

IMPLEMENTING AGREEMENT
BETWEEN
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
AND
THE MINISTRY OF ENERGY AND MINES OF THE REPUBLIC OF VENEZUELA
IN THE AREAS OF
OIL DRILLING, CORING AND TELEMETRY

WHEREAS, the United States Department of Energy (hereinafter referred to as DOE) and the Ministry of Energy and Mines of Venezuela (hereinafter referred to as MEMV) desire to cooperate in the field of energy research and development;

WHEREAS, in furtherance of their mutual interest DOE and MEMV entered into an Agreement in the field of Energy Research and Development signed March 6, 1980 (hereinafter referred to as the Energy R&D Agreement);

WHEREAS, DOE and MEMV desire to cooperate in the application of recently developed drilling, coring and telemetry techniques to Venezuelan oil field operations in consolidated and unconsolidated porous media in order to increase awareness throughout the petroleum industry of new technology; and

WHEREAS, the DOE and MEMV wish to provide for field tests of drilling and coring and telemetry in diverse reservoir settings;

IT IS AGREED AS FOLLOWS:

ARTICLE 1

In accordance with Article V of the Agreement, the Venezuelan representatives of the Joint Steering Committee have designated INTEVEP, S.A. to act on behalf of MEMV under this Implementing Agreement. INTEVEP and DOE shall hereinafter be referred to as the Parties to this Implementing Agreement. The Assistant Secretary of Fossil Energy of DOE or his designee shall be primarily responsible for the programmatic aspects of this Implementing Agreement for DOE. Each Party shall designate one Project Manager for this Implementing Agreement. The Project Managers shall provide technical management and coordination of the projects as described in the tasks below.

ARTICLE 2

The Parties shall cooperate in tasks in the areas of drilling, coring and telemetry as follows:

A. Drilling

Task 1 - INTEVEP shall select a team of not more than three persons who shall visit DOE and commercial facilities, where access can be obtained, to receive briefings on the development, design, field testing, and manufacture of Polycrystalline Diamond Compact bits (hereinafter referred to as PDC bits).

Task 2 - Following the visit and briefing described in Task 1, DOE shall select a team of not more than three persons who shall

visit Venezuela to inspect proposed drilling sites selected by INTEVEP. The DOE team in conjunction with INTEVEP shall identify the geological and engineering information needed to determine the characteristics of the PDC bits to be used in tests at the selected sites. INTEVEP shall then provide the necessary geological and engineering information to DOE.

- Task 3 - (a) On receiving the information provided under Task 2, DOE shall review commercially available PDC bit designs to determine if a design exists suited to Venezuela requirements.
- (b) If, in the opinion of DOE, and with the concurrence of INTEVEP, no PDC bit is commercially available, DOE shall, through its normal procurement procedures, select a contractor with the expertise and capabilities necessary to design PDC bits suitable for use at the Venezuelan drilling sites. To the extent possible and within the procurement regulations of the United States, DOE shall consult with INTEVEP in the final selection of a contractor. Costs attributable to the design of the PDC bits shall be shared equally by the Parties to the Implementing Agreement; provided, however, that the contractor shall be limited by DOE to a cost

ceiling of \$50,000 United States dollars. Should design not be completed for this amount, DOE in consultation with INTEVEP shall review the situation to determine whether further work is necessary or desirable. If at any time either Party is unable to provide its financial contribution or either Party terminates this Implementing Agreement, DOE shall not be obligated to continue to expend any funds for these PDC bits unless otherwise mutually agreed.

- (c) If, in the opinion of DOE, and with the concurrence of INTEVEP, an existing design of a PDC bit is found acceptable, or after a bit has been designed as in Task 3(b) above, DOE shall, through its normal procurement procedures, select a contractor with the expertise and capabilities necessary to fabricate PDC bits suitable for use at the Venezuelan drilling sites. To the extent possible and within the procurement regulations of the United States, DOE shall consult with INTEVEP in the final selection of a contractor. Fabrication shall include all laboratory evaluations and tests. Costs attributable to the fabrication of the PDC bits shall be shared equally by the Parties to the Implementing Agreement; provided, however, that the contractor shall be limited by DOE to a cost ceiling of \$250,000 United States dollars. Should

fabrication not be completed for this amount, DOE in consultation with INTEVEP shall review the situation to determine whether further work is necessary or desirable. If at any time either Party is unable to provide its financial contribution or either Party terminates this Implementing Agreement, DOE shall not be obligated to continue to expend any funds for these PDC bits unless otherwise mutually agreed. The contract will include a provision for shipping costs between Venezuela and the United States and for return.

Task 4 - The Project Managers shall develop a test plan to evaluate the PDC bits. The plan shall include identification of test sites, description of test sites and a list of the data to be collected during the test. Both Parties will agree to the test plan before the PDC bits are fabricated. The data to be collected will include, but not be limited to, bit wear and penetration rates.

Task 5 - Up to three PDC bits shall be shipped to INTEVEP in Venezuela for testing at the drilling sites selected in Task 2. All preparation of the drilling sites, drilling of test holes, and conduct of the tests of the PDC bits and associated costs and any liability or failure arising therefrom, shall be borne by and be the sole responsibility, financial or otherwise, of INTEVEP.

Task 6 - DOE shall select a team of no more than three persons to observe the conduct of the tests of the PDC bits at the drilling site in Venezuela. The visit shall be for a maximum of two weeks unless the Project Managers mutually approve a longer period. INTEVEP shall collect data on bit wear, penetration rates, and other such information as described in the test plan.

Task 7 - DOE shall prepare a report on the design, if any, and the fabrication of the PDC bits. INTEVEP shall prepare a report on the testing of the PDC bits. These reports shall be available to both Parties to be used in any manner each deems appropriate.

B. Coring

Task 8 - INTEVEP shall send up to 4 samples of consolidated or unconsolidated reservoir material to DOE. INTEVEP shall absorb all costs for obtaining the samples and transporting them to DOE's Energy Technology Center in Bartlesville, Oklahoma. DOE shall test the material for reactions to and compatibility with the coring fluid DOE believes most appropriate. Costs of the tests shall be borne by DOE. A report will be prepared by DOE on the results of the tests.

Task 9 - INTEVEP shall select a team of no more than three individuals to visit an appropriate field test site in the United States selected by DOE where pressure coring operations can be conducted and evaluated in an unconsolidated porous material.

Task 10 - The INTEVEP team described in Task 9 shall, if arrangements can be made by DOE, tour commercial coring facilities where access can be obtained, such as Core Labs in Dallas, Texas.

Task 11 - The Project Managers shall develop a plan for a coring test. The plan will include the identification and description of a Venezuelan test site(s) and a list of the data to be taken.

Task 12 - INTEVEP shall arrange for a contractor to perform a coring operation in Venezuela at the site(s) selected and described in Task 11. All of the coring operations and associated costs and any liability or failure arising therefrom shall be borne by and be the sole responsibility, financial or otherwise, of INTEVEP.

Task 13 - DOE shall select an individual to observe the coring operation in Venezuela. Such observer shall assist INTEVEP in determining the efficiency of core recovery. The visit shall be for no more than two weeks unless a longer period is approved by the Project Managers.

Task 14 - DOE and INTEVEP shall jointly at the conclusion of the coring operation prepare a report describing the operation and its efficiency. The report shall be available to both Parties to be used in any manner each deems appropriate.

C. Telemetry

Task 15 - The Project Managers shall meet with drilling specialists to develop state-of-the-art information on the techniques and applications of downhole measurements for directional drilling operations. The Project Managers shall develop a test plan for directional drilling downhole measurements in Venezuela. The plan will include the identification and description of the test site(s) and a list of the data to be taken.

Task 16 - INTEVEP shall arrange for a contractor to perform a directional drilling downhole measurement test at the site(s) identified in Task 15. All of the drilling operations and associated costs, and any liability or failure arising therefrom shall be borne by and be the sole responsibility, financial or otherwise, of INTEVEP.

Task 17 - DOE shall select and send an observer to Venezuela during the course of the drilling operation. Such observer shall assist INTEVEP in determining the accuracy and applicability of the downhole measurements. The visit shall be for no more than two weeks unless a longer period is approved by the Project Managers.

Task 18 - DOE and INTEVEP shall at the conclusion of the downhole measurements prepare a report describing the test results. The report shall be available to both Parties to be used in any manner each deems appropriate.

ARTICLE 3

Except as otherwise stated in this Implementing Agreement, all costs attributable to this Implementing Agreement, including but not limited to research, reports, travel, salaries and associated expenses, shall be borne by the Party incurring the expenses.

Both Parties agree to share equally the costs of Task 3 above. INTEVEP shall transfer an agreed amount of funds to DOE within 30 days after contractor selection pursuant to procedures and to an account designated by DOE; such arrangement shall have been agreed to in writing prior to the transfer of funds. The cost for the Task shall not exceed the figure stated therein without the express approval of the Joint Steering Committee.

Responsibility and expenses for the transport of equipment, as set forth in Task 5, from the United States by plane or ship to an authorized port of entry in Venezuela convenient to the ultimate destination and also responsibility for their safekeeping and insurance en route and for return to the United States shall be the sole responsibility of the contractor selected by DOE pursuant to Task 3, and such costs will be allowable in the contract. It is understood that all PDC bits may be destroyed during the testing. Ultimate disposition of the PDC bits shall be decided by the Project Managers.

ARTICLE 4

The Parties shall support the widest possible dissemination of information arising from this Implementing Agreement, in accordance with Article 2 of the Annex to the Energy R&D Agreement.

ARTICLE 5

Rights to any invention or discovery made or conceived in the course of or under this Implementing Agreement shall be distributed as provided in paragraph 1 of Article VI of the Energy R&D Agreement. As to the third countries, rights to such inventions shall be decided by the Joint Steering Committee.

Each Party shall take all necessary steps to provide the cooperation from its inventors required to carry out this Article. Each Party shall assume the responsibility to pay awards or compensation required to be paid to its own nationals according to its own laws.

ARTICLE 6

The existing terms and conditions of the Energy R&D Agreement shall continue and remain in full force and effect notwithstanding the terms of this Implementing Agreement. Articles 3, 4, 5, 6, 7, 8, and 9 of the Annex to the Energy R&D Agreement are hereby incorporated by reference.

ARTICLE 7

This Implementing Agreement shall enter into force upon upon the later date of signature and shall remain in force for a period of one and one-half years. It may be amended or extended by mutual written consent of the Parties in accordance with Article V of the Energy R&D Agreement.

ARTICLE 8

This Implementing Agreement may be terminated at any time at the discretion of either Party, upon six (6) months advance notification in writing to the other Party by the Party seeking to terminate the Implementing Agreement. Such termination shall be without prejudice to the rights which may have accrued under this Implementing Agreement to either Party up to the date of such termination.

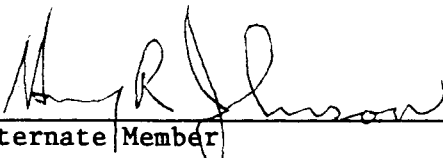
Done at Washington and Caracas
in the English and Spanish languages, each text being equally authentic.

THE JOINT STEERING COMMITTEE

On behalf of DOE



Member

Martin R. Adams
Member

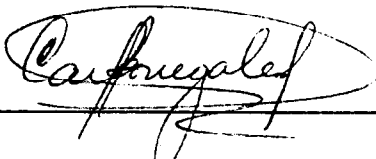

Alternate Member

September 23, 1980
Date

On behalf of MEMV


Member


Member


Member

September 29, 1980
Date