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Prudhoe Bay Unit Agreement

April 1977

## **F O R E W O R D**

The Unit Agreement, Prudhoe Bay Unit, State of Alaska, consists of Articles 1 through 19 and Exhibits A through F. The Unit Agreement was executed by the Working Interest Owners on the dates set forth by their respective signatures, effective April 1, 1977.

The First Amendment to the Unit Agreement, effective as of April 1, 1977, corrected certain errata in the Exhibits to the Unit Agreement. This conformed copy contains the Exhibits as corrected by said First Amendment to the Unit Agreement, but the First Amendment itself is not included.

The Unit Agreement was approved by the State of Alaska, by Decision and Findings of the Director, Division of Minerals and Energy Management, Department of Natural Resources, dated May 25, 1977, and Approval of Prudhoe Bay Unit Agreement by the Commissioner, Department of Natural Resources, dated June 2, 1977.

San Francisco  
June 1977

**UNIT AGREEMENT**  
**PRUDHOE BAY UNIT**  
**STATE OF ALASKA**

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**UNIT AGREEMENT  
PRUDHOE BAY UNIT  
STATE OF ALASKA**

THIS AGREEMENT, entered into as of April 1, 1977, by the parties who have signed the original of this instrument, a counterpart thereof, or other instrument agreeing to become a party hereto, with the agreement and approval of the State of Alaska.

WITNESSETH:

WHEREAS, the A.R.Co.-Humble (now A.R.Co.-Exxon) Prudhoe Bay State No. 1 Well on land covered by State Lease No. ADL-28303 between the depths of 8,117 feet below Kelly Bushing and the top of the carbonate formation at 8,785 feet below Kelly Bushing (called "Permo-Triassic formation") as measured by the Schlumberger Dual Induction Laterolog, Run 4 dated February 8, 1968, and Run 5 dated March 9, 1968, and subsequent additional wells have established the discovery of a major oil and gas field in the Prudhoe Bay area of the Arctic Slope of Alaska; and

WHEREAS, Section 31.05.110 (a) of the Alaska Statutes (Oil and Gas Conservation) provides that to prevent, or to assist in preventing waste, to insure a greater ultimate recovery of oil and gas, and to protect the correlative rights of owners of interests in the tracts of land affected, these owners may validly integrate their interests to provide for the unitized development and operation of such tracts of land as a unit; and

WHEREAS, the Commissioner of Natural Resources, State of Alaska, is authorized by Chapter 38.05 of the Alaska Statutes where necessary or advisable in the public interest, to agree to and approve a unit plan of development or operation on behalf of the State of Alaska insofar as it covers and includes lands and mineral interests of the State of Alaska; and

WHEREAS, in order to accomplish the foregoing purposes, it is deemed necessary and desirable to enter into this agreement to



unitize the Oil and Gas Rights in and to the Unit Area, as herein established, in order to conduct the Unit Operations as herein provided;

Now, THEREFORE, in consideration of the premises and of the mutual agreements herein contained, it is agreed as follows:

## ARTICLE 1

### DEFINITIONS

As used in this agreement:

1.1 *Director* is the Director, Division of Lands, Department of Natural Resources, State of Alaska, or his duly authorized representative, who is authorized and has been delegated the authority to act for and on behalf of the Commissioner of the Department of Natural Resources with respect to the agreement to and approval of this agreement by the State of Alaska and the giving of the various approvals called for in this agreement.

1.2 *Effective Date* is the time and date this agreement becomes effective as provided in Article 14.1 hereof.

1.3 *Gas Cap Gas* is natural gas (with all of its constituent elements, including condensate and gas plant liquids, derived or extracted from it after it leaves the Reservoir) which originally occurred in a Reservoir in gaseous form and not in solution with Oil.

1.4 *Gas Cap* is that portion of a Reservoir occupied by Gas Cap Gas originally in place and not by Oil or Solution Gas.

1.5 *Gas Cap Participating Area* shall have the meaning given to it by Section 5.1(c) hereof.

1.6 *Legal Subdivision of Land* is a section of land according to the governmental or protracted survey thereof, containing six hundred and forty (640) acres more or less, or the nearest equivalent in instances of irregular surveys.

1.7 *Oil* is any hydrocarbon produced in liquid form at the wellhead and originally existing in liquid form in the Reservoir.

1.8 *Oil and Gas Rights* are the rights to explore, develop, and operate lands within the Unit Area for the production of Unitized Substances, or to share in the production so obtained or the proceeds or value thereof.

1.9 *Oil Rim* is that portion of a Reservoir occupied by Oil and Solution Gas originally in place and not by Gas Cap Gas.

1.10 *Oil Rim Participating Area* shall have the meaning given to it by Section 5.1(e) hereof.

1.11 *Outside Substances* are all substances injected into a Reservoir which have been obtained from any source outside the Unit Area or on which payments for Royalty Interests previously have been made.

1.12 *A Participating Area* is a Tract or group of Tracts described and designated as such pursuant to this agreement for purposes of developing, producing and allocating one or more of the Unitized Substances from all or part of one or more Reservoirs, as determined for such Tract or group of Tracts in accordance with this agreement.

1.13 *Prudhoe Bay (Permo-Triassic) Gas Cap* shall have the meaning given to it by Section 5.1(b) hereof.

1.14 *Prudhoe Bay (Permo-Triassic) Oil Rim* shall have the meaning given to it by Section 5.1(d) hereof.

1.15 *Prudhoe Bay (Permo-Triassic) Reservoir* shall have the meaning given to it by Section 5.1(a) hereof.

1.16 *A Reservoir* is the portion of a porous and permeable underground formation containing or appearing to contain an individual and separate, continuous accumulation of producible Unitized Substances which is confined by impermeable rock or a defined oil-water or gas-water contact and is characterized by a single natural pressure system.

1.17 *Reservoir Limits* means the areal extent of a Reservoir in its original condition prior to the first withdrawal of any Unitized Substance therefrom.

1.18 *Royalty Interest* is a right to or interest in any portion of the Unitized Substances or proceeds or value thereof other than a Working Interest.

1.19 *Royalty Owner* is the State of Alaska and any other party hereto who owns a Royalty Interest.

1.20 *Solution Gas* for the purposes of distinguishing it from Gas Cap Gas, is any gaseous hydrocarbon which originally occurred in a Reservoir in solution with Oil. Solution Gas for purposes of distinguishing it from Oil, is any hydrocarbon which originally occurred in a Reservoir in solution with Oil and which was converted to a gaseous form by changes in pressure or temperature effected by ordinary production methods. In either case, the term Solution Gas includes all constituent elements including gas plant liquids derived or extracted therefrom after it leaves the Reservoir.

1.21 *Tract* is the land described as such and given a Tract number in Exhibit A as originally attached hereto or as such Exhibit A may be amended from time to time in accordance with the provisions hereof.

1.22 *Tract Participation* is the percentage assigned to a Tract for a Participating Area for allocating Unitized Substances to such Tract.

1.23 *Unit Area* is the land described by Tracts in Exhibit A and shown on Exhibit B as to which this agreement becomes effective or to which it may be extended as herein provided.

1.24 *Unit Equipment* is all personal property, lease and well equipment, plants and other facilities and equipment taken over or otherwise acquired by Working Interest Owners for use in Unit Operations.

1.25 *Unit Operating Agreement* is the agreement entered into by Working Interest Owners, having the same Effective Date as this agreement, entitled "Unit Operating Agreement, Prudhoe Bay Unit, State of Alaska", as amended or supplemented from time to time.

1.26 *Unit Operations* are all operations conducted pursuant to this agreement and the Unit Operating Agreement.

1.27 *Unit Operators* are the Working Interest Owners designated by Working Interest Owners under the Unit Operating Agreement to conduct Unit Operations, acting as operators and not as Working Interest Owners.

1.28 *Unitized Substances* are all oil, gas and associated substances other than Outside Substances within or produced from the Unit Area.

1.29 *Working Interest* is an interest in Unitized Substances by virtue of a lease, operating agreement, fee title, or otherwise, including a carried interest, under or pursuant to which the owner of such interest has the right to drill for, develop and produce, or cause to be drilled for, developed and produced, oil and gas, and the owner of which interest is obligated to pay, either in cash or out of production or otherwise, a portion of the unit expenses. A Royalty Interest created out of a Working Interest subsequent to the execution of this agreement by the owner of such Working Interest shall continue to be subject to such Working Interest burdens and obligations that are stated in this agreement and the Unit Operating Agreement. For the purpose of this agreement the interest of BP ALASKA INC. as shown on Exhibit A shall be considered as a Working Interest.

1.30 *Working Interest Owner* is a party hereto who owns a Working Interest.

## ARTICLE 2

### EXHIBITS

2.1 *Exhibits*. The following exhibits, which are attached hereto, are incorporated herein by reference:

2.1.1 *Exhibit A* is a schedule that describes each Tract in the Unit Area and shows among other things the ownership of Oil and Gas Rights in each Tract.

2.1.2 *Exhibit B* is a map depicting the boundary line of the Unit Area and the Tracts therein.

2.1.3 *Exhibit C* is a description of the Oil Rim Participating Area, as defined in Section 5.1(e) of this agreement, and a description of the Gas Cap Participating Area, as defined in Section 5.1(c) of this agreement, and a schedule showing respective Tract Participations for each Participating Area.

2.1.4 *Exhibit D* consists of two maps labeled D-1 and D-2 depicting the boundary lines of the Oil Rim Participating Area, as defined in Section 5.1(e) of this Agreement, and the Gas Cap Participating Area, as defined in Section 5.1(c) of this agreement.

2.1.5 *Exhibit E* is the plan of development for the Oil Rim Participating Area, as defined in Section 5.1(e) of this agreement, and the Gas Cap Participating Area, as defined in Section 5.1(c) of this agreement.

2.1.6 *Exhibit E-1* is the plan of development and operation for lands not included in the Initial Participating Areas.

2.1.7 *Exhibit F* is a map depicting the Reservoir Limits of the Prudhoe Bay (Permo-Triassic) Reservoir.

2.2 *Reference to Exhibits.* When reference is made to an exhibit, it is to the exhibit as originally attached or, if revised, to the latest revision.

2.3 *Exhibits Considered Correct.* Exhibits A, B, C, D, E, E-1 and F shall be considered to be correct until revised as herein provided.

2.4 *Correcting Errors.* Shapes and descriptions of the respective Tracts have been established by using the best information available. If it subsequently appears that any Tract, because of diverse Royalty or Working Interest ownership, should be divided into more than one Tract, or that any mechanical miscalculation or clerical error has been made, Unit Operators, with approval of Working Interest Owners, shall correct the mistake by revising the exhibits to conform to the facts. Such revision shall not include any re-evaluation of reservoir engineering or geological interpretations used in determining Tract Participation. Each such revision of an exhibit made prior to thirty (30) days after the Effective Date shall

be effective as of the Effective Date. Each such revision thereafter made shall be effective at 12:01 a.m. on the first day of the calendar month next following the filing for record of the revised exhibit or on such other date as may be determined by Working Interest Owners as set forth in the revised exhibit.

2.5 *Exhibits for New Participating Areas.* Unit Operators shall prepare exhibits similar in form to Exhibits C and D for each new Participating Area created pursuant to Sections 5.3 and 5.4 of this agreement and shall submit the same promptly to Working Interest Owners and after approval by them to the Director for approval.

2.6 *Filing Revised Exhibits.* If an exhibit to this agreement is revised, Unit Operator shall execute an appropriate instrument with the revised exhibit attached and file the same for record in the Barrow Recording District and in the filing office of the Division of Lands in Anchorage, Alaska.

### ARTICLE 3

#### CREATION AND EFFECT OF UNIT

3.1 *Oil and Gas Rights Unitized.* All Oil and Gas Rights in each of the Tracts described in Exhibit A are hereby unitized so that Unit Operations may be conducted as if the Unit Area had been included in a single lease executed by the State of Alaska and any other party who may have authority to execute oil and gas leases, as lessor, in favor of all Working Interest Owners, as lessees.

3.2 *Personal Property Excepted.* All lease and well equipment, materials, and other facilities heretofore or hereafter placed by any of the Working Interest Owners on the land covered hereby shall be deemed to be and shall remain personal property belonging to and may be removed by the Working Interest Owners and is hereby excepted from the provisions of this agreement. The rights and interests therein as among Working Interest Owners are set forth in the Unit Operating Agreement.

3.3 *Amendment of Leases and Other Agreements.* The provisions of the various leases, agreements, division and transfer orders, or other instruments pertaining to respective Tracts or the production therefrom are amended to the extent necessary to make

them conform to the provisions of this agreement, but otherwise shall remain in effect.

3.4 *Continuation of Leases and Term Interests.* Except for the purpose of determining payments to the State of Alaska and other Royalty Owners, production from any part of the Unit Area, as such area may be enlarged or contracted, or other Unit Operations shall be considered as production from or operations upon each Tract, and such production or operations, so long as the particular Tract remains committed to this agreement, shall continue in effect each lease or term mineral or royalty interest as to all lands and formations covered thereby just as if such operations were conducted on and as if a well were producing from each Tract.

3.5 *Rental Settlement.* Rental or minimum royalties due on leases committed hereto shall be paid by Working Interest Owners responsible therefor at the rates specified in the respective leases and in accordance with applicable laws and regulations, regardless of whether or not the primary term of said leases has expired, unless such rentals or minimum royalties are waived, suspended or reduced by law or by approval of the Director. Minimum royalty accrues on each lease, any part of which is in a Participating Area, and each other lease which is producing or certified by the Alaska Division of Lands as capable of producing in paying quantities, on the first day of each lease year and is payable at the end of the lease year. Rentals on all other leases shall be due and payable prior to the beginning of each lease year.

3.6 *Titles Unaffected by Unitization.* Nothing herein shall be construed to result in the transfer of title to the Oil and Gas Rights by any party hereto to any other party or to Unit Operators.

3.7 *Injection Rights.* Pursuant to an approved development and operation plan, Working Interest Owners may inject substances into the Unit Area for Unit Operations, together with the right to drill, use, and maintain injection wells on the Unit Area, and to use for injection purposes any nonproducing or abandoned wells or dry holes, and any producing wells completed in the Unit Area.

3.8 *Operating Rights.* Working Interest Owners, and Unit Operators in their behalf, shall have the same rights as are granted in the several oil and gas leases of ingress, egress, use of the surface and subsurface, use of water, use of other substances, use for the laying of pipelines and any other rights in said leases, which shall extend to and may be exercised for the benefit of the Unit Operations, the same as if the entire Unit Area were covered by a single oil and gas lease containing such provisions. Such rights shall extend to all lands hereafter added to the Unit Area and shall continue in full force and effect as to any lands hereafter excluded from the Unit Area (whether by virtue of Section 9.3 of this agreement or otherwise) which, when excluded, are either being utilized for the benefit of Unit Operations or to be utilized pursuant to an approved plan of development and operation.

#### ARTICLE 4

##### UNIT OPERATORS AND PLAN OF DEVELOPMENT AND OPERATION

4.1 *Unit Operators.* Working Interest Owners are concurrently herewith entering into the Unit Operating Agreement designating Unit Operators. BP ALASKA INC., with offices at 3111 "C" Street (P.O. Box 4-1379, 99509), Anchorage, Alaska, is designated as Unit Operator for the following identified leases or portions thereof included within the Unit Area:

<u>State of Alaska Lease No.</u>	<u>Tract No.</u>
47445	1
28235	2
28254	3
47469	9
47448	10
28256	11
28255	12
28237	13
47447	14
47446	15
25637	16
47449	17
28239	18
28238	19
28259	20
28258	21



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<u>State of Alaska Lease No.</u>	<u>Tract No.</u>
28257	22 & 22-A
28279	23
28278	24
28277	25
28299	26
28304	43
28280	44
28281	45
28282	46
28260	47
28261	48
47450	49
28240	50
28241	51 & 51-A
28244	52
28245	53
28262	54 & 54-A
28263	55 & 55-A
47451	56
28283	57
28284	58
28285	59
28305	60
28310	75
28286	76
28287	77
28288	78
28264	79
47452	80
47453	81
28246	82
47454	83
28265	84
28289	85 & 85-A
47471	86
47472	87
28313	88
47475	103
47476	104
28290	105

ATLANTIC RICHFIELD COMPANY, with offices at 711 West 8th Avenue (P.O. Box 360, 99510), Anchorage, Alaska, is designated as Unit Operator for the following identified leases or portions thereof included within the Unit Area:

<u>State of Alaska Lease No.</u>	<u>Tract No.</u>
34625	4
34626	5
34627	6
34624	7
28297	8
28300	27
28301	28
34628	29
34629	30
34630	31
34635	32
34634	33
34633	34
34636	35
28337	36
28338	37
28320	38
34631	39
34632	40
28302	41
28303	42
28306	61
28307	62
28321	63
28322	64
28323	65
28339	66
28340	67
28341	68
28343	69
28324	70
28325	71
28326	72
28308	73
28309	74
28312	89
28311	90
28329	91
28328	92
28327	93
28345	94
28344	95
28347	96
28346	97
28332	98
28331	99
28330	100

<u>State of Alaska Lease No.</u>	<u>Tract No.</u>
28315	101
28314	102
47482	106
28316	107 & 107-A
28335	108
28334	109 & 109-A
28333	110
28349	111

Further reference in this agreement and the Unit Operating Agreement to Unit Operators shall mean BP ALASKA INC., with respect to that portion of the Unit Area for which it is designated as Unit Operator, and ATLANTIC RICHFIELD COMPANY, with respect to that portion of the Unit Area for which it is designated as Unit Operator. Unit Operators shall have the right to conduct Unit Operations, which shall conform to the provisions of this agreement and the Unit Operating Agreement. By signature hereto, BP ALASKA INC. and ATLANTIC RICHFIELD COMPANY, hereby agree to accept the duties and obligations of Unit Operators for discovery, development and production of Unitized Substances as herein provided. A change of either Unit Operator may be made in accordance with the Unit Operating Agreement, and the Director shall be notified promptly of any such change. In the event of any such change, the Unit Operator herein designated, change of which is desired, shall continue in its capacity as a Unit Operator until a qualified successor shall have been selected and approval thereof is given by the Director and the successor shall have assumed its duties as a Unit Operator. No change of a Unit Operator shall become effective until approved by the Director. Upon a change of Unit Operator, the outgoing Unit Operator shall deliver possession of all equipment, materials and appurtenances used in conducting Unit Operations and owned by the Working Interest Owners to the new, duly qualified and approved successor Unit Operator.

4.1.1 Each Unit Operator shall file with the appropriate State of Alaska office all applications for permits and make all reports and file all notices which pertain to wells, facilities or Unit Operations conducted or to be conducted within that portion of the Unit Area for which it is designated as a Unit Operator.

4.1.2 Both Unit Operators must accept joint responsibility for the following reports and filings, as may be lawfully required, by jointly submitting same:

4.1.2.1 Establishment and revision of any Participating Area.

4.1.2.2 Plans of development and operation.

4.1.2.3 Reports concerning monthly production including allocation of the royalty portion of such production to the Working Interest Owners for settlement with the State of Alaska.

4.1.2.4 Plans for gathering lines, injection systems and other facilities related geographically to both operating areas.

Whenever the State of Alaska should require both Unit Operators to take any action or to report any matter, such matter shall be submitted jointly. The Unit Operators shall act hereunder only as authorized in accordance with provisions of this agreement and the Unit Operating Agreement, and the State shall be entitled to rely upon any action by the Unit Operators hereunder as authorized in accordance with said Unit Operating Agreement.

4.2 *Method of Development and Operation.* To the end that Unitized Substances economically recoverable may be increased and waste prevented, Working Interest Owners shall with due diligence develop the Unit Area in accordance with good engineering and production practices. Such engineering and production practices shall include a plan of development and operation on a Reservoir basis (or portion thereof), designed to efficiently and economically produce Unitized Substances. The plan for development and operation of the Oil Rim Participating Area and the Gas Cap Participating Area, as those Participating Areas are respectively defined in Sections 5.1(e) and 5.1(c) of this agreement, is attached hereto as Exhibit E, and is approved by the Director's approval of this agreement. Modifications of Exhibit E shall be submitted to the Director for approval.

A plan for the development and operation of lands not included in the initial Participating Areas is attached hereto as Exhibit E-1

and is approved by the Director's approval of this agreement. Within five (5) years after the Effective Date, Unit Operators shall submit for the Director's approval a further plan of development and operation for lands not then included in a Participating Area. If Unit Operators fail to submit an acceptable further plan of development and operation or fail in a substantial respect to conduct the operations included in an approved plan, the Director may upon notice to Unit Operators and the affected Working Interest Owners exclude from Unit Area any lands not then included in a Participating Area; provided, however, that such lands shall not be excluded while bona fide drilling operations are being conducted on any such lands and continued diligently, with at least one well being commenced each calendar year and followed by a good faith attempt to complete such well during the winter drilling season; provided further that if Unit Operators have timely submitted a plan of development and operation on a Reservoir basis (or portion thereof), covering a portion of such lands, and such plan has been approved by the Director, then lands covered by such plan of development and operation shall not be excluded from the Unit Area so long as operations are being diligently conducted pursuant thereto. The Director may modify the drilling requirements of this section by granting reasonable extensions of time when in his opinion such action is warranted.

Development and operation of the Unit Area, as it may be enlarged or contracted, pursuant to a plan or plans submitted and approved by the Director in accordance with this Section 4.2, shall be deemed full performance of all obligations for development and operation with respect to each and every Tract included in such plan or plans, regardless of whether there is any development of any particular Tract or Tracts of the Unit Area, notwithstanding anything to the contrary in the lease.

A plan of development and operation for each subsequently established Participating Area shall be submitted to the Director for approval as information upon which to base such plan is developed.

4.3. *Rate of Prospecting, Development and Production.* The Director is hereby vested with authority to alter or modify from

time to time the quantity and rate of production under this agreement when such quantity and rate is not fixed pursuant to State law or does not conform to any state-wide voluntary conservation or allocation program which is established, recognized and generally adhered to by the majority of operators in such State, such authority being hereby limited to alteration or modification in the public interest, the purpose thereof and the public interest to be served thereby to be stated in the order of alterations or modification. Without regard to the foregoing, the Director is also hereby vested with authority to alter or modify from time to time the rate of prospecting and development and the quantity and rate of production under this agreement when such alteration or modification is in the interest of attaining the conservation objectives stated in this agreement and is not in violation of any applicable State law.

Powers in this section vested in the Director shall only be exercised after notice to Unit Operator and opportunity for hearing to be held not less than thirty (30) days from notice, and shall not be exercised in a manner that would (i) require any increase in the rate of prospecting, development or production in excess of that required under good and diligent oil and gas engineering and production practices; or (ii) alter or modify the rates of production from the rates provided in the approved plan of development and operations then in effect or, in any case, curtail rates of production to an unreasonable extent, considering unit productive capacity, transportation facilities available, and conservation objectives; or (iii) prevent this agreement from serving its purpose of adequately protecting all parties in interest hereunder, subject to applicable conservation laws and regulations.

4.4. *Drilling by Working Interest Owners.* Any Working Interest Owner shall be entitled to drill wells under circumstances and limitations prescribed in the Unit Operating Agreement. On approval by the Director, a plan of testing, evaluation and pilot production may be carried out by such Working Interest Owner to determine if such wells are capable of sustained commercial production of Unitized Substances in sufficient quantities to justify Working Interest Owners in developing and producing the Reservoir, or portions thereof, into which such well is completed; provided, how-

ever, that any such wells which are determined to be capable of such production must thereafter be produced by the Unit Operator.

## ARTICLE 5

### PARTICIPATING AREAS AND TRACT PARTICIPATIONS

#### 5.1 *Definitions Pertaining to Participating Areas Within Prudhoe Bay (Permo-Triassic) Reservoir.*

5.1(a) *Prudhoe Bay (Permo-Triassic) Reservoir* means the accumulation of Unitized Substances correlating with the Unitized Substances found in the A.R.Co.-Humble (now A.R.Co.-Exxon) Prudhoe Bay State No. 1 well between the depths of 8,117 feet and 8,785 feet below Kelly Bushing as measured by the Schlumberger Dual Induction Laterlog, Run 4, dated February 8, 1968, and Run 5, dated March 9, 1968 (including also the Put River Sandstone, which is that sandstone interval that correlates with the interval 9,638 to 9,719 measured feet on the Borehole Compensated Sonic Log, Run 2, dated September 28, 1975, in the Atlantic Richfield-Exxon NGI No. 1 well, and any other formation that contains an accumulation of Unitized Substances in substantial hydrocarbon communication with the above-described portion of the Prudhoe Bay (Permo-Triassic) Reservoir), and which has Reservoir Limits shown on Exhibit F as such exhibit may be revised from time to time by the Working Interest Owners in accordance with the Unit Operating Agreement and Section 2.6 hereof. For the purposes of this agreement, the Prudhoe Bay (Permo-Triassic) Reservoir shall be considered as a separate, continuous accumulation of producible Unitized Substances, even if faults or other discontinuities may divide the Permo-Triassic formation within the designated area in Exhibit F into separate Reservoir segments.

5.1(b) *Prudhoe Bay (Permo-Triassic) Gas Cap* is that portion of the Prudhoe Bay (Permo-Triassic) Reservoir which originally contained Gas Cap Gas and which is distinguished from the Prudhoe Bay (Permo-Triassic) Oil Rim as being that portion of the Permo-Triassic Reservoir which originally existed above the gas-oil contact or contacts as determined by the Working Interest Owners.

5.1(c) *Gas Cap Participating Area* is the Participating Area described in Exhibit C and depicted in Exhibit D-2 as established for the Prudhoe Bay (Permo-Triassic) Gas Cap by Section 5.2 of this agreement.

5.1(d) *Prudhoe Bay (Permo-Triassic) Oil Rim* is that portion of the Prudhoe Bay (Permo-Triassic) Reservoir which originally contained Oil and Solution Gas and which was not originally occupied by Gas Cap Gas.

5.1(e) *Oil Rim Participating Area* is the Participating Area described in Exhibit C and depicted in Exhibit D-1 as established for the Prudhoe Bay (Permo-Triassic) Oil Rim by Section 5.2 of this agreement.

5.2 *Participation for Prudhoe Bay (Permo-Triassic) Reservoir Participating Areas.* The Oil Rim Participating Area shown on Exhibit D-1 and the Gas Cap Participating Area shown on Exhibit D-2 are hereby established as the initial Participating Areas. The Tract Participations initially agreed to by the Working Interest Owners for the Oil Rim and Gas Cap Participating Areas are shown in Exhibit C. Tract Participations have been assigned to the Tracts within the Oil Rim Participating Area primarily on the basis of Oil and Solution Gas originally in place and to the Gas Cap Participating Area primarily on the basis of Gas Cap Gas originally in place, as determined by agreement of the Working Interest Owners. Because development of the Tracts and the available information concerning Unitized Substances is not complete enough to allow final determination of Tract Participations as of the Effective Date, the Working Interest Owners agree that the initial Tract Participations shall be subject to adjustments or corrections as provided in the Unit Operating Agreement.

The Oil Rim and Gas Cap Participating Areas may be enlarged and/or contracted from time to time with approval of the Working Interest Owners, as set out in the Unit Operating Agreement, and of the Director. Such enlargement shall include Legal Subdivisions of Land, any portion of which is reasonably proved to be within the Reservoir Limits of the Prudhoe Bay (Permo-Triassic) Reservoir. Such contraction shall exclude Tracts reasonably proved to be wholly outside the Reservoir Limits of the Prudhoe



Bay (Permo-Triassic) Reservoir. Effective January 1, 1982, corrected Tract Participations resulting from enlargements, contractions or other corrections deemed necessary by the Working Interest Owners shall be assigned to the Tracts in the Oil Rim Participating Area and to Tracts in the Gas Cap Participating Area as determined by the Working Interest Owners in accordance with the Unit Operating Agreement.

Contractions of the Oil Rim and/or Gas Cap Participating Areas shall not be made after January 1, 1982. The Oil Rim and Gas Cap Participating Areas may be enlarged after January 1, 1982, to include Legal Subdivisions of Land any portion of which is reasonably proved to be within the Reservoir Limits of the Prudhoe Bay (Permo-Triassic) Reservoir upon the terms and conditions as may be determined by the Working Interest Owners, in accordance with the provisions of the Unit Operating Agreement, including provision for the allocation of a Tract Participation to the added Legal Subdivision of Land. For enlargements which may occur after January 1, 1982, the corrected Tract Participations of the Tracts in the Participating Area prior to the enlargement shall remain in the same ratio one to the other.

New exhibits showing such new Tracts, Tract Participations and boundaries shall be filed with the Director for approval.

*5.3 Participation—Other Participating Areas.* As to any other Reservoir which has been or may be discovered within the Unit Area and which shall have been reasonably proven to be capable of sustained commercial production of Unitized Substances in sufficient quantities to justify Working Interest Owners in developing and producing such Reservoir, or portion thereof, the affected Working Interest Owners shall establish a Participating Area for all or that portion of such Reservoir as has been reasonably defined. Such Participating Area may be established, enlarged or contracted to include lands which are reasonably proved to be within the Reservoir Limits of such Reservoir or portion thereof. The lands to be included shall be based on such subdivisions of the public land surveys as may be approved by the Director, but not less than the area approved by the well-spacing order affecting such lands for such Reservoir. Such lands and Tract Participations for each Participating Area shall be

determined by the Working Interest Owners and approved by the Director.

5.4 *Provisions Common to All Reservoirs.* For all Participating Areas, including the Permo-Triassic Oil Rim and Gas Cap Participating Areas, the Working Interest Owners and the Royalty Owners other than the State of Alaska shall have the right to allocate the Unitized Substances, other than the State's Royalty Interest share, in any way they see fit in accordance with the provisions of the Unit Operating Agreement.

Insofar as the interest of the State of Alaska is concerned, there shall be no retroactive adjustment of interest in Unitized Substances, or in the proceeds therefrom, upon the correction of Tract Participations, but as between themselves, the Working Interest Owners and the Royalty Owners other than the State of Alaska are free to provide otherwise in the Unit Operating Agreement if they desire.

The Working Interest Owners in any two or more Participating Areas established hereunder for any one or more Reservoirs or portion thereof may, with approval of the Director and as provided in the Unit Operating Agreement, combine such Participating Areas except that the approval of the Director shall not be required for combination of the Oil Rim Participating Area and the Gas Cap Participating Area.

Except as hereinabove provided, the effective date for establishment, revision or consolidation of Participating Areas as to the State of Alaska shall be 12:01 a.m. of the first day of the calendar month following approval by the Director or such other appropriate date as may be agreed by the Director and Unit Operators, acting on behalf of Working Interest Owners. No land included in a Participating Area shall ever be excluded therefrom because of depletion of Unitized Substances.

5.5 *Failure to Agree.* The parties hereto agree, anything contained herein to the contrary notwithstanding, that failure or refusal of the Director to approve, or of Working Interest Owners or any of them to agree, to any matter or matters arising out of or in connection with the creation or operation of or production from any

Participating Area hereafter proposed or created in addition to the Oil Rim Participating Area and Gas Cap Participating Area established by this agreement shall not under any circumstances invalidate or otherwise affect this agreement, the Unit Operating Agreement, or continued Unit Operations on or production of Unitized Substances from the Oil Rim Participating Area and the Gas Cap Participating Area in the same manner and to the same extent as if no additional Participating Areas were ever proposed or created under the terms hereof.

## ARTICLE 6

### ALLOCATION OF UNITIZED SUBSTANCES

6.1 *Allocation of Unitized Substances Produced from Participating Areas.* All Unitized Substances produced and saved from the Unit Area shall be allocated to the Participating Area established for such Reservoir and to the Working Interest Owners therein; except that where there are separate Oil Rim and Gas Cap Participating Areas within a Reservoir, production therefrom of Gas Cap Gas shall be allocated to the Gas Cap Participating Area of such Reservoir, and to the Working Interest Owners therein, and production therefrom of Oil and Solution Gas shall be allocated to the Oil Rim Participating Area of such Reservoir and to the Working Interest Owners therein. Such allocations shall be in accordance with methods, formulas and procedures as provided in the Unit Operating Agreement.

Unitized Substances allocated to each Working Interest Owner in a Participating Area shall be allocated to the several Tracts in such Participating Area in which such Working Interest Owner owns a Working Interest in the proportion that the product of such Working Interest Owner's Working Interest in each such Tract multiplied by the current Tract Participation for such Tract bears to the sum of all such products for that Working Interest Owner. The amount of Unitized Substances allocated to each Tract, regardless of whether the amount is more or less than the actual production of Unitized Substances from the well or wells, if any, on such Tract, shall be deemed for all purposes to have been produced from such Tract.

6.2 *Allocation of Unitized Substances from Reservoirs not in a Participating Area.* Prior to the effective date of a Participating Area established for any part of a Reservoir, production of any Unitized Substances from such part is allocated to the Tract from which such production is obtained.

The Unitized Substances allocated to each such Tract shall be accounted for among the Working Interest Owners on the basis set forth in the Unit Operating Agreement.

6.3 *Royalty Settlement.* The Unit Operator shall furnish to the State of Alaska a schedule for each month's total royalty production of Unitized Substances not taken in kind by the State, showing the allocation thereof to the Tracts and to the Working Interest Owners therein and each such Working Interest Owner shall make settlement for its share of such royalty production in accordance with its lease or leases and subject to the provisions of Section 7.2.

Provided, however, that if there is pending an application for certification for the benefit of discovery royalty pursuant to applicable laws and regulations, the State shall credit all such royalty proceeds (whether paid in kind or in value) as unearned until such time as (1) the pending application, if any, for discovery royalty finally is determined and (2) the pending application, if any, for establishment of such Participating Area shall have been approved by the Director. When both such events occur, the State shall refund the excess, if any, between the value of the royalty previously paid on such production (whether in kind or in value) and the amount which would have been due if the initial Participating Area (and the discovery royalty, if applicable) had been in effect from the date of first production, and credit the balance to the proper earned royalty account.

In the event of failure of any Working Interest Owner to make proper settlement of any royalty due from it, the State shall not be prejudiced hereby as to any recourse which it might have against the original lessee of the lease or leases from which such Working Interest originated.

6.4 *State of Alaska's Taking Royalty in Kind.* Notwithstanding any provision in the several State leases which may require the State of Alaska to elect to take in kind all or none of its royalty oil

and/or gas allocated under this agreement to those leases, it is expressly agreed that upon six (6) months advance written notice to Unit Operators the State of Alaska may elect (nominate) to take in kind all or a specified percentage of its royalty oil and/or gas from the Unit Area; except that Working Interest Owners shall give the State thirty (30) days advance written notice prior to initial production from the Unit Area, and any election by the State at the time of such initial production will be effective if advance written notice thereof is given within ten (10) days thereafter. While the State of Alaska is taking some or all of its royalty in kind the amount taken in kind may be increased or decreased by not more than ten percent (10%) of the then current nomination upon ninety (90) days written notice to Unit Operators, provided, however, the State of Alaska may not in any event take oil and/or gas in excess of the total royalty accrued on unit production for that period. All royalty taken in kind by the State of Alaska shall be deducted from the royalty oil and/or gas which, during the particular accounting period, otherwise would have been allocated under the provisions of this agreement to the several Working Interest Owners for settlement, in the same proportions as the total royalty oil and/or gas would have been so allocated in the absence of any taking in kind by the State of Alaska.

6.5 *Alaska Native Claims Settlement Act.* Notwithstanding anything to the contrary in the foregoing provisions of this Article 6 it is agreed that the State of Alaska shall account for, and pay from its Royalty Interest, the two percent (2%) royalty payable to the Alaska Native Fund as and to the extent provided in Section 9 of the Alaska Native Claims Settlement Act of December 18, 1971 (Public Law 92.203), the same as if this agreement had never been entered into.

6.6 *Royalty on Outside Substances.* If any Outside Substances consisting of natural gases are injected into any Reservoir by the Working Interest Owners of any Participating Area, eighty percent (80%) of any like substance contained in Unitized Substances subsequently produced from such Reservoir and allocated to such Participating Area and sold or used for other than Unit Operations shall be deemed to be a part of the Outside Substances so injected until

the total volume deemed to be such Outside Substances equals the total volume of such Outside Substances so injected. If any Outside Substances, which, prior to injection, are liquefied petroleum gases or other liquid hydrocarbons, are injected into any Reservoir by the Working Interest Owners of any Participating Area, ten percent (10%) of all Unitized Substances produced from such Reservoir and allocated to such Participating Area and sold after one year from the time injection of such Outside Substances was commenced, shall be deemed to be a part of the Outside Substances so injected until the total value of the production deemed to be such Outside Substances equals the total value (or delivered cost at Prudhoe Bay Field (if purchased) of the Outside Substances so injected. Such ten percent (10%) of the Unitized Substances deemed to be Outside Substances shall be in addition to that which is being recovered for natural gases as hereinabove provided, if both liquefied petroleum gases or other liquid hydrocarbons and natural gases are injected. No payment shall be due or payable to Royalty Owners on substances produced from any Reservoir that are deemed to be Outside Substances.

If any liquid hydrocarbons which have been obtained from any source outside the Unit Area, or on which payments for Royalty Interests have been made, are added to or mixed with Unitized Substances for purposes of Unit Operations, then eighty percent (80%) of all liquid hydrocarbon Unitized Substances subsequently produced and sold shall be deemed to be such added or mixed liquid hydrocarbons until the total volume of such production equals the total volume of the liquid hydrocarbons so added or mixed, and no payment shall be due or payable to Royalty Owners on such added or mixed liquid hydrocarbons.

## ARTICLE 7

### USE OR LOSS OF UNITIZED SUBSTANCES

7.1 *Use of Unitized Substances.* Working Interest Owners may use or consume Unitized Substances for Unit Operations, including, but not limited to, the injection thereof into any formation underlying the Unit Area.

7.2 *Royalty Payments.* No royalty, overriding royalty, production or other payments shall be payable on account of Unitized Substances used, unavoidably lost, stored or consumed in Unit Operations, including, but not limited to, the injection thereof into any formation underlying the Unit Area. If Unitized Substances are used or consumed in the operation of any facility the use of which is not exclusively devoted to Unit Operations, royalty, overriding royalty or production or other payments shall not be payable on that part of the Unitized Substances used or consumed in the facility which fairly is apportionable on a use basis to those Unit Operations being served by the facility.

## ARTICLE 8

### TITLES

8.1 *Removal of Tract from Unit Area.* If a Tract ceases to have its Working Interest Owners or Royalty Owners committed to this agreement because of failure of title, such Tract shall be removed from the Unit Area effective as of 12:01 a.m. on the first day of the calendar month in which failure of title is finally determined, unless within ninety (90) days after the date of final determination of the failure of title, the true Working Interest Owners or Royalty Owners of the Tract execute this agreement and, if a Working Interest Owner, the Unit Operating Agreement.

8.2 *Revision of Exhibits.* If a Tract in a Participating Area is removed from the Unit Area because of failure of title, Unit Operator shall recompute the Tract Participation of each of the Tracts remaining in the Unit Area and shall revise Exhibits A, B, C and D accordingly; provided, however, the revised Tract Participations of the Tracts remaining in the Unit Area shall remain in the same ratio one to another. The revised exhibits shall be effective as of 12:01 a.m. on the first day of the calendar month in which such failure of title is finally determined.

8.3 *Failure of Title of Part of Tract.* In the event of failure of title of any party hereto as to a divided portion of any Tract, Unit Operators, with the approval of the Working Interest Owners and the Director, shall cause such Tract to be divided into separate

Tracts, and if such Tract is in a Participating Area, recompute the Tract Participation of each of the resulting Tracts (the sum of which shall equal the Tract Participation of the original Tract) and revise Exhibits A, B, C and D accordingly. Thereafter, such resulting Tract in which title was not affected shall remain in the Unit Area, and such resulting Tract in which title failed shall be subject to the provisions of Sections 8.1 and 8.2 above.

8.4 *Royalty Interest Titles.* If title to a Royalty Interest fails, but the Tract to which it relates is not removed from the Unit Area, the party whose title failed shall not be entitled to share hereunder with respect to such interest.

8.5 *Production Where Title is in Dispute.* If the title of the State of Alaska is in dispute then as to Unitized Substances which the State is taking in kind, Unit Operators shall require that the party to whom such Unitized Substances are delivered or to whom the proceeds thereof are paid furnish security for the proper accounting therefor to the rightful owner if the title of the State fails in whole or in part.

If the title of the State of Alaska is in dispute then as to Unitized Substances for which the Working Interest Owners are settling the royalty in value, no payment of funds due the State of Alaska shall be withheld, but such funds of the State of Alaska shall be deposited with the State and held as unearned money pending final settlement of the title dispute, and then applied as earned or returned in accordance with such final settlement.

8.6 *Payment of Taxes to Protect Title.* The owner of surface rights to lands within the Unit Area, or severed mineral interests or Royalty Interests in such lands, or lands outside the Unit Area on which Unit Equipment is located, is responsible for the payment of any ad valorem taxes on all such rights, interests, or property, unless such owner and Working Interest Owners otherwise agree. If any ad valorem taxes are not paid by or for such owner when due, Unit Operators may, with approval of Working Interest Owners, at any time prior to tax sale or expiration of period of redemption after tax sale, pay the tax, redeem such rights,



interests, or property, and discharge the tax lien. Any such payment shall be an item of unit expense. Unit Operators shall, if possible, withhold from any proceeds derived from the sale of Unitized Substances otherwise due any delinquent taxpayer an amount sufficient to defray the costs of such payment or redemption, such withholding to be credited to Working Interest Owners. Such withholding shall be without prejudice to any other remedy available to Unit Operators or Working Interest Owners.

## ARTICLE 9

### ENLARGEMENTS AND CONTRACTIONS OF UNIT AREA

9.1 *Enlargement of Unit Area.* The Unit Area may be enlarged from time to time so as to include any additional lands reasonably determined to be within any Reservoir any portion of which is within the Unit Area. The lands to be included shall be based on such subdivisions of the public land surveys as may be approved by the Director, but not less than the area approved by the well-spacing order affecting such lands for such Reservoir. Such enlargement shall be effected in the following manner:

(a) Unit Operators, acting pursuant to the terms of the Unit Operating Agreement or on demand of the Director, shall prepare a notice of the proposed enlargement describing the contemplated additions to the Unit Area, the reasons therefor, and the proposed effective date, which shall be the first day of the calendar month following the date of final approval of the enlargement.

(b) Said notice shall be delivered to the Director and a copy thereof mailed to each Working Interest Owner, at its last known address, and to any other party believed by the Unit Operators to own any Oil and Gas Rights in any lands proposed to be added. Such notice shall state a definite period, which shall not end earlier than thirty (30) days after the mailing of such last notice to be mailed, during which any interested party may file with the Unit Operators written objections, and reasons therefor, to the proposed enlargement.

(c) Upon expiration of the period stated in (b) above, Unit Operators shall file with the Director evidence of mailing of the notice of enlargement together with copies of all objections which have been filed with Unit Operators, along with such applications for joinder executed by those owning Oil and Gas Rights in any land sought to be added as have been submitted to Unit Operators.

(d) After due consideration of all pertinent information, the Director shall render his decision, separately as to each lease or lands therein submitted for commitment. Such decision, unless otherwise stated therein to the contrary, shall become effective as of the time specified in the notice referred to in (a) above. Unit Operators shall notify all other interested parties upon receipt of the Director's decision.

9.2 *Non-Segregation of Lease Partially Committed on Effective Date.* Any lease having only a portion of its lands committed hereto on the Effective Date of this agreement shall not be segregated by such partial commitment, and both the committed portion and the non-committed portion shall be extended by Unit Operations or unit production. Such leases shall be subject to the provisions of Section 9.3 as if such lands initially had been committed hereto; however, no annual rentals shall be payable with respect to those leases covering lands any portions of which are included within any Participating Area until the provisions of Section 9.3 become effective as to such leases. Nothing herein shall operate to excuse further development on the portion of any lease outside the Unit Area where the circumstances would require a reasonably prudent lessee to further develop.

9.3 *Contraction of Unit Area.* Any lands not included or entitled to be included in a Participating Area on the tenth (10th) anniversary of the Effective Date shall be excluded from the Unit Area and from this agreement; provided, however, if only a portion of any lease is included or entitled to be included within a Participating Area, the lease, insofar as it covers the lands so excluded from the Unit Area, shall terminate upon the expiration of ninety (90) days following the date such contraction becomes effective unless annual rentals at the rate specified in the lease are paid on such excluded

lands as hereinafter provided. The lease, insofar as it covers such excluded lands, shall continue in force and effect so long thereafter as Unitized Substances are allocated to a portion of said lease and so long as annual rentals are paid on the portion not within the Participating Area; provided, further, that the first rental payment following contraction shall be paid (with allowance for proration) within ninety (90) days after the date such contraction becomes effective. Thereafter, annual rentals shall be due and payable on the anniversary date of the lease. Nothing herein shall operate to excuse further development on the portion of any lease lying outside the Unit Area where the circumstances would require a reasonably prudent lessee to further develop. Notwithstanding the foregoing provisions of this section, the payment of annual rentals shall not be required to maintain the lease on such excluded lands in force and effect when other provisions of said lease, as applied to the excluded land, will maintain the lease in effect.

9.4 *Segregation of Leases on Additions to Unit Area.* Any lease embracing land of the State of Alaska having no portion of its lands committed hereto on the Effective Date, but having a portion of its lands committed hereto, by enlargement of the Unit Area, shall be segregated as to the portion committed and the portion not committed, and the provisions of such lease shall apply separately to such segregated portions commencing as of the effective date of such enlargement; provided, however, notwithstanding any of the provisions of this agreement to the contrary, any lease embracing lands of the State of Alaska having only a portion of its lands committed hereto shall continue in full force and effect beyond the term provided therein as to all lands embraced in such lease if oil or gas is discovered and is capable of being produced in paying quantities from some part of the land embraced in such lease at the time of approval of the addition to the Unit Area by the State of Alaska; or if at the time of such approval by the State the lessee or the Unit Operator is then engaged in bona fide drilling or reworking operations on some part of the lands embraced in such lease, the lease as to all lands embraced therein shall remain in full force and effect so long as such operations are being diligently prosecuted. If such operations result in the production of oil or gas in paying quantities,

said lease shall continue in full force and effect as to all the lands embraced therein so long thereafter as oil or gas is being produced in paying quantities from any portion of said lease. Furthermore, any lease segregated herein shall, as to the non-unitized portion, continue in force and effect for the term thereof, but for not less than two (2) years from the date of such segregation and so long thereafter as oil or gas is produced in paying quantities.

Any lease having production in paying quantities on said lease prior to commitment to this agreement by enlargement of the Unit Area shall not be segregated. The non-unitized portion shall not participate in the Unit Area but the lease thereon shall be extended by virtue of the production on the unitized portion and so long as it produces in paying quantities. Nothing herein shall operate to excuse further development on the portion of any lease lying outside the Unit Area where the circumstances would require a reasonably prudent lessee to further develop.

9.5 *Exclusion of Lands Committed.* As to any lands committed hereto which subsequently are excluded from the Unit Area other than by the application of Section 9.3, the lease thereupon shall continue in force and effect for the term of such lease, but for not less than ninety (90) days from the effective date of such exclusion, or as otherwise extended by applicable regulations, and so long thereafter as oil or gas is produced in paying quantities.

## ARTICLE 10

### CHANGE OF TITLE

10.1 *Successors and Assigns.* This agreement shall extend to, be binding upon, and inure to the benefit of the parties hereto and their respective heirs, devisees, legal representatives, successors, and assigns, and shall constitute a covenant and equitable servitude running with the lands, leases, and interests covered hereby.

10.2 *Transfer of Title.* Any conveyance of all or any part of any interest owned by any party hereto with respect to any Tract shall be made expressly subject to this agreement. No change of title shall be binding on Unit Operators, or any other party hereto

other than the party so transferring, until 12:01 a.m. on the first day of the calendar month next succeeding the date of receipt by Unit Operators of a photocopy or a certified copy of the recorded instrument evidencing such change in ownership.

## ARTICLE 11

### RELATIONSHIP OF PARTIES

11.1 *No Partnership.* The duties, obligations, and liabilities of the parties hereto are intended to be several and not joint or collective. This agreement is not intended to create, and shall not be construed to create, an association or trust, or to impose a partnership duty, obligation, or liability with regard to any one or more of the parties hereto. Each party hereto shall be individually responsible for its own obligations as herein provided.

11.2 *No Joint Refining or Marketing.* This agreement is not intended to provide, and shall not be construed to provide, directly or indirectly, for any joint refining or marketing of Unitized Substances.

11.3 *Royalty Owners Free of Costs.* This agreement is not intended to impose, and shall not be construed to impose, upon the State of Alaska or any other Royalty Owner any obligation to pay unit expense, unless such Royalty Owner is otherwise so obligated.

11.4 *Confidentiality of Information.* Upon the request of the Unit Operators or Working Interest Owners, the Director shall hold as confidential to the extent authorized by statute, any engineering, geophysical, geological data (including but not limited to drilling logs), daily drilling reports, or any other data or information of like or similar nature which may be requested or required by the State for any purpose of this agreement. As to such of the above items also required to be submitted under the oil and gas conservation regulations, confidentiality shall be maintained to the extent and for such time as authorized by Sections 31.05.030 and 31.05.038, Alaska Statutes, and Section 22.535, Title II, Part 3, Alaska Administrative Code.

## ARTICLE 12

### LAWS AND REGULATIONS

12.1 *Laws and Regulations.* This agreement shall be subject to all valid applicable federal and state laws, rules, regulations and orders.

12.2 *Reports to the State of Alaska for Purposes of Conservation.* Notwithstanding the definitions for Gas Cap Gas, Solution Gas and Oil in Sections 1.3, 1.20 and 1.7, respectively, or any other provision herein to the contrary, reports to the State of Alaska for conservation purposes under Alaska Statutes 31.05 shall be made on the basis of the definitions of "oil" and "gas" appearing in Alaska Statutes 31.05.170.

## ARTICLE 13

### FORCE MAJEURE

13.1 *Force Majeure.* All obligations imposed by this agreement on each party, except for the payment of money, shall be suspended while compliance, despite the exercise of due diligence, is prevented in whole or in part by labor disputes, fire, flood, war, civil disturbance, acts of God, Federal, State or municipal law; by any rule, regulation, or order of or delay or failure to act by a Federal, State, municipal or other governmental agency; by inability to secure required Federal, State, municipal or other governmental permits, easements or ordinances; by any judicial acts or restraints; by unavoidable accidents, uncontrollable delays in transportation, inability to obtain necessary materials in the open market or delivery thereof to the site of use; or other matters beyond the reasonable control of the party, whether similar to matters herein enumerated or not. This agreement and the leases subject hereto shall not expire nor terminate during any period in which production of Unitized Substances or drilling or well reworking operations or other Unit Operations are suspended by virtue of this Article; provided, however, that nothing in this Article shall be construed to suspend the payment of rentals or of minimum royalties. No party shall be required against its will to adjust or settle any labor dispute.

## ARTICLE 14

### EFFECTIVE DATE

14.1 *Effective Date.* This agreement shall become binding upon each party hereto as of the date such party signs the instrument by which it becomes a party hereto and shall become effective as of 12:01 a.m. on April 1, 1977 after the signing of such an instrument by all of the Working Interest Owners shown on Exhibit A and the State of Alaska, and the signing of the Unit Operating Agreement by such Working Interest Owners. At least one counterpart of this agreement shall be filed for record by Unit Operators in the Barrow Recording District and in the filing office of the Division of Lands in Anchorage, Alaska.

14.2 *Automatic Termination.* If this agreement is not signed by Working Interest Owners shown on Exhibit A on or before June 1, 1977, pursuant to the provisions of Section 14.1 above, this agreement automatically shall cease to be binding on such date.

14.3 *Certificate of Effectiveness.* Unit Operators shall file for record in the Barrow Recording District, State of Alaska, and in the filing office of the Division of Lands in Anchorage, Alaska, a certificate stating the Effective Date.

## ARTICLE 15

### NONDISCRIMINATION AND LOCAL HIRE

15.1 *Nondiscrimination.* In connection with the performance of work under this agreement, Unit Operators agree to comply with all of the provisions of Section 202(1) to (7), inclusive, of Executive Order 11246 (30 F.R. 12319), which are hereby incorporated by reference into this agreement.

15.2 *Employment of Residents.* Working Interest Owners shall comply with all valid and applicable laws and regulations with regard to the employment, including layoffs, of Alaska residents. Working Interest Owners shall employ qualified Alaska residents and shall not discriminate against Alaska residents, in accordance with AS 38.40 and the regulations adopted pursuant to it. However, if some or all of the requirements of AS 38.40 are held invalid or unconstitutional, this provision shall be void insofar as the statutory requirements are invalid or unconstitutional.

In implementing the provisions of this paragraph, Working Interest Owners shall use their best efforts to include in all collective bargaining agreements with labor unions covering work to be performed under this unit agreement provisions that will assure employment preference to Alaska residents in accordance with AS 38.40 and the regulations adopted pursuant to it. If applicable collective bargaining agreements are in force prior to execution of this unit agreement or commencement of work on this project, Working Interest Owners shall use reasonable efforts to negotiate amendments to those agreements to include appropriate resident employment provisions for the remainder of the term of the existing agreements. The State Department of Labor shall provide Working Interest Owners with any assistance that may be requested by Working Interest Owners in negotiating the required provisions.

## ARTICLE 16

### TERM

16.1 *Term.* The term of this agreement shall be for ten (10) years after the Effective Date and so long thereafter as Unitized Substances are produced in paying quantities or other Unit Operations are conducted without a cessation of more than ninety (90) consecutive days, unless sooner terminated by Working Interest Owners in the manner herein provided.

16.2 *Termination by Working Interest Owners.* This agreement or any Participating Area may be terminated by Working Interest Owners pursuant to the terms of the Unit Operating Agreement whenever Working Interest Owners so determine and with the approval of the Director.

16.3 *Effect of Termination.* Upon termination of this agreement, the further development and operation of the Unit Area as a unit shall be abandoned, and Unit Operations shall cease. Each oil and gas lease and other agreement covering lands within the Unit Area shall remain in force for the term provided for therein or for one (1) year after the date on which this agreement terminates, whichever is later, as fully and with the same effect as if there were production of oil and gas in paying quantities from each lease, and



thereafter for such further period as is provided by law, the lease or other agreement.

16.4 *Salvaging Equipment Upon Termination.* Working Interest Owners shall have the right for such period of time as may reasonably be necessary (but not less than three (3) years) after the date of termination of this agreement to salvage and remove Unit Equipment. The Director may extend such period of time for salvage and removal when in his opinion such action is warranted.

16.5 *Certificate of Termination.* Upon termination of this agreement, Unit Operators shall file for record in the Barrow Recording District and in the filing office of the Division of Lands in Anchorage, Alaska a certificate declaring that this agreement has terminated and its termination date.

## ARTICLE 17

### EXECUTION

17.1 *Original, Counterpart, or Other Instrument.* An owner of Oil or Gas Rights may become a party to this agreement by executing the original of this instrument, a counterpart thereof, or other instrument agreeing to become a party hereto. The execution of any such instrument shall have the same effect as if all the parties had executed the same instrument.

17.2 *Joinder in Dual Capacity.* Execution as herein provided by any party as either a Working Interest Owner or a Royalty Owner shall commit all interests within the Unit Area owned or controlled by such party.

## ARTICLE 18

### RELATIONSHIP OF AGREEMENTS

18.1 *Unit Agreement and Unit Operating Agreement.* Insofar as the respective rights and obligations of Working Interest Owners on the one hand and the State of Alaska on the other hand are concerned, this agreement shall control in case of any conflict between it and the Unit Operating Agreement. Insofar as the rights and obligations of the Royalty Interest Owners other than the State

of Alaska and of the Working Interest Owners are concerned, the Unit Operating Agreement shall control in cases of conflict between the two agreements. If they so desire and if they so provide in the Unit Operating Agreement, the Working Interest Owners and the Royalty Owners other than the State of Alaska shall have the right to establish a different method of accounting between themselves from that here provided as between the State of Alaska and the other parties hereto.

## ARTICLE 19

### GENERAL

19.1 *Amendments Affecting Working Interest Owners.* Amendments hereto relating wholly to Working Interest Owners may be made if executed by all Working Interest Owners.

19.2 *Action by Working Interest Owners.* Any action, determination or approval required or permitted by Working Interest Owners hereunder shall be in accordance with the provisions of the Unit Operating Agreement.

19.3 *Lien and Security Interest of Unit Operators.* Unit Operators shall have a lien upon and a security interest in seven-eighths ( $\frac{7}{8}$ ) of all Unitized Substances and in all other interests of Working Interest Owners in the Unit Area as provided in the Unit Operating Agreement.

19.4 *Gender and Number.* As used herein, whenever the context so requires, the neuter gender includes the masculine and the feminine, and the singular includes the plural, and vice versa.

19.5 *Headings.* The table of contents contained in this agreement and the title headings of the respective articles of this agreement are inserted for convenience only and shall not be deemed to be part of this agreement or considered in construing this agreement.

IN WITNESS WHEREOF, the parties hereto have executed this agreement on the dates opposite their respective signatures.

STATE OF ALASKA

By \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_

WORKING INTEREST  
OWNERS

AMERADA HESS CORPORATION

By /s/ P. A. DYSERT  
Senior Vice President

Date: April 30, 1977

218 West 6th Street  
(P.O. Box 2040, 74102)  
Tulsa, Oklahoma

ATLANTIC RICHFIELD COMPANY

By /s/ O. G. SIMPSON  
Attorney-in-Fact

Date: March 26, 1977

711 West 8th Avenue  
(P.O. Box 360, 99510)  
Anchorage, Alaska

BP ALASKA INC.

By /s/ D. B. WALKER  
Vice President

Date: March 25, 1977

3111 "C" Street  
(P.O. Box 4-1379, 99509)  
Anchorage, Alaska

BP ALASKA EXPLORATION INC.

By /s/ D. B. WALKER  
Vice President

Date: April 30, 1977

3111 "C" Street  
(P.O. Box 4-1379, 99509)  
Anchorage, Alaska 99503

EXXON CORPORATION

By /s/ W. MONTE TAYLOR  
Attorney-in-Fact

Date: March 29, 1977

Exxon Building, 800 Bell Avenue  
(P.O. Box 2180, 77001)  
Houston, Texas

Prudhoe Bay Unit Agreement

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GETTY OIL COMPANY

By /s/ CLYDE E. WILLBERN  
Attorney-in-Fact

Date: April 30, 1977

P.O. Box 1404  
Houston, Texas 77001

HUNT INDUSTRIES, INC.

By /s/ W. H. HUNT  
By /s/ MARGARET HUNT HILL  
By /s/ CAROLINE HUNT  
SCHOELLKOPF

Date: April 20, 1977

1401 Elm Street  
First National Bank Building  
Dallas, Texas 75202

CAROLINE HUNT TRUST ESTATE

By /s/ J. A. GOODSON  
Trustee

Date: April 20, 1977

1401 Elm Street  
First National Bank Building  
Dallas, Texas 75202

Approved  
/s/ MARGARET HUNT HILL

LAMAR HUNT TRUST ESTATE

By /s/ A. G. HILL  
Trustee

Date: April 20, 1977

1401 Elm Street  
First National Bank Building  
Dallas, Texas 75202

Approved  
/s/ CAROLINE HUNT  
SCHOELLKOPF

N. B. HUNT

By /s/ N. B. HUNT  
N. B. Hunt

Date: April 20, 1977

1401 Elm Street  
First National Bank Building  
Dallas, Texas 75202

WILLIAM HERBERT HUNT  
TRUST ESTATE

By /s/ IVAN IRWIN JR.  
Trustee

Date: April 20, 1977

1401 Elm Street  
First National Bank Building  
Dallas, Texas 75202

Approved  
/s/ MARGARET HUNT HILL

THE LOUISIANA LAND AND  
EXPLORATION COMPANY

By /s/ JACK V. EUMONT  
Senior Vice President

Date: April 30, 1977

P.O. Box 60350  
New Orleans, Louisiana 70160

MARATHON OIL COMPANY

By /s/ ALBERT MECHLER, JR.  
Attorney-in-Fact

Date: April 30, 1977

P.O. Box 2380  
Anchorage, Alaska 99510

Prudhoe Bay Unit Agreement

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MOBIL OIL CORPORATION

By /s/ H. J. FITZGEORGE  
Attorney-in-Fact

Date: April 30, 1977

P.O. Box 5444, Terminal Annex  
Denver, Colorado 80202

PHILLIPS PETROLEUM COMPANY

By /s/ R. I. SWETNAM  
Attorney-in-Fact

Date: March 26, 1977

1000 Security Life Building  
Denver, Colorado 80202

PLACID OIL COMPANY

By /s/ C. D. BROWN  
President

Date: April 14, 1977

1600 First National Bank Building  
Dallas, Texas 75202

SOHIO PETROLEUM COMPANY

By /s/ D. D. LYBARGER  
Vice President

Date: March 25, 1977

Midland Building  
Cleveland, Ohio 44115

CHEVRON U.S.A. INC.

By /s/ D. T. MAGEE  
Regional Vice President

Date: March 25, 1977

575 Market Street  
San Francisco, California 94105



STATE OF CALIFORNIA  
CITY AND COUNTY OF SAN FRANCISCO } ss.:

THIS IS TO CERTIFY that on this 30th day of April, 1977, before me, the undersigned, a Notary Public in and for the City and County of San Francisco, State of California, duly commissioned and sworn, personally appeared P. A. DYSERT to me known and known to me to be Senior Vice President, Amerada Hess Corporation and he acknowledged to me that he had in his official capacity aforesaid executed the foregoing instrument as the free act and deed of the said corporation for the uses and purposes therein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/ KAREN M. KOLESAR  
Notary Public in and for the  
City and County of San Francisco  
State of California

SEAL My commission expires: February 6, 1978

STATE OF ALASKA  
THIRD JUDICIAL DISTRICT } ss.:

THIS IS TO CERTIFY that on this 26th day of March, 1977, before me, the undersigned, a Notary Public in and for the State of Alaska, duly commissioned and sworn, personally appeared O. G. SIMPSON to me known and known to me to be an attorney-in-fact of Atlantic Richfield Company, and he acknowledged to me that he had in his official capacity aforesaid executed the foregoing instrument as the free act and deed of the said corporation for the uses and purposes therein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/ G. JOLINE BAKER  
Notary Public in and for the  
State of Alaska

SEAL My commission expires: August 3, 1978

STATE OF CALIFORNIA  
CITY AND COUNTY OF SAN FRANCISCO } ss.:

THIS IS TO CERTIFY that on this 25th day of March, 1977, before me, the undersigned, a Notary Public in and for the City and County of San Francisco, State of California, duly commissioned and sworn, personally appeared D. B. WALKER to me known and known to me to be Vice President of BP Alaska, Inc., and he acknowledged to me that he had in his official capacity aforesaid executed the foregoing instrument as the free act and deed of the said corporation for the uses and purposes therein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/ LUCY PERDICHIZZI  
Notary Public in and for the  
City and County of San Francisco  
State of California

SEAL

My commission expires: July 28, 1978

STATE OF CALIFORNIA  
CITY AND COUNTY OF SAN FRANCISCO } ss.:

THIS IS TO CERTIFY that on this 30th day of April, 1977, before me, the undersigned, a Notary Public in and for the City and County of San Francisco, State of California, duly commissioned and sworn, personally appeared D. B. WALKER to me known and known to me to be Vice President of B. P. Alaska Exploration Inc., and he acknowledged to me that he had in his official capacity aforesaid executed the foregoing instrument as the free act and deed of the said corporation for the uses and purposes therein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/ KAREN M. KOLESAR  
Notary Public in and for the  
City and County of San Francisco  
State of California

SEAL

My commission expires: February 6, 1978

STATE OF ALASKA }  
THIRD JUDICIAL DISTRICT } ss.:

THIS IS TO CERTIFY that on this 29th day of March, 1977, before me the undersigned, a Notary Public in and for the State of Alaska, duly commissioned and sworn, personally appeared W. MONTE TAYLOR, to me known to be the person whose name is subscribed to the within instrument, as the Attorney-in-Fact of Exxon Corporation, a corporation, and acknowledged to me that he subscribed the name of Exxon Corporation thereon as principal and his own name as Attorney-in-Fact.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/ JOY E. HINN  
Notary Public in and for the  
State of Alaska

SEAL My commission expires: January 9, 1978

STATE OF CALIFORNIA }  
CITY AND COUNTY OF SAN FRANCISCO } ss.:

THIS IS TO CERTIFY that on this 30th day of April, 1977, before me, the undersigned, a Notary Public in and for the City and County of San Francisco, State of California, duly commissioned and sworn, personally appeared CLYDE E. WILLBERN to me known and known to me to be Attorney-in-Fact of Getty Oil Company, and he acknowledged to me that he had in his official capacity aforesaid executed the foregoing instrument as the free act and deed of the said corporation for the uses and purposes therein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/ KAREN M. KOLESAR  
Notary Public in and for the  
City and County of San Francisco  
State of California

SEAL My commission expires: February 6, 1978

STATE OF TEXAS        }  
COUNTY OF DALLAS    }  SS.:

THIS IS TO CERTIFY that on this 20th day of April, 1977, before me, the undersigned, a Notary Public in and for the County of Dallas, State of Texas, duly commissioned and sworn, personally appeared W. H. HUNT, MARGARET HUNT HILL and CAROLINE HUNT SCHOELLKOPF to me known and known to me to be Trustees of Hunt Industries, Inc., and acknowledged to me that they had in official capacity aforesaid executed the foregoing instrument as the free act and deed for the uses and purposes therein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/           JOHNETTE J. BRITT  
Notary Public in and for the  
County of Dallas  
State of Texas

SEAL

My commission expires: June 1, 1977

STATE OF TEXAS        }  
COUNTY OF DALLAS    }  SS.:

THIS IS TO CERTIFY that on this 20th day of April, 1977, before me, the undersigned, a Notary Public in and for the County of Dallas, State of Texas, duly commissioned and sworn, personally appeared J. A. GOODSON to me known and known to me to be Trustee of Caroline Hunt Trust Estate, and he acknowledged to me that he had in his official capacity aforesaid executed the foregoing instrument as the free act and deed for the uses and purposes herein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/           JOHNETTE J. BRITT  
Notary Public in and for the  
County of Dallas  
State of Texas

SEAL

My commission expires: June 1, 1977

STATE OF TEXAS        }  
COUNTY OF DALLAS    }  SS.:

THIS IS TO CERTIFY that on this 20th day of April, 1977, before me, the undersigned, a Notary Public in and for the County of Dallas, State of Texas, duly commissioned and sworn, personally appeared A. G. HILL, to me known and known to me to be Trustee of Lamar Hunt Trust Estate, and he acknowledged to me that he had in his official capacity aforesaid executed the foregoing instrument as the free act and deed for the uses and purposes therein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/       JOHNETTE J. BRITT  
Notary Public in and for the  
County of Dallas  
State of Texas

SEAL

My commission expires: June 1, 1977

STATE OF TEXAS        }  
COUNTY OF DALLAS    }  SS.:

THIS IS TO CERTIFY that on this 20th day of April, 1977, before me, the undersigned, a Notary Public in and for the County of Dallas, State of Texas, duly commissioned and sworn, personally appeared N. B. HUNT to me known and he acknowledged to me that he had executed the foregoing instrument as his free act and deed for the uses and purposes therein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/       JOHNETTE J. BRITT  
Notary Public in and for the  
County of Dallas  
State of Texas

SEAL

My commission expires: June 1, 1977

STATE OF TEXAS }  
COUNTY OF DALLAS } ss.:

THIS IS TO CERTIFY that on this 20th day of April, 1977, before me, the undersigned, a Notary Public in and for the County of Dallas, State of Texas, duly commissioned and sworn, personally appear IVAN IRWIN JR. to me known and known to me to be Trustee of William Herbert Hunt Trust Estate, and he acknowledged to me that he had in his official capacity aforesaid executed the foregoing instrument as the free act and deed for the uses and purposes therein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/ JOHNETTE J. BRITT  
Notary Public in and for the  
County of Dallas  
State of Texas

SEAL

My commission expires: June 1, 1977

STATE OF CALIFORNIA }  
CITY AND COUNTY OF SAN FRANCISCO } ss.:

THIS IS TO CERTIFY that on this 30th day of April, 1977, before me, the undersigned, a Notary Public in and for the City and County of San Francisco, State of California, duly commissioned and sworn, personally appeared JACK V. EUMONT to me known and known to me to be Senior Vice President of The Louisiana Land and Exploration Company, and he acknowledged to me that he had in his official capacity aforesaid executed the foregoing instrument as the free act and deed of the said corporation for the uses and purposes therein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/ KAREN M. KOLESAR  
Notary Public in and for the  
City and County of San Francisco  
State of California

SEAL

My commission expires: February 6, 1978

STATE OF CALIFORNIA  
CITY AND COUNTY OF SAN FRANCISCO } ss.:

THIS IS TO CERTIFY that on this 30th day of April, 1977, before me, the undersigned, a Notary Public in and for the City and County of San Francisco, State of California, duly commissioned and sworn, personally appeared ALBERT MECHLER, JR. to me known and known to me to be Attorney-in-Fact of Marathon Oil Company, and he acknowledged to me that he had in his official capacity aforesaid executed the within instrument as the free act and deed of the said corporation for the uses and purposes therein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/ KAREN M. KOLESAR  
Notary Public in and for the  
City and County of San Francisco  
State of California

SEAL

My commission expires: February 6, 1978

STATE OF CALIFORNIA  
CITY AND COUNTY OF SAN FRANCISCO } ss.:

THIS IS TO CERTIFY that on this 30th day of April, 1977, before me, the undersigned, a Notary Public in and for the City and County of San Francisco, State of California, duly commissioned and sworn, personally appeared H. J. FITZGEORGE to me known and known to me to be Attorney-in-Fact of Mobil Oil Company, and he acknowledged to me that he had in his official capacity aforesaid executed the foregoing instrument as the free act and deed of the said corporation for the uses and purposes therein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/ KAREN M. KOLESAR  
Notary Public in and for the  
City and County of San Francisco  
State of California

SEAL

My commission expires: February 6, 1978

STATE OF ALASKA }  
THIRD JUDICIAL DISTRICT } ss.:

THIS IS TO CERTIFY that on this 26th day of March, 1977, before me, the undersigned, a Notary Public in and for the State of Alaska, duly commissioned and sworn, personally appeared R. I. SWETNAM, to me known and known to me to be Attorney-in-Fact of Phillips Petroleum Company, and he acknowledged to me that he had in his official capacity aforesaid executed the foregoing instrument as the free act and deed of the said Corporation for the uses and purposes therein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/ JAMES K. BARNETT III  
Notary Public in and for the  
State of Alaska

SEAL

My commission expires: October 4, 1978

STATE OF TEXAS }  
COUNTY OF DALLAS } ss.:

THIS IS TO CERTIFY that on this 14th day of April, 1977, before me, the undersigned, a Notary Public in and for the County of Dallas, State of Texas, duly commissioned and sworn, personally appeared C. D. BROWN, to me known and known to me to be President of Placid Oil Company, and he acknowledged to me that he had in his official capacity aforesaid executed the foregoing instrument as the free act and deed of the said corporation for the uses and purposes therein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/ JEAN C. ELINSKI  
Notary Public in and for the  
County of Dallas  
State of Texas

SEAL

My commission expires: June 1, 1977



STATE OF CALIFORNIA  
CITY AND COUNTY OF SAN FRANCISCO } ss.:

THIS IS TO CERTIFY that on this 25th day of March, 1977, before me, the undersigned, a Notary Public in and for the City and County of San Francisco, State of California, duly commissioned and sworn, personally appeared D. D. LYBARGER, to me known and known to me to be Vice President of Sohio Petroleum Company, and he acknowledged to me that he had in his official capacity afore-said executed the foregoing instrument as the free act and deed of the said corporation for the uses and purposes therein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/ LUCY PERDICHIZZI  
Notary Public in and for the  
City and County of San Francisco  
State of California

SEAL My commission expires : July 28, 1978

STATE OF CALIFORNIA  
CITY AND COUNTY OF SAN FRANCISCO } ss.:

THIS IS TO CERTIFY that on this 25th day of March, 1977, before me, the undersigned, a Notary Public in and for the City and County of San Francisco, State of California, duly commissioned and sworn, personally appeared D. T. MAGEE, to me known and known to me to be Regional Vice President of Chevron U.S.A. Inc., and he acknowledged to me that he had in his official capacity afore-said executed the foregoing instrument as the free act and deed of the said corporation for the uses and purposes therein stated.

WITNESS my hand and Notarial Seal on the day and year in this certificate first above written.

/s/ PATRICIA L. MORRIS  
Notary Public in and for the  
City and County of San Francisco  
State of California

SEAL My commission expires : September 24, 1979

**EXHIBITS TO  
UNIT AGREEMENT  
PRUDHOE BAY UNIT  
STATE OF ALASKA**

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**EXHIBIT A**  
**PRUDHOE BAY UNIT AGREEMENT**  
**STATE OF ALASKA**

Tract No.	Description	No. of Acres	ADL Serial No.	Basic Royalty	Lessee of Record	O.R.R. Interest	Working Interest Ownership
(Umiat Meridian, Alaska)							
1	T12N-R11E, Secs. 9, 10	1,280	47445	1/8	Mobil and Chevron		Mobil—50% Chevron—50%
2	T12N-R11E, Secs. 11, 12	1,280	28235	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
3	T12N-R12E, Sec. 7	580	28254	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
4	T12N-R15E, Sec. 23, 24	1,280	34625	1/8	Sohio Petroleum Co.	*	Sohio—100%
5	T12N-R15E, Secs. 21, 22	1,280	34626	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
6	T12N-R15E, Secs. 19, 20	1,225	34627	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
7	T12N-R14E, Secs. 23, 24	1,280	34624	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
8	T12N-R14E, Sec. 22	640	28297	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
9	T12N-R13E, Sec. 19	585	47469	1/8	Mobil and Phillips		Mobil—50% Phillips—50%
10	T12N-R12E, Secs. 23, 24	1,280	47448	1/8	Mobil and Phillips		Mobil—66 $\frac{2}{3}$ % Phillips—33 $\frac{1}{3}$ %
11	T12N-R12E, Secs. 21, 22	1,280	28256	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
12	T12N-R12E, Secs. 17, 18, 19, 20	2,448	28255	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
13	T12N-R11E, Secs. 13, 14, 23, 24	2,560	28237	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
14	T12N-R11E, Secs. 15, 16, 21, 22	2,560	47447	1/8	Mobil and Chevron		Mobil—50% Chevron—50%
15	T12N-R11E, Secs. 17, 18, 19, 20	2,448	47446	1/8	Mobil and Chevron		Mobil—50% Chevron—50%
16	T12N-R10E, Secs. 13, 24	1,280	25637	1/8	A.R.Co., BP Alaska, Sohio Petroleum Co.		A.R.Co.—50% BP Alaska— 37 $\frac{1}{2}$ % Sohio—12 $\frac{1}{2}$ %
17	T12N-R11E, Secs. 29, 30, 32	1,868	47449	1/8	Mobil and Chevron		Mobil—50% Chevron—50%
18	T12N-R11E, Secs. 27, 28, 33, 34	2,560	28239	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
19	T12N-R11E, Secs. 25, 26, 35, 36	2,560	28238	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
20	T12N-R12E, Secs. 29, 30, 31, 32	2,459	28259	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
21	T12N-R12E, Secs. 27, 28, 33, 34	2,560	28258	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
22	T12N-R12E, Secs. 25, 35, 36, N/2 and SE/4 Sec. 26	2,400	28257	1/8	Mobil and Phillips		Mobil—50% Phillips—50%

\*See comment on page A-5.

Prudhoe Bay Unit Agreement

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Tract No.	Description	No. of Acres	ADL Serial No.	Basic Royalty	Lessee of Record	O.R.R. Interest	Working Interest Ownership
(Umiat Meridian, Alaska)							
22A	T12N-R12E, SW/4 Sec. 26	160	28257	1/8	Mobil, Phillips, Chevron		Mobil—33⅓ % Phillips—33⅓ % Chevron—33⅓ %
23	T12N-R13E, Secs. 29, 30, 31, 32	2,459	28279	1/8	Sohio Petroleum Co.	*	Sohio—100%
24	T12N-R13E, Secs. 27, 28, 33, 34	2,560	28278	1/8	Sohio Petroleum Co.	*	Sohio—100%
25	T12N-R13E, Secs. 26, 35, 36	1,920	28277	1/8	Sohio Petroleum Co.	*	Sohio—100%
26	T12N-R14E, Secs. 29, 31, 32	1,871	28299	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
27	T12N-R14E, Secs. 27, 28, 33, 34	2,560	28300	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
28	T12N-R14E, Secs. 25, 26, 35, 36	2,560	28301	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
29	T12N-R15E, Secs. 29, 30, 31, 32	2,459	34628	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
30	T12N-R15E, Secs. 27, 28, 33, 34	2,560	34629	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
31	T12N-R15E, Secs. 25, 26, 35, 36	2,560	34630	1/8	Sohio Petroleum Co.	*	Sohio—100%
32	T12N-R16E, Secs. 29, 30, 31, 32	2,459	34635	1/8	Sohio Petroleum Co.	*	Sohio—100%
33	T12N-R16E, Secs. 27, 28, 33, 34	2,560	34634	1/8	Sohio Petroleum Co.	*	Sohio—100%
34	T12N-R16E, Secs. 25, 26, 35, 36	2,560	34633	1/8	Sohio Petroleum Co.	*	Sohio—100%
35	T11N-R16E, Secs. 1, 2, 11, 12	2,560	34636	1/8	Sohio Petroleum Co.	*	Sohio—100%
36	T11N-R16E, Secs. 3, 4, 9, 10	2,560	28337	1/8	Sohio Petroleum Co.	*	Sohio—100%
37	T11N-R16E, Secs. 5, 6, 7, 8	2,469	28338	1/8	Sohio Petroleum Co.	*	Sohio—100%
38	T11N-R15E, Secs. 1, 2, 11, 12	2,560	28320	1/8	Sohio Petroleum Co.	*	Sohio—100%
39	T11N-R15E, Secs. 3, 4, 9, 10	2,560	34631	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
40	T11N-R15E, Secs. 5, 6, 7, 8	2,469	34632	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
41	T11N-R14E, Secs. 1, 2, 11, 12	2,560	28302	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
42	T11N-R14E, Secs. 3, 4, 9, 10	2,560	28303	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
43	T11N-R14E, Secs. 5, 6, 7, 8	2,469	28304	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
44	T11N-R13E, Secs. 1, 2, 11, 12	2,560	28280	1/8	Sohio Petroleum Co.	*	Sohio—100%
45	T11N-R13E, Secs. 3, 4, 9, 10	2,560	28281	1/8	Sohio Petroleum Co.	*	Sohio—100%
46	T11N-R13E, Secs. 5, 6, 7, 8	2,469	28282	1/8	Sohio Petroleum Co.	*	Sohio—100%
47	T11N-R12E, Secs. 1, 2, 11, 12	2,560	28260	1/8	Sohio Petroleum Co.	*	Sohio—100%
48	T11N-R12E, Secs. 3, 4, 9, 10	2,560	28261	1/8	Mobil and Phillips		Mobil—50% Phillips—50%
49	T11N-R12E, Secs. 5, 6, 7, 8	2,469	47450	1/8	Mobil, Phillips, Chevron		Mobil—33⅓ % Phillips—33⅓ % Chevron—33⅓ %
50	T11N-R11E, Secs. 1, 2, 11, 12	2,560	28240	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
51	T11N-R11E, Secs. 4, 9, 10, N/2 and SW/4 Sec. 3	2,400	28241	1/8	Mobil and Phillips		Mobil—50% Phillips—50%
51A	T11N-R11E, SE/4 Sec. 3	160	28241	1/8	Mobil, Phillips, Chevron		Mobil—33⅓ % Phillips—33⅓ % Chevron—33⅓ %

\*See comment on page A-5.

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Tract No.	Description	No. of Acres	ADL Serial No.	Basic Royalty	Lessee of Record	O.R.R. Interest	Working Interest Ownership
(Umiat Meridian, Alaska)							
52	T11N-R11E, Sec. 15	640	28244	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
53	T11N-R11E, Secs. 13, 14, 24	1,920	28245	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
54	T11N-R12E, Secs. 17, 18, 19	1,840	28262	1/8	Chevron		Chevron—100%
54A	T11N-R12E, Sec. 20	640	28262	1/8	Chevron, Mobil, Phillips		Chevron—33 1/3 % Mobil—33 1/3 % Phillips—33 1/3 %
55	T11N-R12E, Secs. 15, 16	1,280	28263	1/8	Mobil and Phillips		Mobil—50% Phillips—50%
55A	T11N-R12E, Secs. 21, 22	1,280	28263	1/8	Mobil, Phillips, Chevron		Mobil—33 1/3 % Phillips—33 1/3 % Chevron—33 1/3 %
56	T11N-R12E, Secs. 13, 14, 23, 24	2,560	47451	1/8	Mobil, Phillips, Chevron		Mobil—33 1/3 % Phillips—33 1/3 % Chevron—33 1/3 %
57	T11N-R13E, Secs. 17, 18, 19, 20	2,480	28283	1/8	Sohio Petroleum Co.	*	Sohio—100%
58	T11N-R13E, Secs. 15, 16, 21, 22	2,560	28284	1/8	Sohio Petroleum Co.	*	Sohio—100%
59	T11N-R13E, Secs. 13, 14, 23, 24	2,560	28285	1/8	Sohio Petroleum Co.	*	Sohio—100%
60	T11N-R14E, Secs. 17, 18, 19, 20	2,480	28305	1/8	Sohio Petroleum Co.	*	Sohio—100%
61	T11N-R14E, Secs. 15, 16, 21, 22	2,560	28306	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
62	T11N-R14E, Secs. 13, 14, 23, 24	2,560	28307	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
63	T11N-R15E, Secs. 17, 18, 19, 20	2,480	28321	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
64	T11N-R15E, Secs. 15, 16, 21, 22	2,560	28322	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
65	T11N-R15E, Secs. 13, 14, 23, 24	2,560	28323	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
66	T11N-R16E, Secs. 17, 18, 19	1,840	28339	1/8	Sohio Petroleum Co.	*	Sohio—100%
67	T11N-R16E, Secs. 15, 16	1,280	28340	1/8	Sohio Petroleum Co.	*	Sohio—100%
68	T11N-R16E, Secs. 13, 14	1,280	28341	1/8	Sohio Petroleum Co.	*	Sohio—100%
69	T11N-R16E, Secs. 30, 31, 32	1,851	28343	1/8	Sohio Petroleum Co.	*	Sohio—100%
70	T11N-R15E, Secs. 25, 26, 35, 36	2,560	28324	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
71	T11N-R15E, Secs. 27, 28, 33, 34	2,560	28325	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
72	T11N-R15E, Secs. 29, 30, 31, 32	2,491	28326	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
73	T11N-R14E, Secs. 25, 26, 35, 36	2,560	28308	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
74	T11N-R14E, Secs. 27, 28, 33, 34	2,560	28309	1/8	Sohio Petroleum Co.	*	Sohio—100%
75	T11N-R14E, Secs. 29, 30, 31, 32	2,491	28310	1/8	Sohio Petroleum Co.	*	Sohio—100%
76	T11N-R13E, Secs. 25, 26, 35, 36	2,560	28286	1/8	Sohio Petroleum Co.	*	Sohio—100%
77	T11N-R13E, Secs. 27, 28, 33, 34	2,560	28287	1/8	Sohio Petroleum Co.	*	Sohio—100%
78	T11N-R13E, Secs. 29, 30, 31, 32	2,491	28288	1/8	Mobil and Phillips		Mobil—50% Phillips—50%
79	T11N-R12E, Secs. 25, 26, 35, 36	2,560	28264	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%

\*See comment on page A-5.

Prudhoe Bay Unit Agreement

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Tract No.	Description	No. of Acres	ADL Serial No.	Basic Royalty	Lessee of Record	O.R.R. Interest	Working Interest Ownership
(Umiat Meridian, Alaska)							
80	T11N-R12E, Secs. 27, 28, 33, 34	2,560	47452	1/8	Mobil, Phillips, Chevron		Mobil—33⅓ % Phillips—33⅓ % Chevron—33⅓ %
81	T11N-R12E, Secs. 29, 30, 31, 32	2,491	47453	1/8	Mobil, Phillips, Chevron		Mobil—33⅓ % Phillips—33⅓ % Chevron—33⅓ %
82	T11N-R11E, Sec. 25	640	28246	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
83	T10N-R12E, Secs. 3, 4, 10	1,920	47454	1/8	Mobil, Phillips, Chevron		Mobil—33⅓ % Phillips—33⅓ % Chevron—33⅓ %
84	T10N-R12E, Secs. 1, 2, 11, 12	2,560	28265	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
85	T10N-R13E, Secs. 6, 7, 8, S/2 and NE/4 Sec. 5	2,341	28289	1/8	Mobil and Phillips		Mobil—50% Phillips—50%
85A	T10N-R13E, NW/4 Sec. 5	160	28289	1/8	Mobil, Phillips, Chevron		Mobil—33⅓ % Phillips—33⅓ % Chevron—33⅓ %
86	T10N-R13E, Secs. 3, 4, 9, 10	2,560	47471	1/8	Amerada Hess, et. al.		Amerada Hess—27% Getty—30.5% LL&E—13.25% Placid—9.125% N. B. Hunt— 6.3625% Hunt Ind.— 3.8625% Caroline Hunt Tr.—3.3% Wm. Herbert Hunt Tr.— 3.3% Lamar Hunt Tr. Est.—3.3%
87	T10N-R13E, Secs. 1, 2, 11, 12	2,560	47472	1/8	Amerada Hess and Getty		Amerada Hess—50% Getty—50%
88	T10N-R14E, Secs. 5, 6, 7, 8	2,501	28313	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
89	T10N-R14E, Secs. 3, 4, 9, 10	2,560	28312	1/8	Sohio Petroleum Co.	*	Sohio—100%
90	T10N-R14E, Secs. 1, 2, 11, 12	2,560	28311	1/8	Sohio Petroleum Co.	*	Sohio—100%
91	T10N-R15E, Secs. 5, 6, 7, 8	2,501	28329	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
92	T10N-R15E, Secs. 3, 4, 9, 10	2,560	28328	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
93	T10N-R15E, Secs. 1, 2, 11, 12	2,560	28327	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
94	T10N-R16E, Secs. 5, 6, 7, 8	2,501	28345	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
95	T10N-R16E, Secs. 4, 9	1,280	28344	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
96	T10N-R16E, Sec. 16	640	28347	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%

\*See comment on page A-5.

## Prudhoe Bay Unit Agreement

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Tract No.	Description	No. of Acres	ADL Serial No.	Basic Royalty	Lessee of Record	O.R.R. Interest	Working Interest Ownership
(Umiat Meridian, Alaska)							
97	T10N-R16E, Secs. 17, 18, 19, 20	2,512	28346	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
98	T10N-R15E, Secs. 13, 14, 23, 24	2,560	28332	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
99	T10N-R15E, Secs. 15, 16, 21, 22	2,560	28331	1/8	Sohio Petroleum Co.	*	Sohio—100%
100	T10N-R15E, Secs. 17, 18, 19, 20	2,512	28330	1/8	Sohio Petroleum Co.	*	Sohio—100%
101	T10N-R14E, Secs. 13, 14, 23, 24	2,560	28315	1/8	Sohio Petroleum Co.	*	Sohio—100%
102	T10N-R14E, Secs. 15, 16, 21, 22	2,560	28314	1/8	Mobil and Phillips		Mobil—50% Phillips—50%
103	T10N-R14E, Secs. 17, 18, 19, 20	2,512	47475	1/8	Amerada Hess, et. al.		Amerada Hess—25% Getty—25% Marathon—25% Placid—7.5% N. B. Hunt—5% Hunt Ind.— 3.125% Caroline Hunt Tr.—3.125% Wm. Herbert Hunt Tr.— 3.125% Lamar Hunt Tr. Est.—3.125%
104	T10N-R13E, Secs. 13, 14, 24	1,920	47476	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
105	T10N-R13E, Secs. 15, 16	1,280	28290	1/8	Mobil and Phillips		Mobil—50% Phillips—50%
106	T10N-R14E, Secs. 27, 28	1,280	47482**	1/8	A.R.Co. and Exxon		A.R.Co.—50% Exxon—50%
107	T10N-R14E, Secs. 26, 36	1,280	28316	1/8	Chevron		Chevron—100%
107A	T10N-R14E, Sec. 25	640	28316	1/8	Chevron, Mobil, Phillips		Chevron—33 1/3 % Mobil—33 1/3 % Phillips—33 1/3 %
108	T10N-R15E, Secs. 29, 30, 31, 32	2,523	28335	1/8	Sohio Petroleum Co.	*	Sohio—100%
109	T10N-R15E, Secs. 33, 34	1,280	28334	1/8	Mobil and Phillips		Mobil—50% Phillips—50%
109A	T10N-R15E, Secs. 27, 28	1,280	28334	1/8	Mobil, Phillips, Chevron		Mobil—33 1/3 % Phillips—33 1/3 % Chevron—33 1/3 %
110	T10N-R15E, Secs. 25, 26, 35, 36	2,560	28333	1/8	Sohio Petroleum Co.	*	Sohio—100%
111	T10N-R16E, Secs. 29, 30, 31	1,883	28349	1/8	Sohio Petroleum Co.	*	Sohio—100%
		245,767					

\*BP Alaska, Inc. owns an overriding royalty interest equal to 75% of all net profits from production between certain levels of oil production.

\*\*This Tract Number 106 was assigned to A.R.Co. and Exxon. Upon approval of the assignment by the Director a new ADL Serial No. will be given to this Tract.

*LEGEND:*

Amerada Hess—Amerada Hess Corporation

A.R.Co.—Atlantic Richfield Company

BP Alaska—BP Alaska Exploration Inc.

Chevron—Chevron U.S.A., Inc.

Exxon—Exxon Corporation

Getty—Getty Oil Company

Hunt Ind.—Hunt Industries

Caroline Hunt Tr.—Caroline Hunt Trust Estate

Lamar Hunt Tr. Est.—Lamar Hunt Trust Estate

N. B. Hunt—N. B. Hunt

Wm. Herbert Hunt Tr.—William Herbert Hunt Trust Estate

LL&E—The Louisiana Land and Exploration Company

Marathon—Marathon Oil Company

Mobil—Mobil Oil Corporation

Phillips—Phillips Petroleum Company

Placid—Placid Oil Company

Sohio—Sohio Petroleum Company



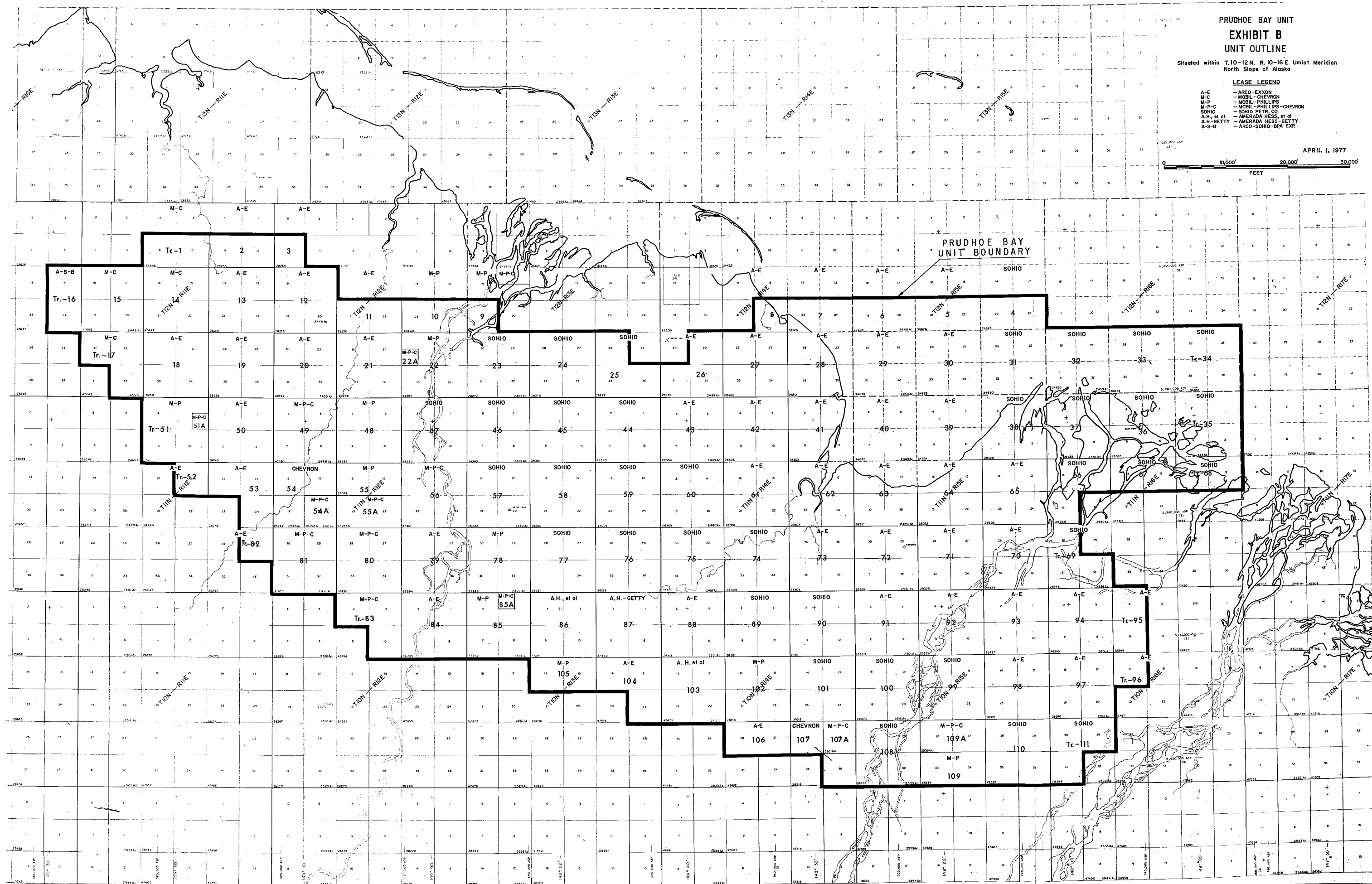
## EXHIBIT B

### UNIT OUTLINE

## LEASE LEGEND

A-E	-ARCO-EXXON
M-C	-MOBIL-CHEVRON
M-P	-MOBIL-PHILLIPS
M-P-C	-MOBIL-PHILLIPS-CHEVRON
SOHIO	-SOHIO PETR. CO.
A.H., et al	-AMERADA HESS, et al
A.H.-GETTY	-AMERADA HESS-GETTY
A-S-B	-ARCO-SOHIO-BPA EXP.

A horizontal graphic scale bar with tick marks at 0, 10,000', 20,000', and 30,000'. The word "FEET" is centered below the bar.



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**EXHIBIT C**

**PART I—OIL RIM PARTICIPATING AREA  
PRUDHOE BAY UNIT AGREEMENT  
STATE OF ALASKA**

<u>Tract No.</u>	<u>ADL No.</u>	<u>Description of Tract</u>	<u>Initial Tract Participation %</u>
9	47469	Sec. 19 T12N, R13E, UM	0.0000030
10	47448	Secs. 23, 24 T12N, R12E, UM	0.0000109
14	47447	Secs. 15, 16, 21, 22 T12N, R11E, UM	0.0035524
15	47446	Secs. 17, 18, 19, 20 T12N, R11E, UM	0.0520682
17	47449	Secs. 29, 30, 32 T12N, R11E, UM	0.0421014
18	28239	Secs. 27, 28, 33, 34 T12N, R11E, UM	0.0711782
19	28238	Secs. 25, 26, 35, 36 T12N, R11E, UM	0.0045386
21	28258	Secs. 27, 28, 33, 34 T12N, R12E, UM	0.2511870
22	28257	Secs. 25, 35, 36, N/2 and SE/4 Sec. 26 T12N, R12E, UM	1.5163719
22A	28257	SW/4 Sec. 26 T12N, R12E, UM	0.0761977
23	28279	Secs. 29, 30, 31, 32 T12N, R13E, UM	1.2887589
24	28278	Secs. 27, 28, 33, 34 T12N, R13E, UM	1.1328462
25	28277	Secs. 26, 35, 36 T12N, R13E, UM	0.5579373
26	28299	Secs. 29, 31, 32 T12N, R14E, UM	0.9846422
27	28300	Secs. 27, 28, 33, 34 T12N, R14E, UM	0.5749170
40	34632	Secs. 5, 6, 7, 8 T11N, R15E, UM	0.0440342
41	28302	Secs. 1, 2, 11, 12 T11N, R14E, UM	0.3087184
42	28303	Secs. 3, 4, 9, 10 T11N, R14E, UM	0.7245332
43	28304	Secs. 5, 6, 7, 8 T11N, R14E, UM	3.2057030
44	28280	Secs. 1, 2, 11, 12 T11N, R13E, UM	4.1536888
45	28281	Secs. 3, 4, 9, 10 T11N, R13E, UM	3.4190331
46	28282	Secs. 5, 6, 7, 8 T11N, R13E, UM	2.9854339
47	28260	Secs. 1, 2, 11, 12 T11N, R12E, UM	1.5535373
48	28261	Secs. 3, 4, 9, 10 T11N, R12E, UM	0.1166010

Prudhoe Bay Unit Agreement

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<u>Tract No.</u>	<u>ADL No.</u>	<u>Description of Tract</u>	<u>Initial Tract Participation %</u>
49	47450	Secs. 5, 6, 7, 8 T11N, R12E, UM	0.0773154
50	28240	Secs. 1, 2, 11, 12 T11N, R11E, UM	0.0504470
51	28241	Secs. 4, 9, 10 N/2 and SW/4 Sec. 3 T11N, R11E, UM	0.0787849
51A	28241	SE/4 Sec. 3 T11N, R11E, UM	0.0170737
52	28244	Sec. 15 T11N, R11E, UM	0.0004078
53	28245	Secs. 13, 14, 24 T11N, R11E, UM	0.0991032
54	28262	Secs. 17, 18, 19 T11N, R12E, UM	0.2438892
54A	28262	Sec. 20 T11N, R12E, UM	0.0923142
55	28263	Secs. 15, 16 T11N, R12E, UM	0.0608526
55A	28263	Secs. 21, 22 T11N, R12E, UM	0.2501769
56	47451	Secs. 13, 14, 23, 24 T11N, R12E, UM	0.3227046
57	28283	Secs. 17, 18, 19, 20 T11N, R13E, UM	1.3646794
58	28284	Secs. 15, 16, 21, 22 T11N, R13E, UM	3.3778833
59	28285	Secs. 13, 14, 23, 24 T11N, R13E, UM	4.3905264
60	28305	Secs. 17, 18, 19, 20 T11N, R14E, UM	3.7345657
61	28306	Secs. 15, 16, 21, 22 T11N, R14E, UM	2.5318984
62	28307	Secs. 13, 14, 23, 24 T11N, R14E, UM	2.1632578
63	28321	Secs. 17, 18, 19, 20 T11N, R15E, UM	1.2315584
64	28322	Secs. 15, 16, 21, 22 T11N, R15E, UM	0.5787392
65	28323	Secs. 13, 14, 23, 24 T11N, R15E, UM	0.3654180
69	28343	Secs. 30, 31, 32 T11N, R16E, UM	0.1005665
70	28324	Secs. 25, 26, 35, 36 T11N, R15E, UM	1.7996960
71	28325	Secs. 27, 28, 33, 34 T11N, R15E, UM	2.5704618
72	28326	Secs. 29, 30, 31, 32 T11N, R15E, UM	3.0737136
73	28308	Secs. 25, 26, 35, 36 T11N, R14E, UM	4.1097932
74	28309	Secs. 27, 28, 33, 34 T11N, R14E, UM	4.2537407
75	28310	Secs. 29, 30, 31, 32 T11N, R14E, UM	3.9792540
76	28286	Secs. 25, 26, 35, 36 T11N, R13E, UM	2.8228363

## Prudhoe Bay Unit Agreement

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<u>Tract No.</u>	<u>ADL No.</u>	<u>Description of Tract</u>	<u>Initial Tract Participation %</u>
77	28287	Secs. 27, 28, 33, 34 T11N, R13E, UM	1.2757092
78	28288	Secs. 29, 30, 31, 32 T11N, R13E, UM	0.3018432
79	28264	Secs. 25, 26, 35, 36 T11N, R12E, UM	0.1044446
80	47452	Secs. 27, 28, 33, 34 T11N, R12E, UM	0.2807148
81	47453	Secs. 29, 30, 31, 32 T11N, R12E, UM	0.1310940
82	28246	Sec. 25 T11N, R11E, UM	0.0014358
83	47454	Secs. 3, 4, 10 T10N, R12E, UM	0.0474489
84	28265	Secs. 1, 2, 11, 12 T10N, R12E, UM	0.0261886
85	28289	Secs. 6, 7, 8 S/2 and NE/4 Sec. 5 T10N, R13E, UM	0.1102679
85A	28289	NW/4 Sec. 5 T10N, R13E, UM	0.0574079
86	47471	Secs. 3, 4, 9, 10 T10N, R13E, UM	0.3000632
87	47472	Secs. 1, 2, 11, 12 T10N, R13E, UM	0.8139776
88	28313	Secs. 5, 6, 7, 8 T10N, R14E, UM	1.9012102
89	28312	Secs. 3, 4, 9, 10 T10N, R14E, UM	2.9625637
90	28311	Secs. 1, 2, 11, 12 T10N, R14E, UM	3.9500024
91	28329	Secs. 5, 6, 7, 8 T10N, R15E, UM	4.1673820
92	28328	Secs. 3, 4, 9, 10 T10N, R15E, UM	4.1236330
93	28327	Secs. 1, 2, 11, 12 T10N, R15E, UM	2.9317668
94	28345	Secs. 5, 6, 7, 8 T10N, R16E, UM	0.5994192
97	28346	Secs. 17, 18, 19, 20 T10N, R16E, UM	0.3211276
98	28332	Secs. 13, 14, 23, 24 T10N, R15E, UM	1.6255968
99	28331	Secs. 15, 16, 21, 22 T10N, R15E, UM	2.1873118
100	28330	Secs. 17, 18, 19, 20 T10N, R15E, UM	1.8350015
101	28315	Secs. 13, 14, 23, 24 T10N, R14E, UM	1.5215317
102	28314	Secs. 15, 16, 21, 22 T10N, R14E, UM	0.7988932
103	47475	Secs. 17, 18, 19, 20 T10N, R14E, UM	0.1996137
104	47476	Secs. 13, 14, 24 T10N, R13E, UM	0.0027928
105	28290	Secs. 15, 16 T10N, R13E, UM	0.0000920

Prudhoe Bay Unit Agreement

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<u>Tract No.</u>	<u>ADL No.</u>	<u>Description of Tract</u>	<u>Initial Tract Participation %</u>
107	28316	Secs. 26, 36 T10N, R14E, UM	0.0018977
107A	28316	Sec. 25 T10N, R14E, UM	0.0321618
108	28335	Secs. 29, 30, 31, 32 T10N, R15E, UM	0.1016343
109	28334	Secs. 33, 34 T10N, R15E, UM	0.0088824
109A	28334	Secs. 27, 28 T10N, R15E, UM	0.2614752
110	28333	Secs. 25, 26, 35, 36 T10N, R15E, UM	0.1886419
111	28349	Secs. 29, 30, 31 T10N, R16E, UM	0.0175206

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**PART II—GAS CAP PARTICIPATING AREA  
PRUDHOE BAY UNIT—ALASKA**

<u>Tract No.</u>	<u>ADL No.</u>	<u>Description of Tract</u>	<u>Initial Tract Participation %</u>
15	47446	Secs. 17, 18, 19, 20 T12N, R11E, UM	0.0049742
17	47449	Secs. 29, 30, 32 T12N, R11E, UM	0.0236588
18	28239	Secs. 27, 28, 33, 34 T12N, R11E, UM	0.0346088
19	28238	Secs. 25, 26, 35, 36 T12N, R11E, UM	0.0059088
22	28257	Secs. 25, 35, 36 N/2 and SE/4 Sec. 26 T12N, R12E, UM	0.0287994
22A	28257	SW/4 Sec. 26 T12N, R12E, UM	0.0000000
23	28279	Secs. 29, 30, 31, 32 T12N, R13E, UM	0.0025586
24	28278	Secs. 27, 28, 33, 34 T12N, R13E, UM	0.0208993
25	28277	Secs. 26, 35, 36 T12N, R13E, UM	0.0464807
26	28299	Secs. 29, 31, 32 T12N, R14E, UM	0.0201074
27	28300	Secs. 27, 28, 33, 34 T12N, R14E, UM	2.8880550
28	28301	Secs. 25, 26, 35, 36 T12N, R14E, UM	5.0422482
29	34628	Secs. 29, 30, 31, 32 T12N, R15E, UM	3.6319732
30	34629	Secs. 27, 28, 33, 34 T12N, R15E, UM	0.7229942
38	28320	Secs. 1, 2, 11, 12 T11N, R15E, UM	0.1289208
39	34631	Secs. 3, 4, 9, 10 T11N, R15E, UM	3.4352686
40	34632	Secs. 5, 6, 7, 8 T11N, R15E, UM	7.2000296
41	28302	Secs. 1, 2, 11, 12 T11N, R14E, UM	8.3642950
42	28303	Secs. 3, 4, 9, 10 T11N, R14E, UM	7.8433062
43	28304	Secs. 5, 6, 7, 8 T11N, R14E, UM	3.6755284
44	28280	Secs. 1, 2, 11, 12 T11N, R13E, UM	1.9506773
45	28281	Secs. 3, 4, 9, 10 T11N, R13E, UM	1.3801693
46	28282	Secs. 5, 6, 7, 8 T11N, R13E, UM	0.3576384
47	28260	Secs. 1, 2, 11, 12 T11N, R12E, UM	0.0664728

## Prudhoe Bay Unit Agreement

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<u>Tract No.</u>	<u>ADL No.</u>	<u>Description of Tract</u>	<u>Initial Tract Participation %</u>
48	28261	Secs. 3, 4, 9, 10 T11N, R12E, UM	0.0003630
49	47450	Secs. 5, 6, 7, 8 T11N, R12E, UM	0.0199743
50	28240	Secs. 1, 2, 11, 12 T11N, R11E, UM	0.0205900
51	28241	Secs. 4, 9, 10 N/2 and SW/4 Sec. 3 T11N, R11E, UM	0.0434880
51A	28241	SE/4 Sec. 3 T11N, R11E, UM	0.0081700
52	28244	Sec. 15 T11N, R11E, UM	0.0002398
53	28245	Secs. 13, 14, 24 T11N, R11E, UM	0.0852862
54	28262	Secs. 17, 18, 19 T11N, R12E, UM	0.1713975
54A	28262	Sec. 20 T11N, R12E, UM	0.1670856
55	28263	Secs. 15, 16 T11N, R12E, UM	0.0107740
55A	28263	Secs. 21, 22 T11N, R12E, UM	0.1918680
56	47451	Secs. 13, 14, 23, 24 T11N, R12E, UM	0.0116802
57	28283	Secs. 17, 18, 19, 20 T11N, R13E, UM	0.0719516
58	28284	Secs. 15, 16, 21, 22 T11N, R13E, UM	0.5415944
59	28285	Secs. 13, 14, 23, 24 T11N, R13E, UM	2.1107648
60	28305	Secs. 17, 18, 19, 20 T11N, R14E, UM	3.6030108
61	28306	Secs. 15, 16, 21, 22 T11N, R14E, UM	6.1020802
62	28307	Secs. 13, 14, 23, 24 T11N, R14E, UM	7.1771340
63	28321	Secs. 17, 18, 19, 20 T11N, R15E, UM	7.3262618
64	28322	Secs. 15, 16, 21, 22 T11N, R15E, UM	4.7802002
65	28323	Secs. 13, 14, 23, 24 T11N, R15E, UM	0.5586328
70	28324	Secs. 25, 26, 35, 36 T11N, R15E, UM	0.3900030
71	28325	Secs. 27, 28, 33, 34 T11N, R15E, UM	3.4749728
72	28326	Secs. 29, 30, 31, 32 T11N, R15E, UM	5.4442688
73	28308	Secs. 25, 26, 35, 36 T11N, R14E, UM	4.4293816
74	28309	Secs. 27, 28, 33, 34 T11N, R14E, UM	2.6159813
75	28310	Secs. 29, 30, 31, 32 T11N, R14E, UM	1.2169190
76	28286	Secs. 25, 26, 35, 36 T11N, R13E, UM	0.2125242

## Prudhoe Bay Unit Agreement

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<u>Tract No.</u>	<u>ADL No.</u>	<u>Description of Tract</u>	<u>Initial Tract Participation %</u>
77	28287	Secs. 27, 28, 33, 34 T11N, R13E, UM	0.0051184
79	28264	Secs. 25, 26, 35, 36 T11N, R12E, UM	0.0138610
80	47452	Secs. 27, 28, 33, 34 T11N, R12E, UM	0.2214294
81	47453	Secs. 29, 30, 31, 32 T11N, R12E, UM	0.0258912
82	28246	Sec. 25 T11N, R11E, UM	0.0009658
83	47454	Secs. 3, 4, 10 T10N, R12E, UM	0.0040653
84	28265	Secs. 1, 2, 11, 12 T10N, R12E, UM	0.0001302
88	28313	Secs. 5, 6, 7, 8 T10N, R14E, UM	0.0000060
89	28312	Secs. 3, 4, 9, 10 T10N, R14E, UM	0.0931283
90	28311	Secs. 1, 2, 11, 12 T10N, R14E, UM	0.3935607
91	28329	Secs. 5, 6, 7, 8 T10N, R15E, UM	0.6785430
92	28328	Secs. 3, 4, 9, 10 T10N, R15E, UM	0.8665116
93	28327	Secs. 1, 2, 11, 12 T10N, R15E, UM	0.0346182



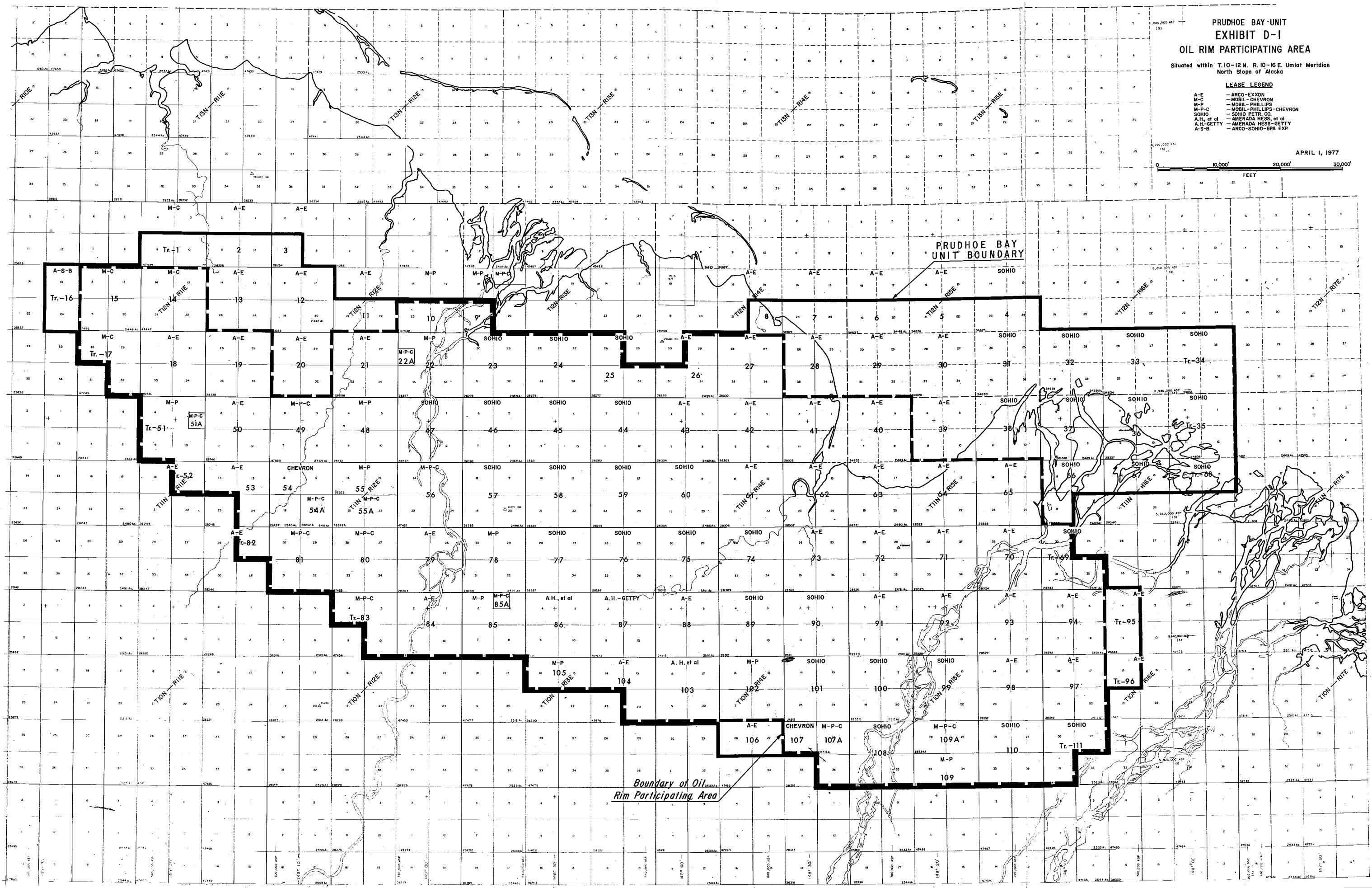
PRUDHOE BAY UNIT  
EXHIBIT D-1  
OIL RIM PARTICIPATING AREA  
Sited within T.10-12 N. R. 10-16 E. Umat Meridian  
North Slope of Alaska

LEASE LEGEND

A-E ARCO-EXXON  
M-C MOBIL-CHEVRON  
M-P MOBIL-PHILLIPS  
M-P-C MOBIL-PHILLIPS-CHEVRON  
SOHIO SOHIO PETR. CO.  
A.H. et al AMERADA HESS, et al  
A.H.-GETTY AMERADA HESS-GETTY  
A-S-B ARCO-SOHIO-BPA EXP.

APRIL 1, 1977

0 10,000' 20,000' 30,000'  
FEET

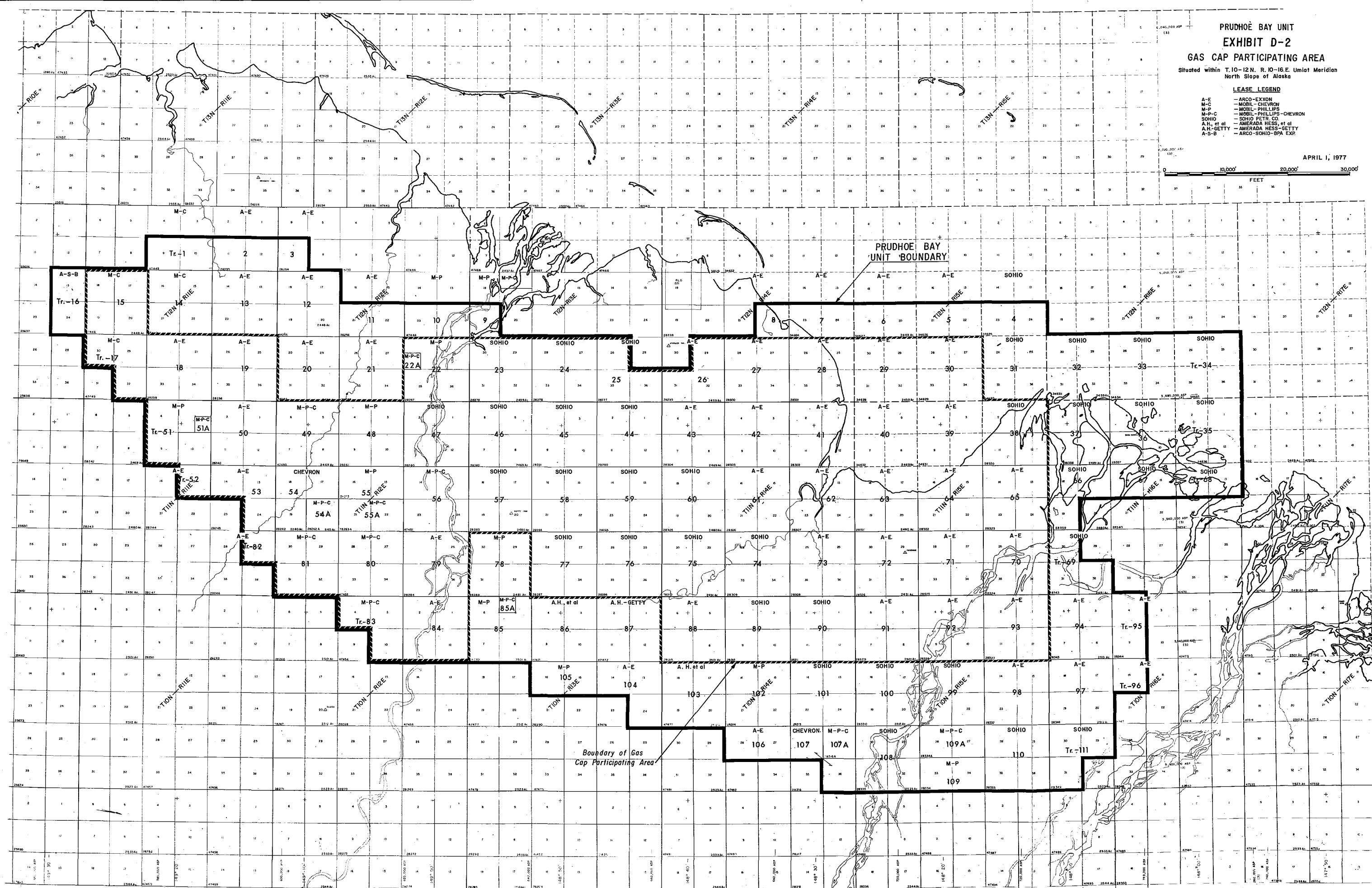


PRUDHOE BAY UNIT  
EXHIBIT D-2  
GAS CAP PARTICIPATING AREA  
Situated within T.10-12 N. R. 10-16 E. Uniat Meridian  
North Slope of Alaska

LEASE LEGEND  
A-E ARCO-EXXON  
M-C MOBIL-CHEVRON  
M-P MOBIL-PHILLIPS  
M-P-C MOBIL-PHILLIPS-CHEVRON  
SOHIO SOHIO PETR. CO.  
A.H. et al AMERADA HESS, et al  
A.H.-GETTY AMERADA HESS-GETTY  
A-S-B ARCO-SOHIO-BPA EXP.

APRIL 1, 1977

0 10,000' 20,000' 30,000'  
FEET



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**EXHIBIT E**

**PLAN OF DEVELOPMENT AND OPERATION  
PRUDHOE BAY (PERMO-TRIASSIC) RESERVOIR  
PRUDHOE BAY UNIT AGREEMENT  
STATE OF ALASKA**

The Plan of Development and Operations ("the Plan") for the Gas Cap and Oil Rim Participating Areas within the Unit has been formulated to achieve maximum economic recovery of oil and gas consistent with good conservation, sound engineering practice and the correlative rights of the Working Interest Owners.

This Exhibit outlines the Plan which the Working Interest Owners have adopted to develop the Unitized Substances of the Initial Participating Areas in as prudent and expeditious a manner as possible. Fundamental to this Plan has been the assessment of reservoir productivity, facility capability, and the time required to finance, design, fabricate, and install the necessary production and transportation facilities.

This Plan summarizes both the short and longer term reservoir management considerations and describes the facilities which will be utilized therein. Detailed technical justification for the Plan is contained in a report entitled "Technical Considerations Prudhoe Bay Unit Operating Plan, North Slope—Alaska." This report was forwarded to the Director, Division of Energy and Minerals Management, Department of Natural Resources, State of Alaska, on October 20, 1976.

**Short-Term Plans**

The short-term aspects of the Plan cover initial oil and gas off-takes, gas injection, produced water disposal, and development drilling. Early ratification of this Plan is needed to enable Working Interest Owners, and other parties associated with financing and installing production and transportation facilities, to proceed on schedule.

Oil production is anticipated to begin in mid-1977. Production facilities to support an average oil offtake of 1.2 MMB/D will be

completed by January 1978. Well and facility additions are planned during 1978 and 1979 to increase the average oil offtake to 1.5 MMB/D, plus condensate production, when pipeline capacity is available.

Injection facilities will be installed for the re-injection of gas produced in excess of that needed for fuel and sales. Initially this injection capacity will be 1.2 BCF/D but will be increased to approximately 2 BCF/D by mid-1979.

It is planned to commence gas pipeline deliveries of 2 BCF/D as soon as a pipeline and plant to condition the gas to specification can be completed. This is currently estimated to be about five (5) years after the start of oil production. Studies have shown that the Prudhoe Bay (Permo-Triassic) Reservoir could be managed so that the planned deliveries would not affect ultimate oil recovery. Depending upon the reservoir performance, it might be possible to increase gas deliveries to 2.5 BCF/D.

Water production will be minimal initially and will be disposed of by injection into shallower Tertiary/Cretaceous sands which are separate from the Permo-Triassic sands. When the produced water becomes significant it will be re-injected into the Sadlerochit formation.

Development drilling to date has been based on two wells per section. Near term plans include drilling selected wells on 160-acre spacing from existing drill sites during 1977.

Initial development within the Prudhoe Bay (Permo-Triassic) Reservoir will be in the Main Area Sadlerochit Formation. Development of the Eileen Area and other Permo-Triassic formations will be phased into the overall Plan so as to maximize the efficiency of the continuing development plan and to maintain field production.

#### **Longer Term Plans**

The Working Interest Owners have conducted extensive reservoir performance studies. The results of these studies combined with engineering judgment developed from experience in other fields have led to development of the long-term reservoir management plans.

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In the longer term, the scope of the operation may ultimately include the implementation of a number of measures such as:

- (a) the drilling of wells on one hundred sixty (160) acre spacing, closer if warranted;
- (b) the working over of wells to limit undesirable gas and water production;
- (c) the installation of additional gathering and separation facilities to accommodate rising gas-oil and water-oil ratios, including low pressure systems when necessary;
- (d) the installation of artificial lift in wells;
- (e) the injection of source water where appropriate.

These measures, viewed in conjunction with their possible scale and timing, collectively offer a degree of flexibility which is necessary for the successful management of the energy resources within the Prudhoe Bay (Permo-Triassic) Reservoir.

It is anticipated that with the additional drilling and installation of facilities it will be possible to sustain the planned oil offtakes for approximately eight years before production begins declining. Such development could ultimately require five hundred (500) or more wells on one hundred sixty (160) acre spacing. Further development drilling to less than one hundred sixty (160) acres per well might be justified in selected areas.

It is planned to selectively inject produced water into the Sadlerochit Formation in areas of low natural depletion when volumes become significant. Thus, through redistribution by re-injection, the benefits of natural water influx will be maximized.

It is planned to supplement the injection of produced water with source water injection when predictions of additional recovery can be verified and the economic viability of the project can be substantiated. Reservoir performance and testing are necessary before this project can be engineered to assure successful implementation. Studies by the Working Interest Owners indicate that source water injection is mechanically feasible, but additional studies will be required to optimize the waterflood facility design. Although source water injection plans cannot be finalized, design and implementation

studies will proceed concurrently with field testing and data gathering, so as to reduce the time from final decision to implementation to approximately three years.

Over the life of the Prudhoe Bay (Permo-Triassic) Reservoir the Plan will undergo continued evaluation and modification in the light of observed performance. A very important aspect of this continuous review process will be an active program of reservoir surveillance and testing. Provisions exist within the Plan to monitor intensively gas-oil and water-oil contact movements, reservoir pressures and the performance of individual wells. Preliminary water injectivity tests are also planned to determine injectivity into various subzones of the reservoir and to evaluate water displacement characteristics in the reservoir. The Tertiary/Cretaceous sands overlying the Sadlerochit formation constitute a possible source of test injection water.

### **Drilling and Facility Plans**

The development drilling and production facility plans outlined below are consistent with the objectives of the Plan for the field. The well spacing for this Plan provides flexibility to drill future producing wells and water injection wells as required. Modular construction and the physical layout of the existing production facilities provide maximum flexibility for future additions and expansions.

A multi-rig program will be in operation during 1977 through 1981 and beyond to provide additional wells. The bottom-hole locations of existing development wells and possible locations for future wells on 160-acre spacing are presented in Figure 1. This coverage includes those areas of the Prudhoe Bay (Permo-Triassic) Reservoir with an initial oil column in excess of one hundred (100) ft.

Producing wells are directionally drilled from strategically located drill site pads. These sites consist of gravel pads which insulate the underlying permafrost. Multiple-well drill pads permit concentration of surface facilities reducing required pipeline, road and power distribution networks. Existing drill pads will be extended and future drill pads will be installed as needed to accommodate the development drilling program. The surface locations of existing and possible future drill pads and drill sites are displayed on Figure 1.

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Production from the wells in the Main Area will be processed at six field gathering centers/flow stations. The first two are scheduled for production start-up during the second quarter of 1977. The third and fourth are scheduled for start-up during the third quarter of 1977. Scheduled start-up of the fifth and sixth will be mid-1978 and mid-1979, respectively. Total field gathering center/flow station capacity will be 1.8 MMB/D upon completion of all six facilities. This capacity allows the production offtake requirements for the field to be met with one center/station completely shut down.

Initially there will be two flowline configurations which will transport the produced fluids from the wellheads to the field gathering centers/flow stations. One configuration incorporates a separate flowline for each well, and the other will consist of common flowlines with well streams commingled at drill site manifolds. Additional flowlines will be needed in the future as development proceeds and additional wells are brought on production. Flowline configuration will depend on operating conditions at the time they are needed. Large diameter flowlines and manifolds are planned to offset the decline of wellhead flowing pressure. With further decline in wellhead flowing pressure, a reduction of first stage separator operating pressure is planned together with a possible expansion and relocation of first stage facilities at the drill pads and drill sites. Concurrently, low pressure compression at the field gathering centers/flow stations may also be installed.

At each gathering center/flow station the produced fluids will be separated into oil and condensate, gas, and water. Three-stage separation of produced fluids is planned. Well test facilities will be located at the gathering centers or the drillsites, dependent upon flowline configuration. The separator oil and condensate will be processed to pipeline specifications, and shipped through large diameter transit lines to the TAPS origin station. The separator gas will be compressed, conditioned as required, and sent through large diameter transit lines to the central gas compression plant located in the A.R.Co. operating area. Initially, all produced gas, excluding field fuel and fuel for TAPS, will be compressed at the central gas com-

pression plant and reinjected into the gas cap of the Sadlerochit reservoir. Ten (10) wells for initial gas injection purposes have been drilled from a pad just north of the central gas compression plant. If needed, additional gas injection wells will be drilled from a future pad to be located west of the central compression plant.

Some of the gas delivered to the central compression plant will supply the field fuel gas unit. This is located adjacent to the central compression plant and is designed to furnish up to 100 MMCF/D of conditioned gas for use as fuel in field operations and TAPS pump stations.

Future additions to the produced gas system include a plant to condition gas for sales. With the commencement of gas sales, the gas will be routed to the gas conditioning plant for the removal of carbon dioxide and gas liquids for dewpoint control. Tentative plans are to transport some of the gas plant liquids that are extracted to the oil gathering system for delivery to TAPS with the remainder being used for fuel. Processed gas will be returned to the sales boost compression plant for required compression and transport to the sales gas pipeline.

Produced water will be treated, filtered, and injected initially into water disposal wells completed in the shallower Tertiary/Cretaceous sands at locations near the field gathering centers/flow stations. Six such wells presently exist at the gathering centers/flow stations. Facilities to reinject up to 200 MB/D of produced water will be available and will be augmented as necessary. It is expected that such facilities might be expanded to handle up to 500 MB/D of produced water.

Electrical power for the field is supplied by the central power station located in the BPA operating area. Power generation is by gas turbine. The power is transmitted to the two operating areas by an overhead 69 KV transmission line and supplies the electrical requirements of the various production facilities.

Development of the West End (Eileen Area) of the field is to be phased in later into the overall Plan of Development, consistent with the most efficient production of the field. Additional study of the



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well potentials and better definition of the West End will be required before this further development scheme can be finalized. It is expected that this information will be obtained over the next few years. Nevertheless, a tentative pattern of wells and pads corresponding in scope to the Main Area development has been shown on Figure 1.

Existing and possible future production facilities, pipelines, roads, bridges, airstrips, and base camps needed to support present and future field operations for the Main Area development and for the tentative Eileen Area development are shown on Figure 2.

An annual update of Figure 1 and Figure 2 will be submitted to the Director.

Unit Operators will continue to obtain approvals and permits for Unit Operations as required by State laws, regulations, and/or State Oil and Gas Lease stipulation (Attachment No. 1 hereto).

An annual progress report, summarizing the prior year's activities under this Plan, will be filed with the Director.

**Attachment No. 1 to Exhibit E**

**OIL AND GAS LEASE STIPULATION**

I. Prior to commencement of any operations on the lease, the lessee shall obtain written approval from the Director, Division of Lands for the location of all operations and type of facilities in order to protect fish and wildlife, prevent pollution, and minimize surface damage. This stipulation does not affect the requirement that the lessee obtain approval of the Alaska Oil and Gas Conservation Committee pursuant to AS 31 and the regulations adopted thereunder.

The lessee shall:

(a) Submit, in triplicate, at least 30 days prior to beginning any operations on this lease, to the Director, Division of Lands, a plan of operation that will include statements, maps, or drawings relating to:

(1) The methods to be used to assure proper disposal of mud, oily waste, garbage, refuse, and other pollutants.

(2) The design of pollution prevention facilities.

(3) The location of any proposed well or wells, buildings, rights-of-way, airstrips, and storage facilities.

(4) The location and design of material sites.

(5) Measures to be taken to prevent erosion (particularly of roads and material sites) and damage to watersheds and vegetation.

(6) The location of proposed seismic activities.

(b) Keep the operational plan current in all respects.

II. The lessee shall:

(a) Comply with the provisions of the approval and do all things reasonably necessary to prevent or reduce to the fullest extent scarring and erosion of the lands, pollution of the water resources, and damage to the watershed. Should activities of the lessee cause damage to the watershed or pollute the water resource, the lessee agrees to repair such damage in a manner acceptable to the Director.

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(b) Allow authorized personnel of the Department of Natural Resources and the Department of Fish and Game to enter the premises to inspect the installations and operation activities of the lessee.

(c) Prior to the beginning of operations, appoint and maintain, at all times during the term of the lease, a local agent upon whom may be served written orders or notices respecting matters contained in these stipulations and to inform the authorized officer in writing of the name and address of such agent. If a substitute agent is appointed, the lessee shall immediately inform the said representative.

III. The lessee shall not deviate substantially from the approved plan of operation until revision or amendments of the plan are approved in writing, or abandon any site, approval for which is required herein, until final cleanup and revegetation, if required, is approved in writing by the authorized officer as provided herein.

IV. Should the lessee believe that compliance with any of the provisions of approval is unnecessary, he may request a waiver thereof by letter to the appropriate authorized officer stating why a waiver should be considered.

PRUDHOE BAY UNIT  
FIG. 1  
DEVELOPMENT DRILLING PROGRAM  
Sited within T.10-12 N. R. 10-16 E. Umiat Meridian  
North Slope of Alaska

LEASE LEGEND  
A-E ARCO-EXXON  
M-C MOBIL-CHEVRON  
M-P MOBIL-PHILLIPS  
M-P-C MOBIL-PHILLIPS-CHEVRON  
SOHIO SOHIO PETR. CO.  
A.H. et al AMERADA HESS, et al  
A.H.-GETTY AMERADA HESS-GETTY  
A-S-B ARCO-SOHIO-BPA EXP.

APRIL 1, 1977

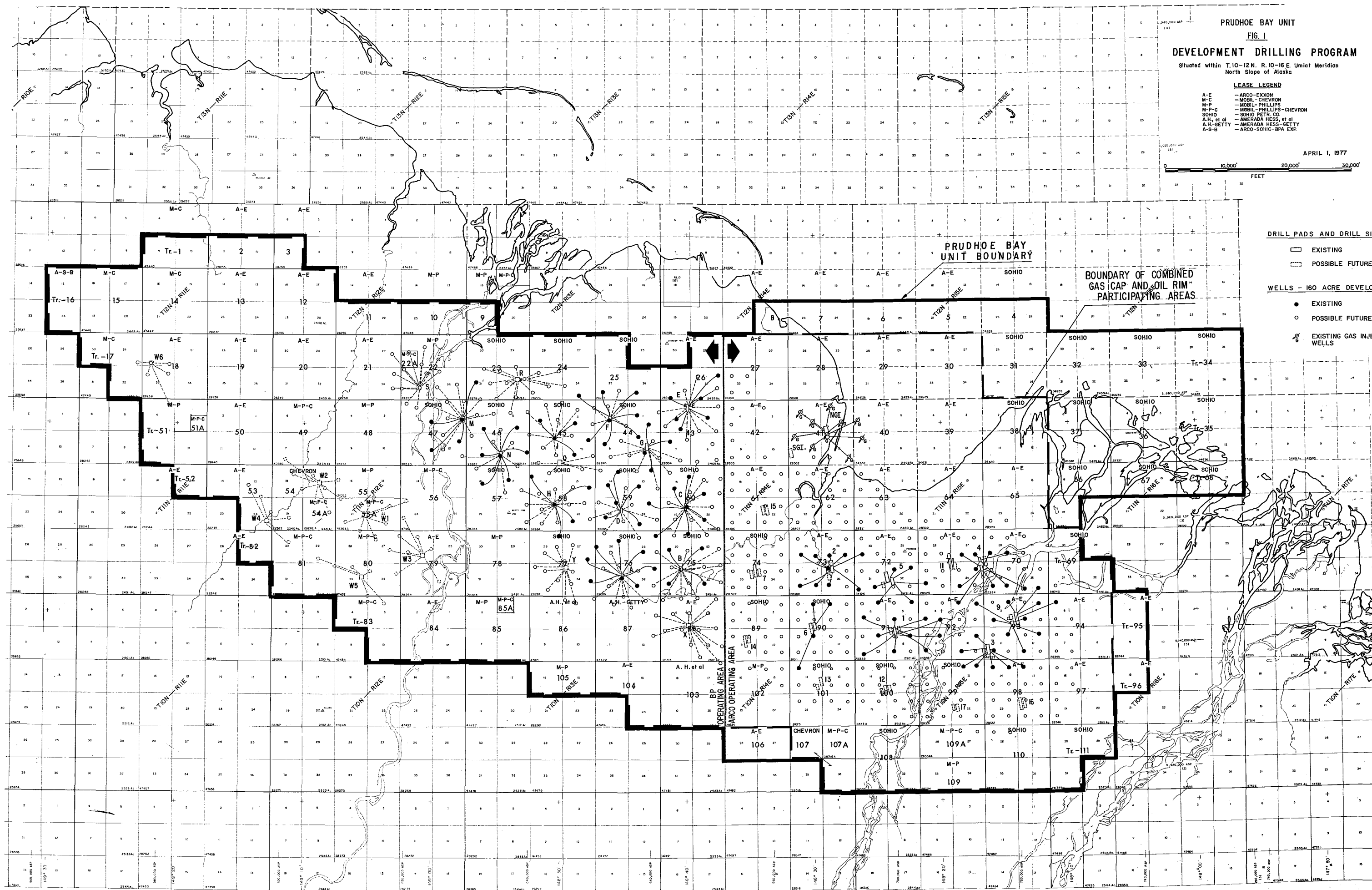
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FEET

DRILL PADS AND DRILL SITES

EXISTING  
POSSIBLE FUTURE

WELLS - 160 ACRE DEVELOPMENT

EXISTING  
POSSIBLE FUTURE  
EXISTING GAS INJECTION WELLS



PRUDHOE BAY UNIT  
FIG. 2  
PRODUCTION FACILITIES

Situated within T.10-12 N. R. 10-16 E. Umat Meridian  
North Slope of Alaska

LEASE LEGEND

A-E ARCO-EXXON  
M-C MOBIL-CHEVRON  
M-P MOBIL-PHILLIPS  
M-P-C MOBIL-PHILLIPS-CHEVRON  
SOHIO SOHIO PETR. CO.  
A.H. et al AMERADA HESS, et al  
A-H-GETTY AMERADA HESS-GETTY  
A-S-B ARCO-SOHIO-BPA EXPT.

APRIL 1, 1977



LEGEND

DRILL PADS AND DRILL SITES

EXISTING  
POSSIBLE FUTURE

PRODUCTION FACILITIES

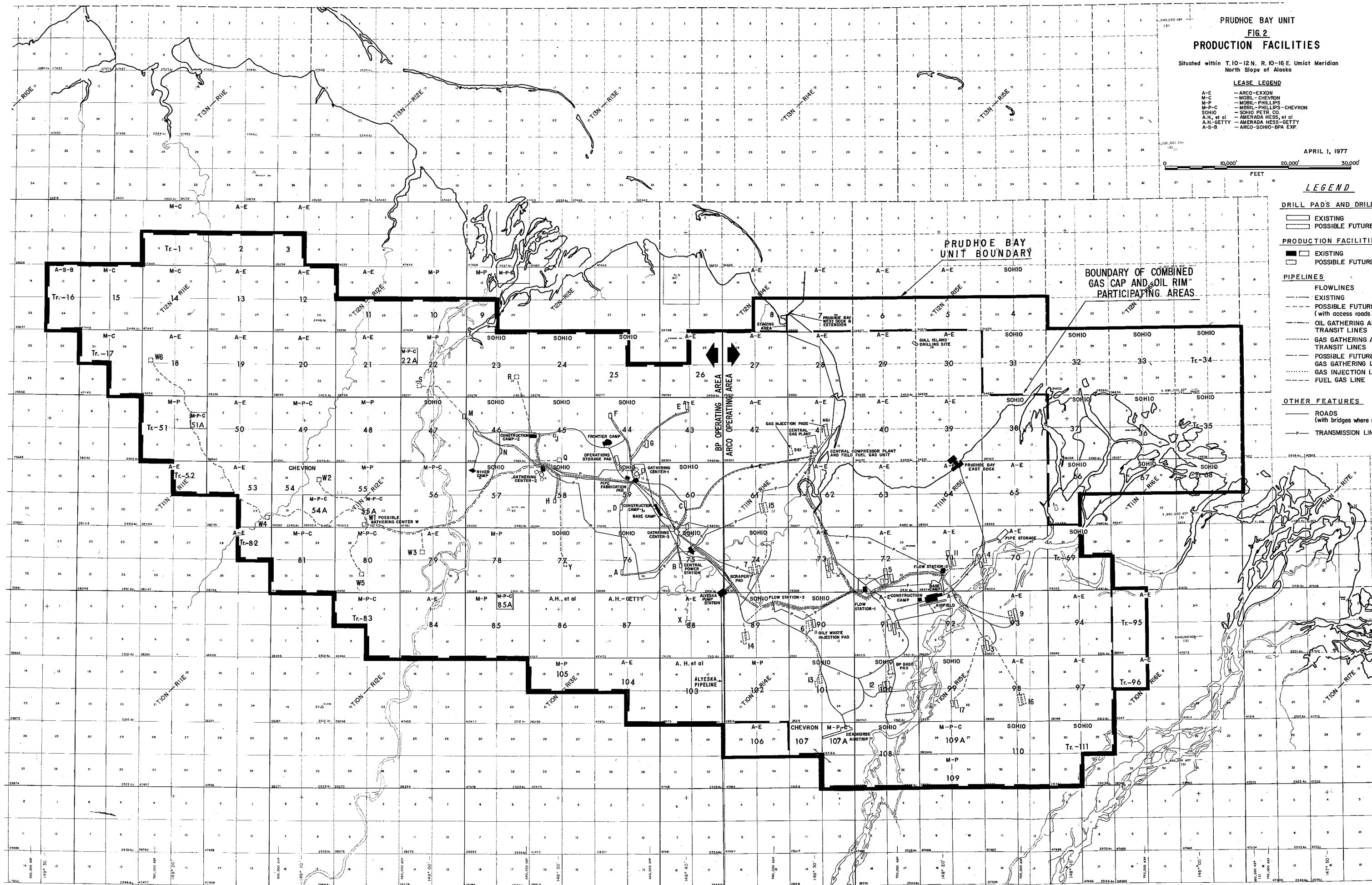
EXISTING  
POSSIBLE FUTURE

PIPELINES

FLOWLINES  
EXISTING  
POSSIBLE FUTURE (with access roads)  
OIL GATHERING AND OIL TRANSIT LINES  
GAS GATHERING AND GAS TRANSIT LINES  
POSSIBLE FUTURE OIL AND GAS GATHERING LINES  
GAS INJECTION LINE  
FUEL GAS LINE

OTHER FEATURES

ROADS (with bridges where required)  
TRANSMISSION LINE (69KV)



E1-1

**EXHIBIT E—1**

**PLAN OF DEVELOPMENT AND OPERATION FOR LANDS  
OUTSIDE THE INITIAL PARTICIPATING AREAS  
PRUDHOE BAY UNIT AGREEMENT  
STATE OF ALASKA**

Lands within the Unit Area that are not in the initial Participating Areas shall be developed and operated pursuant to the Plan of Development and Operations ("the Plan") described herein, to wit:

A. Hydrocarbon-productive Reservoirs have been discovered within the Unit Area in the Lisburne, North Prudhoe Bay (Permo-Triassic) and Kuparuk River formations, and these Reservoirs extend to lands in the Unit Area beyond the initial Participating Areas. As of the effective date of this Unit, these Reservoirs have not been reasonably proven to be capable of producing unitized substances in sufficient quantities to justify Working Interest Owners in developing and producing them. However, additional wells and studies are planned from 1977 through 1982 to further evaluate these Reservoirs prior to the formation of Participating Areas. The Plan for these other reservoirs include plans for the drilling of additional wells both within and outside the boundaries of the initial Participating Areas. Further, any well drilled on any part of a lease, any portion of which lease is included in the Unit Area, shall be deemed a well drilled in satisfaction of this Exhibit E-1 regardless of whether or not such well is located in the Unit Area; provided, that it is shown to the satisfaction of the Director that the bottom-hole target of the well will provide a reasonable geologic test or geologic information significant to Unit Operations.

1. *Lisburne Reservoir.*

a. *Work in Progress.* Three Lisburne test wells (A.R.Co./Exxon Gull Island 2; BP Sag Delta 35-12-16; and BP Sag Delta 10-11-16) were commenced in January 1977, and drilling operations in connection therewith should be completed by the end of 1977.

b. *Studies.* For the period January 1, 1978 to July 1, 1982, detailed geological, geophysical, and engineering studies

will be carried out by each affected Working Interest Owner to evaluate the structure, areal distribution, and continuity of hydrocarbon-bearing reservoirs, as well as the productive capability of such reservoirs within the Lisburne carbonate section. Based on these studies, the economic feasibility of further Lisburne Reservoir(s) development will be determined.

c. *Further Drilling.* For the period January 1, 1978 to July 1, 1982, Working Interest Owners plan to drill three (3) wells in addition to the above for further appraisal and delineation of the Lisburne Reservoir(s). Since the location of such wells will, in part, be dependent upon the results of the Lisburne wells described in paragraph (a) above, and some of the studies described in paragraph (b) above, the locations are undesignated at this time.

2. *Kuparuk and North Prudhoe Bay (Permo-Triassic) Reservoirs.*

a. *Wells.* Two undesignated wells are planned to evaluate the Kuparuk and North Prudhoe Bay (Permo-Triassic) Reservoirs prior to July 1, 1982.

b. *Studies.* Prior to July 1, 1982, technical studies including detailed Kuparuk stratigraphy and lithofacies work, and combined geological-geophysical structural analysis for the Kuparuk and North Prudhoe Bay (Permo-Triassic) Reservoirs are planned. Based on these studies, the economic feasibility of further development will be determined.

At least two of the wells described in paragraph (1.c) and (2.a) hereof are planned to be drilled prior to July 1, 1981.

The terms of this Plan shall cover the time period from the Effective Date of the Prudhoe Bay Unit Agreement through June 30, 1982.

Unit Operators will continue to obtain approvals and permits for Unit Operations as required by State laws, regulations and/or State Oil and Gas Lease Stipulation (Attachment No. 1 hereto).

Commencing July 1, 1978, and each year thereafter, Unit Operators will file progress reports describing operations under this Plan for the preceding twelve (12) month period.

E1-3

**ATTACHMENT NO. 1 TO EXHIBIT E-1**

**OIL AND GAS LEASE STIPULATION**

I. Prior to commencement of any operations on the lease, the lessee shall obtain written approval from the Director, Division of Lands for the location of all operations and type of facilities in order to protect fish and wildlife, prevent pollution, and minimize surface damage. This stipulation does not affect the requirement that the lessee obtain approval of the Alaska Oil and Gas Conservation Committee pursuant to AS 31 and the regulations adopted thereunder.

The lessee shall:

(a) Submit, in triplicate, at least 30 days prior to beginning any operations on this lease, to the Director, Division of Lands, a plan of operation that will include statements, maps, or drawings relating to:

(1) The methods to be used to assure proper disposal of mud, oily waste, garbage, refuse, and other pollutants.

(2) The design of pollution prevention facilities.

(3) The location of any proposed well or wells, buildings, rights-of-way, airstrips, and storage facilities.

(4) The location and design of material sites.

(5) Measures to be taken to prevent erosion (particularly of roads and material sites) and damage to watersheds and vegetation.

(6) The location of proposed seismic activities.

(b) Keep the operational plan current in all respects.

II. The lessee shall:

(a) Comply with the provisions of the approval and do all things reasonably necessary to prevent or reduce to the fullest extent scarring and erosion of the lands, pollution of the water resources, and damage to the watershed. Should activities of the lessee cause damage to the watershed or pollute the water resource, the lessee agrees to repair such damage in a manner acceptable to the Director.



(b) Allow authorized personnel of the Department of Natural Resources and the Department of Fish and Game to enter the premises to inspect the installations and operation activities of the lessee.

(c) Prior to the beginning of operations, appoint and maintain, at all times during the term of the lease, a local agent upon whom may be served written orders or notices respecting matters contained in these stipulations and to inform the authorized officer in writing of the name and address of such agent. If a substitute agent is appointed, the lessee shall immediately inform the said representative.

III. The lessee shall not deviate substantially from the approved plan of operation until revision or amendments of the plan are approved in writing, or abandon any site, approval for which is required herein, until final cleanup and revegetation, if required, is approved in writing by the authorized officer as provided herein.

IV. Should the lessee believe that compliance with any of the provisions of approval is unnecessary, he may request a waiver thereof by letter to the appropriate authorized officer stating why a waiver should be considered.

PRUDHOE BAY UNIT  
EXHIBIT F  
RESERVOIR LIMITS OF PRUDHOE BAY  
(PERMO-TRIASSIC) RESERVOIR  
Situated within T.10-12 N. R.10-16 E. Umist Meridian  
North Slope of Alaska

LEASE LEGEND

A-E — ARCO-EXXON  
M-C — MOBIL-CHEVRON  
M-P — MOBIL-PHILLIPS  
M-P-C — MOBIL-PHILLIPS-CHEVRON  
SOHIO — SOHIO PETR. CO.  
A.H. et al — AMERADA HESS, et al  
A.H.-GETTY — AMERADA HESS-GETTY  
A-S-B — ARCO-SOHIO-BPA EXP.

APRIL 1, 1977

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FEET

