and documents given to such Persons pertaining to Petroleum Operations and this Contract.

B. Confidentiality

All information, data and materials supplied by either Party to the other pursuant to this Contract shall be kept confidential by the Parties for not less than twenty four (24) months after the date on which such information, data or materials were delivered by one Party to the other, subject to the following:

a) information, data and materials which pertain to a portion of the Contract Area which has been relinquished by the Contractor or to areas outside the Contract Area may be made available by the Government to other Persons at any time; and

b) the Government may at any time request another Person to review and analyze the information, data and materials supplied by the Contractor, provided that such Person shall maintain the confidentiality of such information, data and materials.

SECTION: X

CONTINUITY AND SUSPENSION OF OPERATIONS

A. 1. The Contractor shall commence Petroleum Operations within ninety (90) days after the Effective Date and shall continue such operations without interruption during the Exploration Period over all unrelinquished portions of the Contract Area not subject to a Production License. The Contractor shall also commence production of Hydrocarbons from a Field in accordance with the development Work Program approved by the Minister relating to that Field and shall continue such production without interruption for the duration of the License which covers that Field.

2. The Contractor shall not suspend any Petroleum Operations, except for justifiable technical reasons and subject to the prior approval of the Minister.

B. In the event of a repeated or serious infraction of the Petroleum Code or its regulations by the Contractor which is not corrected within thirty (30) days after notice is given to the Contractor by the Minister to do so or in the event of a situation which poses a serious and imminent threat to persons, property or environment, the Minister may require the Contractor to temporarily suspend Petroleum Operations or to take such other measures as may be reasonably necessary until such infraction or situation has been rectified.

#### SECTION XI

#### BONUS, RENTALS AND ROYALTIES

##### A. Bonus

The Contractor shall pay to the Energy Development Fund of the Government a signature bonus of one hundred thousand (100,000) dollars within thirty (30) days after the Effective Date.

##### B. Rentals

1. The Contractor shall make the following annual rental payments to the Government during the Exploration Period for all unrelinquished portions of the Contract Area which are not covered by a Production License:

a) during the initial Exploration Period ten (10) dollars per square kilometer;

b) during the first extension to the Exploration Period twenty (20) dollars per square kilometer; and

c) during the second extension to the Exploration Period thirty (30) dollars per square kilometer.

2. The Contractor shall pay to the Government an annual rental of thirty (30) dollars per square kilometer for all portions of the Contract Area subject to a Production License.

3. The first rental payment shall be made within thirty (30) days after the Effective Date. All subsequent rental payments shall be made within thirty (30) days after the beginning of each Calendar Year to which they pertain. Rental payments shall be computed pro-rata temporis, and each payment shall be accompanied by a summary which indicates its basis of computation.

4. If during any Calendar Year a change occurs with regard to the Contract Area which results in a change in the rental payment due, the rental payment for the following Calendar Year shall be adjusted accordingly to compensate for this difference.

#### C. Royalties

1. The Contractor shall pay to the Government a Royalty of twelve and one-half (12.5) percent of the total Hydrocarbons produced in the Contract Area which are not used in Petroleum Operations. The Government may take the Royalty for either Crude Oil or Natural Gas wholly or partly in cash or in kind. Unless the Government elects otherwise, the Royalty shall be paid in cash.

2. The Royalty taken in cash or in kind shall be valued and paid in accordance with the appropriate provisions of Section XIV.

### SECTION XII

#### COSTS RECOVERY AND PRODUCTION SHARING

##### A. Costs Recovery

In each Calendar Year the Contractor may, from the Hydrocarbons produced within the Contract Area and not used in Petroleum Operations, recover its Petroleum Costs by retaining and disposing of that amount of Hydrocarbons equal in value to the unrecovered Petroleum Costs for that Calendar Year plus all unrecovered Petroleum Costs from prior Calendar Years.

B. Production Sharing

1. After deduction of all unrecovered Petroleum Costs, Net Hydrocarbons ( as defined below) shall be shared between the Government and the Contractor in accordance with the procedures in this subsection B. These procedures provide for a progressive increase in the Government's Hydrocarbons share based on the increase in the Contractor's pre-tax rate of return according to the following schedule:

<u>Account</u>	<u>Contractor's Pre-Tax Real Rate of Return</u>	<u>Government's Portion of Net Hydrocarbons</u>	<u>Contractor's Portion of Net Hydrocarbons</u>
--	up to 30 percent	0 percent	100 percent
FA	30 <del>to</del> 40 percent	40 percent	60 percent */
SA	40 to 50 percent	60 percent	40 percent */
TA	above 50 percent	80 percent	20 percent */

2. In this subsection B, the following terms shall have the following meanings with regard to the relevant Calendar Year, except that total revenues and Petroleum Costs shall exclude those revenues and Costs attributable to the Government's participation under Section XVIII;

"NCF" or "Net Cash Flow" means the total revenues from Hydrocarbons produced and not used in Petroleum Operations less Petroleum Costs for that Calendar Year, except that total revenues and Petroleum Costs shall exclude those revenues and Costs attributable to the Government's participation under Section XVIII;

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\*/ Note: The percentages of the Government's and the Contractor's respective shares of Hydrocarbons are for illustrative purposes only and will vary depending upon the terms offered by the Contractor to the Government.

"NE" or "Net Hydrocarbons" means the value of the total Hydrocarbons produced and not used in Petroleum Operations less all unrecovered Petroleum Costs;

"FA" or the "First Account", "SA" or the "Second Account" and "TA" or the "Third Account" mean the respective Net Hydrocarbons amounts determined in accordance with the relevant formulae below;

"Y-1" means the Calendar Year preceeding the Calendar Year in question;

"i" means the decimal equivalent of the percentage change in the monthly U.S. Industrial Production, Seasonally Adjusted, Index (as reported in the "International Financial Statistics" of the International Monetary Fund) for the month of November in Y-1 to the same month in the Calendar Year in question;

"GS I", "GS II" and "GS III" mean the Government's share of Net Hydrocarbons from the First, Second and Third Accounts, respectively.

3. The following formulae shall be used to calculate the relevant Accounts in a given Calendar Year:

First

$$\text{Account} = (\text{FA for Y-1} \times (1.3 + i)) + \text{NCF}$$

Second

$$\text{Account} = (\text{SA for Y-1} \times (1.4 + i)) + (\text{NCF} - \text{GS I})$$

Third

$$\text{Account} = (\text{TA for Y-1} \times (1.5 + i)) + (\text{NCF} - (\text{GS I} + \text{GS II}))$$

$$FA = \text{NCF}$$

$$SA = \text{NCF} - \text{GS I} = \text{NCF} - \text{FA} \cdot 40 = \text{NCF} - \text{NCF} (40)$$

$$TA = \text{NCF} - (\text{GS I} + \text{GS II}) = \text{NCF} - \text{NCF} (40) - 33 (\text{NCF} - \text{NCF} (40))$$

Handwritten notes: GS I = 40% NCF, GS II = 33% NCF, GS III = 27% NCF.

In any Calendar Year immediately following the Calendar Year in which FA, SA or TA is positive, then FA for Y-1, SA for Y-1 or TA for Y-1, as the case may be, shall be 0 in applying the above formulae for the Calendar Year in question.

4. In any Calendar Year:

(i) if FA, SA or TA is negative, the Government's portion of Net Hydrocarbons for that respective Account shall be zero;

(ii) if FA is positive, GS I shall be forty (40) percent \*/ of FA;

(iii) if SA is positive, GS II shall be equal to thirty three and one third (33.33) percent \*/ of SA;

(iv) if TA is positive, GS III shall be equal to fifty (50) percent \*/ of TA;

(v) The total value of the Government's share of Hydrocarbons shall be the sum of GS I, GS II and GS III.

5. The Government's and the Contractor's respective shares of Net Hydrocarbons under this subsection B shall be determined by dividing the value of their respective entitlements by the average price during the same period determined in accordance with the provisions of Section XIV.

\*/ Note: These percentages are based on those specified in subsection B 1 and are for illustrative purposes only. They will vary depending upon the percentages actually specified in subsection B 1.

SECTION XIII

NATURAL GAS

A. Natural Gas found in association with Crude Oil which is not used in Petroleum Operations or is not developed or sold pursuant to the provisions of this Contract shall be reinjected into the subsurface structure. However, the Minister may authorize the flaring of Natural Gas (i) for short time periods during production tests, (ii) when it is in accordance with good oilfield practice or (iii) when it is required by technical or financial circumstances. Natural Gas flared with the approval of the Minister shall be deemed to be used in Petroleum Operations.

B. If the Contractor considers that Natural Gas found in association with Crude Oil may not be commercially developed, the Government may choose to take and utilize such Natural Gas without charge, except that all handling from the point of separation from crude oil will be at the sole cost and risk of the Government.

SECTION XIV

HYDROCARBONS VALUATION, PAYMENTS AND MARKETING

A. Valuation and Payments

1. All Hydrocarbons produced from the Contract Area and sold by the Contractor to non-Affiliates and to Persons independent of the Contractor (i.e. with whom the Contractor has no direct or indirect contractual or joint interest) shall be valued at the net realized FOB price received by the Contractor.

2. All Hydrocarbons produced from the Contract Area and sold by the Contractor to Affiliates and to Persons not independent from the Contractor (within the meaning of subsection 1) shall be valued at the highest of the following:

a) for Crude Oil -

(i) the actual price received by the Contractor;  
(ii) the FOB price specified in subsection 1; or  
(iii) the average price received by sellers in international markets for Hydrocarbons of comparable quality and quantity originating from countries in the same general geographical area as the Republic, taking into consideration any differentials of grade, gravity and transportation;

b) for Natural Gas -

(i) the actual price received by the Contractor;  
(ii) the FOB price specified in subsection 1; or  
(iii) the CIF price of the amount of light Arabian Crude Oil measured on an equivalent BTU basis adjusted to a Liberian FOB price by deducting applicable insurance, freight, handling, commission and brokerage costs.

3. The price of Hydrocarbons provided to the Liberian market in accordance with Section XXIII shall be:

a) for Crude Oil -

that price determined pursuant to subsection 1, or if no sales are made under subsection 1, then that price determined pursuant to subsection 2.

b) for Natural Gas -

that price fixed by mutual agreement between the Parties, taking into account the value of the fossil fuels that such Natural Gas displaces on the Liberian market.

4. Price computations under this subsection A shall be based on the average selling price for each Calendar Quarter. Such computations and all payments related thereto shall be made within thirty (30) days after the end of the Calendar Quarter to which they relate.

B. Marketing

1. The Contractor shall market all Hydrocarbons produced in the Contract Area and not used in Petroleum Operations, unless otherwise stipulated in this Section or in Sections XI and XIII regarding Royalties and supply of national needs, respectively. The Contractor shall give the Minister reasonable prior notice of all proposed contracts and their respective terms and conditions for the sale of any part of the Hydrocarbons production to which the Government is entitled under this Contract.

2. The Government may elect to receive in kind all or any part of its entitlement of Hydrocarbons production from the Contract Area. If it so elects, the Minister shall notify the Contractor accordingly at least ninety (90) days prior to the beginning of the Calendar Quarter for which such election shall begin, and such election shall be binding on the Government for at least two Calendar Quarters. In such case, the Minister shall advise the Contractor of the delivery schedules and amounts of Hydrocarbons that the Government will take in kind during the period of its election, and such Hydrocarbons shall be delivered to the Government at the point of export.

3. The Contractor shall not enter into a contract for the sale of any part of the Government's entitlement of Hydrocarbons production for a period of time which exceeds two (2) Calendar Quarters without the Minister's prior consent. If the Minister grants such consent, the Government shall not exercise its right to receive Hydrocarbons in kind for those Hydrocarbons which are the subject to such contract.

4. The Contractor shall not enter into a contract for the sale of any part of its share of Hydrocarbons production for a period of time which exceeds four (4) Calendar Quarters without the Minister's prior consent. If the Minister grants such consent, the Government shall not exercise its right under Section XVIII to require the Contractor to supply national needs from those Hydrocarbons which are the subject to such contract.

5. The Contractor shall not, directly or indirectly, enter into any contract for the sale of Hydrocarbons produced from the Contract Area with any State or Person which the Government has by law or official pronouncement declared to be hostile or unfriendly.

6. The Contractor shall give favorable consideration to any contract for the sale of Hydrocarbons produced from the Contract Area to any State or Person proposed by the Government, provided that the terms and conditions of such proposed sale are competitive with those offered to the Contractor by other potential buyers.

7. The Contractor shall take title to all Hydrocarbons to which it is entitled under this Contract at the point of export.

#### SECTION XV

#### IMPORT AND EXPORT

A. Subject to the local purchase obligations of Section XXI, the Contractor and each Subcontractor shall have the right to import into the Republic all materials and equipment necessary for Petroleum Operations. Such materials and equipment may be imported exempt of all import duties and taxes unless they pertain to Petroleum Operations related to a Production License. All materials and equipment imported for use in Petroleum Operations related to a Production License shall be subject to all generally applicable import duties and taxes of the Republic, except that the total import duties and taxes on each such imported item shall not exceed ten (10) percent of the CIF value during the five (5) years following the date of issue of the Production License to which the item relates.

B. Other than as specified in subsection A, all other imports by the Contractor, each Subcontractor and their employees shall be subject to all generally applicable import duties and taxes of the Republic.

C. The Contractor, each Subcontractor and their employees may sell in the Republic all imported items which are no longer needed for Petroleum Operations; however, if such imports were exempt from import duties and taxes or were subject to reduced import duties and taxes, the seller shall fulfill all formalities required in connection with the payment of duties and taxes imposed such sales.

D. The Contractor, each Subcontractor and their employees may export from the Republic, exempt of all export duties and taxes, all Hydrocarbons produced from the Contract Area and all previously imported items which are no longer required for Petroleum Operations.

#### SECTION XVI

#### CURRENCY AND EXCHANGE CONTROLS

##### A. Currency

All payments under this Contract shall be made in United States dollars, and the Contractor shall maintain all financial accounts and records in that currency.

##### B. Exchange Controls

1. The Contractor, each Subcontractor and their employees shall be entitled to receive, import into the Republic, remit from the Republic and maintain abroad all revenues received by the Contractor from the sale of Hydrocarbons pursuant to this Contract, as well as all revenues for the sale or rent of goods, performance of services and payment of salaries in connection with the performance of Petroleum Operations; provided, however, that the Contractor, each Subcontractor and their employees shall meet all their respective payment and tax obligations under this Contract and the generally applicable laws of the Republic.

2. The Contractor shall, within ninety (90) days after the end of each Calendar Year, submit to the Government a summary of all currency received, imported, remitted and maintained abroad pursuant to subsection 1 during the relevant Calendar Year.

SECTION XVII

FINANCES, TAXATION AND ACCOUNTING

A. Finances

Except as otherwise provided in this Contract, the Contractor shall provide all capital necessary to conduct Petroleum Operations, shall bear the sole financial risk in carrying out such Operations and shall therefore have an economic interest in the development and production of Hydrocarbons from the Contract Area.

B. Taxation

1. The Contractor, its Affiliates, each Subcontractor and their employees shall be subject to the generally applicable tax laws of the Republic unless otherwise specified in this Contract.

2. The taxable income derived by the Contractor from Petroleum Operations shall be subject to income tax at a rate of fifty (50) percent. The Contractor's taxable income for the Calendar Year in question shall be determined by computing (i) gross income from all Hydrocarbons produced from the Contract Area and sold by the Contractor plus all other income or proceeds received by the Contractor related to Petroleum Operations or this Contract less (ii) all expenses and depreciation determined in accordance with Appendix 2 of this Contract plus accumulated losses relating to Petroleum Operations which are permitted under the generally applicable laws of the Republic to be carried forward from prior Calendar Years.

3. Charges for services actually rendered by the Government or its administration or political subdivisions shall be made at the generally applicable rates for such services.

C. Accounting

1. The Contractor shall keep complete financial accounts and records in English reflecting all Petroleum Operations. Such accounts and records shall be prepared and maintained in conformity with modern petroleum industry practices and as prescribed in Appendix 2 to this Contract and as may be prescribed in regulations issued pursuant to the Petroleum Decree. Such accounts and records shall be kept in Monrovia, Liberia.

2. The Contractor shall prepare an annual balance sheet and profit and loss statement in accordance with this Contract, its Appendix 2 and generally applicable Liberian law. Such accounts shall be certified by an independent auditor acceptable to the Government and shall be submitted, along with the auditor's report, to the Government within ninety (90) days after the end of Calendar Year to which they pertain.

3. The Government shall have the right to audit the Contractor's books, records and accounts relating to this Contract in accordance with generally applicable Liberian law.

SECTION XVIII

GOVERNMENT PARTICIPATION

A. The Government shall have the option to acquire an undivided and unencumbered interest of up to thirty (30) percent of the total interest in the Contract. The Government may acquire such interest either directly or through a Government corporation.

B. The Government must exercise its option to participate by giving notice to the Contractor within ninety (90) days after the issue to the Contractor of the first Production License within the Contract Area. Such notice shall specify the percentage of the interest to be acquired by the Government and the Person that will hold it on behalf of the Government, if such is the case. If the Government exercises its option, the Contractor (or

each Person constituting the Contractor pro-rata) shall relinquish and transfer to the Government that percentage interest specified by the Government. The Government's participation shall take effect from the date of effect of such Production License, and the Government shall have all rights and obligations, pro-rata with its participation, in connection with Petroleum Operations and this Contract.

C. If the Government exercises its option to participate, it shall reimburse the Contractor, without interest, for the Government's pro-rata share of Petroleum Costs incurred by the Contractor prior to the date of issue of the Production License specified in subsection B; provided, however, that the Government shall not be required to reimburse the Contractor for any portion of the bonus paid pursuant to section XI, for any data fees paid to the Government for geological or geophysical information or reports or for any premium paid by the Contractor under Section VI. The Government's reimbursement shall be payable, at the Government's choice, either in cash or in kind from up to fifty (50) percent of the total of GS I, GS II and GS III, determined pursuant to Section XII B, in each Calendar Year until the Contractor has been fully reimbursed.

D. If the Government exercises its option to participate, it and the Contractor shall, within six (6) months after the date of effect of the Production License specified in subsection B, enter into a mutually acceptable operating agreement which shall govern the rights and obligations between them as Contractor and shall be consistent in form and substance with petroleum industry practice. Prior to the execution of such operating agreement, the Contractor shall carry out Petroleum Operations under any then-existing agreement.

E. If the Government chooses to cause a Government corporation to hold its interest, the Government guarantees the due performance by that Person of its obligations under this Contract and under the operating agreement with the Contractor, and that Person's failure to perform any such obligation shall not be grounds for termination of this Contract.

SECTION XIX  
PERSONNEL AND TRAINING

A. The Contractor shall provide all personnel necessary to carry out Petroleum Operations.

B. 1. The Contractor and each Subcontractor shall employ, to the maximum extent possible, Liberian nationals in connection with Petroleum Operations, and the Contractor shall undertake recruiting, education, and training programs to ensure the maximum participation of Liberian personnel in Petroleum Operations at all levels of responsibility. Each appropriate Work Program and Budget shall contain provisions which set forth the steps which the Contractor intends to take in this regard.

2. During each Contract Year of the Exploration Period, the Contractor shall spend a minimum of fifty thousand (50,000) dollars\* on the education and training of Liberian nationals; during each year of a Production Period, the Contractor shall spend, in connection with such education and training, the minimum amount specified in the development Budget related to the Production License in question. If any part of the Exploration Period runs concurrently with any Production Period, only the obligations for the Production Period shall apply.

C. The Contractor and each Subcontractor shall be free to employ foreign nationals to the extent that Liberian nationals cannot be found to fill the positions required. The Government shall facilitate the issuance and approval of all labor and immigration authorizations required for the employment of such foreign personnel and the sojourn of such personnel and their dependents in the Republic.

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\*/ Note: This amount is for illustrative purposes only and may be subject to negotiation with each Contractor.

D. The Contractor shall, within ninety (90) days after the end of each Calendar Year, notify the Minister of all personnel employed by the Contractor and each Subcontractor, which notice shall specify the employer, job position, salary and nationality of each employee.

SECTION XX

SUBCONTRACTORS

A. Subject to the provisions of Section XXI regarding goods and services, the Contractor shall be free to select and retain Subcontractors of its choice. However, the Contractor shall ensure that each Subcontractor has the necessary professional expertise and experience to perform the work to be assigned to it.

B. The Contractor shall require each Subcontractor to comply with all relevant provisions of this Contract and the legislation of the Republic applicable to its activities; provided, however, that a Subcontractor and its employees shall be required to register as resident in the Republic (but shall be subject to all tax obligations as non-residents) solely in connection with a contract with the Contractor, the performance of which requires the presence of the Subcontractor's employees within the Republic for a period of time which in the aggregate does not exceed one hundred eighty (180) days in any Calendar Year.

C. The Contractor shall notify the Minister of the name and address of each Subcontractor and the identity of its authorized representative within thirty (30) days after such Subcontractor has been retained by the Contractor. The Contractor shall also notify the Minister, within ninety (90) days after the end of each Calendar Year, of all Subcontractors who have worked for the Contractor during the relevant Calendar Year.

SECTION XXI

GOODS AND SERVICES

A. The Contractor shall provide all goods and services necessary to carry out Petroleum Operations.

B. In addition to the obligations set forth in Article 27 regarding the purchase of Liberian goods and services, the Contractor, unless otherwise agreed by the Minister, shall award through competitive bidding each contract for the purchase, lease or supply of goods and services if the total value of such contract exceeds three million (3,000,000) dollars.

C. Subject to the provisions of Section XV regarding import and export, the Contractor and each Subcontractor shall retain possession of all their respective leased materials and equipment and shall retain title to all purchased materials and equipment which are not necessary for Petroleum Operations related to production, treatment, transportation, storage and export of Hydrocarbons. All materials and equipment necessary for Petroleum Operations related to production, treatment, transportation, storage and export of Hydrocarbons shall become the property of the Government without cost after clearance by customs authorities at the point of import into the Republic but may be used by the Contractor in Petroleum Operations during the duration of this Contract.

SECTION XXII

LAND AND FACILITIES

A. Land

1. Subject to the provisions of Article 21, the Government shall place at the disposal of the Contractor without cost all public land reasonably required by the Contractor to construct and maintain facilities necessary for Petroleum Operations. Possession of land shall be returned to the Government at the end of this Contract.

2. If land reasonably required for Petroleum Operations belongs to a private Person, the Contractor will endeavor to acquire it through direct agreement between itself and such Person. If the Contractor is unable to reach such agreement, the Government shall intervene to assist in the conclusion of such agreement. If such agreement proves impracticable or impossible, the Government shall expropriate such land in the public interest; provided, however, that the Contractor shall reimburse the Government for all costs in connection with such expropriation, including the compensation paid to the prior owner. The property rights thus acquired shall be registered in the name of the Government, and the Contractor shall have free use of such land for the duration of this Contract.

B. Facilities

1. The Contractor shall construct, maintain and operate all facilities required in connection with Petroleum Operations. Such facilities shall become the property of the Government without cost at the end of this Contract.

2. The Government may require that the Contractor's infrastructure facilities (including, but not limited to, roads, ports, pipelines and other transportation and communications installations) be made available to the Government and other Persons in an emergency or in the event that such facilities are not utilized to capacity by the Contractor; provided, however, that in the latter case, such use does not substantially impair the efficient and economic conduct of Petroleum Operations and is subject to reasonable compensation (taking into account the particular circumstances involved) being paid to the Contractor.

SECTION XXIII

SUPPLY OF NATIONAL NEEDS

A. Subject to the provisions of Section XIV, the Contractor shall, upon receiving prior notice of at least two (2) Calendar Quarters from the Minister, sell to the Government that portion of the Contractor's total Hydrocarbons production to which it is entitled under this Contract which

is required to meet the domestic refinery needs of the Republic, to the extent that the Government cannot meet such needs from its Royalty and its share of production under Section XII.

B. The maximum quantity of the Contractor's Hydrocarbons that it must sell to the Government to meet such domestic refinery needs shall not exceed the amount which is equal to the total such needs which cannot be met by the Hydrocarbons production to which the Government is entitled from its national territory multiplied by a fraction, of which the numerator shall be the total amount of production from the Contract Area and the denominator shall be the total Hydrocarbons production in the Republic.

C. If the Contractor sells a portion of its Hydrocarbons production to the Government to meet domestic refinery needs, the relevant valuation and payment provisions of Section XIV shall apply.

#### SECTION XXIV

#### UNITIZATION

A. If a Field extends over another part of the Republic which is subject to another Petroleum Agreement for the exploration and production of Hydrocarbons, the Minister may require that the development and production of the Field be carried out jointly with the Licensee under the other Petroleum Agreement. The same rule shall apply if a Field is not commercial unless its development and production is combined with a Hydrocarbons deposit which extends to or is within an area subject to another Petroleum Agreement.

B. If the Minister so orders, the Contractor shall collaborate with the other Licensee in preparing a proposal for the joint production of the Hydrocarbons deposit(s) involved, which proposal shall be submitted promptly for approval to the Minister. If such proposal is not promptly submitted or is not approved by the Minister, the Minister may prepare or cause to be prepared, for the account of the Licensees involved, a plan

for joint production designed to achieve the most efficient development of the Field(s). If the Minister adopts such a plan, the Contractor shall comply with all its conditions.

C. This Section shall also be applicable to a Field that extends to an area that is not within the territory of the Republic. In such case the Minister may also impose any special rule or condition necessary to satisfy obligations under an agreement with an international organization or adjacent State with respect to the development and production of the Field.

D. Within one hundred eighty (180) days after the Minister's notice to the Contractor that the proposal or plan under subsection B has been approved or adopted, as the case may be, the Contractor shall proceed under such proposal or plan to develop and produce Hydrocarbons from the deposit(s). If any provision of such proposal or plan approved or adopted by the Minister contradicts a provision of this Contract, the provision of the proposal or plan shall prevail.

#### SECTION XXV

#### INDEMNITY AND INSURANCE

##### A. Indemnity

The Contractor shall indemnify, defend and hold harmless the Government against all claims, losses and damages whatsoever caused by or resulting from Petroleum Operations conducted by or on behalf of the Contractor, provided that the Contractor shall not be liable to the Government hereunder for any loss, claim, damage or injury caused by or resulting from the negligence of Government personnel.

##### B. Insurance

1. Notwithstanding subsection A, the Contractor shall obtain and maintain in force third party liability insurance, the insurer, issue, coverage and terms of which shall be submitted for approval to the

Minister prior to the Effective Date, which approval shall not be unreasonably withheld.

2. The Contractor shall also obtain and maintain in force adequate and appropriate insurance, which must be submitted to and approved by the Minister as in subsection 1, for all other risks in connection with Petroleum Operations, including but not limited to loss or damage to all materials, equipment and facilities used in Petroleum Operations.

3. The Contractor shall maintain all insurance required under this subsection B in effect until the termination of all its obligations under the Contract.

SECTION XXVI  
ASSIGNMENT AND TRANSFER

A. The Contractor may assign or transfer any or all of its rights and obligations arising out of this Contract to any Affiliate which is not a Licensee with the prior approval of the Minister, which approval shall be granted if such Affiliate demonstrates the financial and technical capability to carry out Petroleum Operations and agrees to be bound by the terms of this Contract.

B. The Contractor may not assign or transfer any or all of its rights and obligations arising out of this Contract to any non-Affiliate without the prior approval of the Minister, which approval may take into account the financial and technical capability of the assignee or transferee but shall not be unreasonably withheld.

C. The Contractor shall notify the Minister at least ninety (90) days prior to the date of any proposed assignment or transfer, and the Minister shall give his approval or state the basis for his disapproval within sixty (60) days thereafter.

SECTION XXVII

JOINT AND SEVERAL OBLIGATIONS

A. In the event more than one Person constitutes the Contractor, each such Person must individually register to do business in the Republic and each shall be jointly and severally bound by the provisions of this Contract which shall also be binding upon the respective successors, assigns and transferees of each such Person.

B. If more than one Person constitutes the Contractor, the agreement which governs their relations or under which any Person is designated the operator for Petroleum Operations shall be submitted prior to its execution for approval to the Minister, which approval shall not be unreasonably withheld.

SECTION XXVIII

TERM AND TERMINATION

A. Term

1. This Contract shall remain in full force and effect during the term of the Exploration Period and shall automatically terminate in its entirety at the end of the Exploration Period if no Field which is deemed commercial by the Contractor has been discovered within the Contract Area.

2. This Contract shall remain in full force and effect with regard to any portion of the Contract Area covered by a Production License for the term of such License and shall automatically terminate with regard to such area upon the expiration of such License.

B. Termination

1. The Contractor may terminate this Contract by giving the Minister one hundred and eighty (180) days prior notice.

2. The Government may terminate this Contract upon the Minister giving the Contractor thirty (30) days prior notice if the Contractor:

a. is found to have made a willful and material misrepresentation in applying for this Contract or any License or extension thereof;

b. fails to comply with any obligation that it has under this Contract within thirty (30) days after it has received instructions to do so from the Minister, or for such longer period as the Minister may agree;

c. fails to comply with any act, regulation, order or instruction issued by the Minister or other Government department or agency within thirty (30) days after being required to do so; or,

d. becomes insolvent or bankrupt or goes into liquidation.

3. Termination shall not relieve the Contractor from the performance of its obligations outstanding hereunder prior to termination.

4. In the event of termination with regard to areas covered by a Production License, the Minister may require the Contractor to continue Hydrocarbons production on behalf of the Government for a reasonable time until the Government has transferred the right to produce to another Person.

#### SECTION XXIX

#### LAWS AND REGULATIONS

A. Unless otherwise specified in this Contract, the Contractor, each Subcontractor and their employees shall comply with all laws and regulations of the Republic, including all regulations promulgated by the Minister in connection with Petroleum Operations, provided that such regulations do not impair the right of the Contractor to carry out Petroleum Operations nor significantly affect their economic viability.

B. The terms and conditions of this Contract and the Petroleum Code shall control with regard to this Contract, notwithstanding any subsequent law, decree or regulation which, if applied to the terms of this Contract, would diminish the rights granted hereunder.

SECTION XXX

FORCE MAJEURE

A. Each Party shall be excused from complying with the terms of this Contract, other than an obligation to pay money, for so long as such compliance is hindered or prevented by extraordinary weather, earthquakes, accidents, riots, strikes, wars (declared or undeclared), insurrections, rebellions, terrorist acts, pestilence, disturbances, dispositions or orders of a governmental authority (whether such authority be actual or assumed), acts of God or an act or cause that is reasonably beyond the control of such Party (such circumstances hereinafter called "force majeure"), provided, however, that the inability to obtain capital, equipment, materials or personnel shall not be a cause of force majeure.

B. If either Party is unable, wholly or in part, to carry out its obligations under this Contract due to a cause of force majeure, such Party shall give notice in detail of such cause to the other Party within seven (7) days after its occurrence. In such case the obligations of the Party giving the notice shall be suspended during the continuance of any inability so caused, and both Parties shall do all that is reasonable within their powers to remove such cause.

SECTION XXXI

DISPUTE SETTLEMENT

A. If, at any time during the duration of this Contract or thereafter, there shall be any difference or dispute with respect to the construction, meaning or effect of this Contract or arising out of this Contract or concerning the rights and obligations hereunder, which difference or

dispute cannot be mutually resolved by the Parties within ninety (90) days, either Party shall have the right to refer the difference or dispute to the International Centre for the Settlement of Investment Disputés (hereinafter called the "Centre") by conciliation and arbitration as hereinafter provided. Either Party may commence conciliation or arbitration proceedings by giving notice to the other Party and to the Secretary General of the Centre and shall include in such notice a statement of the question or dispute and whether the claim or contention is of the Party giving the notice.

B. The Minister of Lands, Mines and Energy is an agency of the Government that has been authorized to consent to arbitration and is designated as such to the Centre by the Government. The Government has notified the Centre that no approval of consent agreements by this Ministry is required.

C. The Parties stipulate that the Contractor shall be treated as a national of \_\_\_\_\_.

D. The Parties' submission to the jurisdiction of the Centre shall bind equally any successor in interest to the present Government and to the Contractor to the extent that the Centre can assume jurisdiction over a difference or dispute between such successor and the other Party.

E. The right of the Contractor to request the settlement of a difference or dispute by the Centre or to take any step as a party to a proceeding pursuant to this Contract shall not be affected by the fact that the Contractor has received partial compensation on a conditional or absolute basis from any Person, State, government agency or international organization with respect to any loss or injury that is the subject of the difference or dispute; provided, however, that the Republic may require evidence that the payor of such compensation agrees to the exercise of those rights by the Contractor.

F. Any arbitral tribunal constituted in relation to a difference or dispute submitted to the Centre pursuant to this Section shall consist of one arbitrator appointed by each Party and one arbitrator appointed by the Chairman of the Administrative Council of the Centre, which latter arbitrator shall be president of the tribunal. Such arbitral tribunal shall apply the law of the Republic and shall have the power to decide a dispute ex aequo et bono. The situs of the arbitration shall be \_\_\_\_\_.

G. The decision of the award of the arbitral tribunal specified in subsection F shall be final and binding upon the Parties and upon any Person who participated as a party in such arbitration proceedings, and the Parties and any such Person shall comply in good faith with the decision.

SECTION XXIII

NOTICES

All notices required to be given by either Party to the other under this Contract shall be in writing and shall be deemed to be duly given if sent by prepaid air mail or by Telex or telegraphic transmission confirmed by prepaid air mail or if delivered by hand to the respective address of each Party indicated below or to such other address as either Party may subsequently notify the other:

The Government

The Minister of Lands, Mines and Energy

Monrovia, Liberia

Telex:

The Contractor

Telex:

SECTION XXXIII

EFFECTIVE DATE

This Contract shall enter into effect upon ratification by the Government in accordance with its laws, and the ratification shall be the Effective Date.

SECTION XXXIV

MISCELLANEOUS PROVISIONS

A. Interpretation

1. The captions and headings in this Contract solely for reference purposes and shall not effect the intention thereof.

2. Unless the context otherwise requires, singular shall include the plural and vice-versa, and the masculine and neuter genders shall include each of the others.

B. Completeness of the Agreement

This Contract constitutes the entire understanding between the Parties and shall not be amended or changed without the prior written consent of both Parties.

IN WITNESS WHEREOF, the Parties have executed this Contract in  
Monrovia, Liberia on this \_\_\_\_\_ day of \_\_\_\_\_ 198\_\_\_\_.

The Republic of Liberia

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The Minister of Lands, Mines & Energy

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The Minister of Finance

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The Contractor

APPENDIX I

Attached to and made an integral part of the Petroleum Agreement  
between the Republic of Liberia and

\_\_\_\_\_, dated the  
\_\_\_\_\_ day of \_\_\_\_\_ 198\_\_.

Contract Area

The Contract Area is delimited as follows:

A map showing the Contract Area is attached as page 2 to this Appendix.

APPENDIX 2

Attached to and made an integral part of the Petroleum Agreement  
between the Republic of Liberia and

\_\_\_\_\_, dated the \_\_\_\_\_ day  
of \_\_\_\_\_, 198\_\_\_\_\_.

Clause I

Petroleum Costs

Petroleum Costs in any Calendar Year shall include the following:

- (1) The Royalty;
- (2) The current operating costs enumerated in Clause II  
B(2) of this appendix;
- (3) The capital costs, except for the bonus payment under  
Section XI, enumerated in Clause II, C of this appendix;

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Clause II

Accounting Procedure

A. Allowable expenses and depreciation for tax purposes in any Calendar Year shall be determined in accordance with the provisions which follow.

B. Current Operating Costs

- (1) Current operating costs (as enumerated in subclause (2) which follows) incurred by the Contractor in all Calendar Years prior to and including that of the first year of "commercial production" (which, for purposes of this subclause B, means production for a period of thirty (30) days at a rate which is at least equal to seventy (70) percent of the peak production rate specified in the development Work Program for the Production Licence in question) shall be capitalized and depreciated in accordance with the provisions of Clause II C of this appendix.
- (2) Allowable expenses in any Calendar Year after the year of first commercial production shall include

the following current operating costs related to p. Petroleum Operations incurred in that Calendar Year:

- (a) Labor, materials and services used in day-to-day Petroleum Operations including those involving surveys, drilling, development, production, treatment, transport, storage, handling and delivery of Hydrocarbons and repair, maintenance and analagous activities;
- (b) General and office administration, services and operating overhead expenses, including technical and related services, materials, transportation, rentals, public relations, professional, personnel and analagous expenses; provided, however, that the total of all such foreign expenses shall not exceed five (5) percent of the total Petroleum Costs for that Calendar Year;
- (c) Interest, fees and commissions on loans and guarantees obtained by the Contractor, provided that such interest rates, fees and commissions do not exceed prevailing commercial rates and amounts on loans and guarantees for similar investments;
- (d) Insurance premiums fees and all expenditures incurred by the Contractor in settlement of all losses, claims, damages and judgments related to Petroleum Operations.

C. Capital Costs

- (1) Capital costs are expenditures for items that normally have a useful life greater than one year. An annual allowance for depreciation of capital costs and for current operating costs incurred in the Calendar Years prior to and including the year of first commercial production shall be allowed for each Calendar Year.

- (2) The current operating costs specified in clause II B(1) related to exploration and the following capital costs shall be depreciation on a straightline basis over a four (4) year period:

All expenditures for equipment, materials and facilities, including incidental construction and movables, used in connection with exploration, but excluding all expenditures for activities related to any portion of the Contract Area which has been subject to notification of a discovery under Section V unless such discovery is subsequently deemed not to be capable of commercial development.

- (3) The current operating costs specified in clause II B(1) related to appraisal, development and production and the following capital costs shall be depreciated on a straight-line basis over an eight (8) year period:

- (a) All equipment, materials and facilities used in connection with appraisal and development (unless such expenditures relate to a discovery which is subsequently deemed not to be capable of commercial development), production, treatment, transport, storage, handling and delivery;
- (b) Data fees paid by the Contractor to the Government for seismic and other information and reports;
- (c) The bonus payment under Section XI;
- (d) The total amount, including premium, paid by the Contractor to the Government under Section VI;

- (e) Any consideration paid in connection with the assignment or transfer of rights under the Contract.
  
- (4) The undepreciated capital cost of an asset taken out of service shall be depreciated on the basis described in this subclause C unless such assets has been subject to unanticipated destruction or loss, in which case its undepreciated value may be included in current operating costs in the Calendar Year of such destruction or loss.