

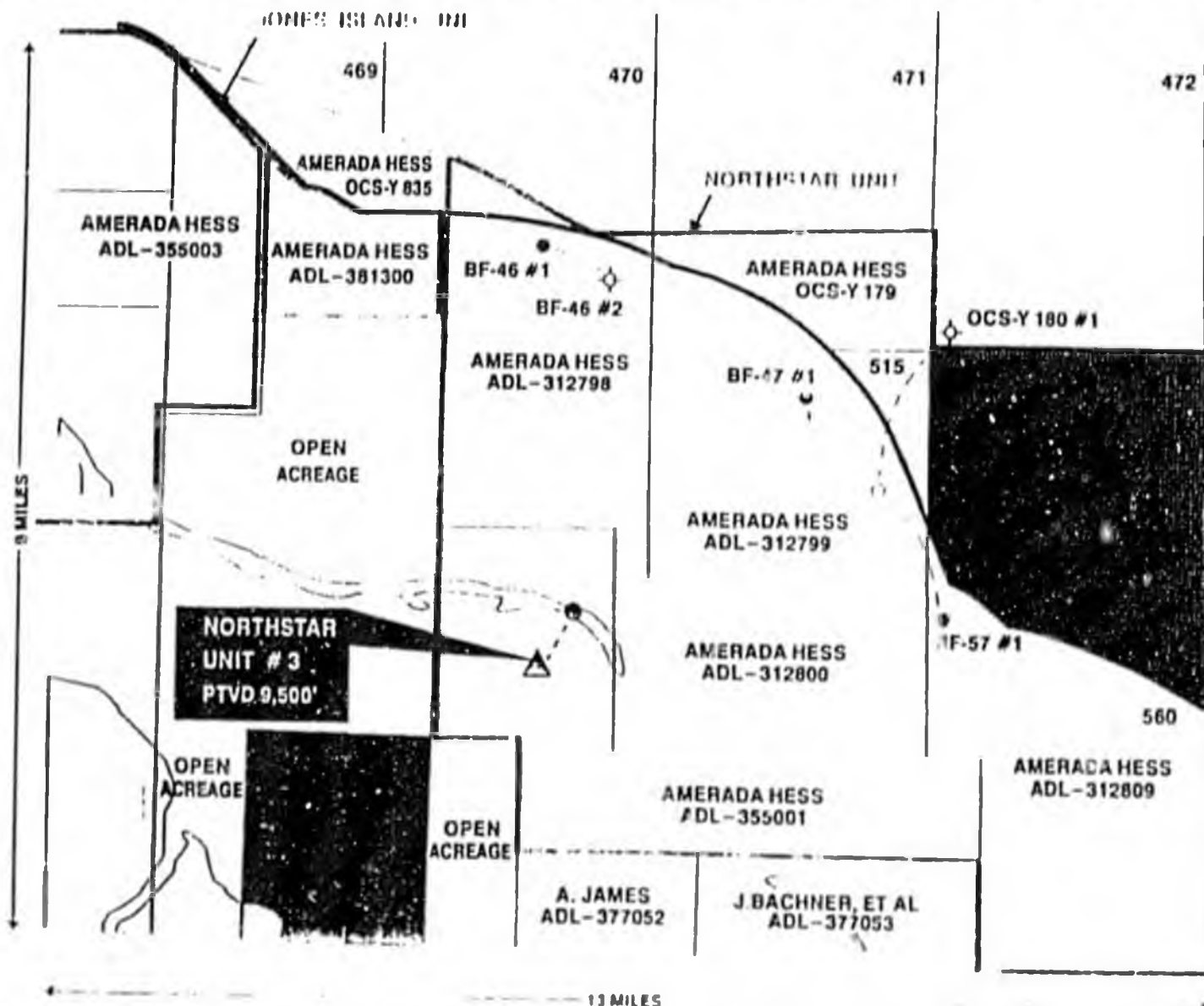
**ALASKA LEGISLATURE COMMITTEE FILES 1995-1996 8672**

**8989 SENATE RESOURCES**

AMERADA HESS CORPORATION  
 UNITED STATES EXPLORATION AND PRODUCTION  
 NORTHSTAR UNIT  
UNIT LEASEHOLD

LINE NO.	LEASES A	COMPANY B	AHC WORKING INTEREST C	ACREAGE D	ROYALTY E	NET PROFIT INTEREST F	MEMO: ORIGINAL BONUS (\$ 000'S)	
							AHC G	OTHERS H
<u>STATE</u>								
1	BF-46	AHC (1980)	100%	4,343	20.0%	93.2%	\$ 3,844	\$ 0
2	BF-47	AHC (1980)	100%	4,472	20.0%	91.2%	3,913	0
3	BF-56	AHC (ENTERPRISE - 1990)	100%	3,433	20.0%	85.3%	1,000	3,000
4	BF-57	AHC (ENTERPRISE - 1990)	100%	5,301	20.0%	85.3%	1,000	4,640
5	39-01	AHC (1983)	100%	5,744	12.5%	40.0%	574	0
6	SUBTOTAL						<u>10,331</u>	<u>7,640</u>
<u>FEDERAL</u>								
7	BF-23	AHC (AMOCO - 1989)	100%	2,252	16.7%	0	0	20,200
8	BF-25	SHELL/MURPHY	0	5,243	16.7%	0	0	60,890
9	SUBTOTAL						<u>0</u>	<u>81,090</u>
10	TOTAL						<u>\$10,331</u>	<u>\$ 88,730</u>

ATTACHMENT 2



**LEGEND**

**WELL INFORMATION**

- OIL WELL
- ◇ DRY HOLE
- ⊙ SURFACE LOCATION
- ▲ BOTTOM HOLE

**LEASE INFORMATION**

- AHC
- ▨ ARCO, ETAL
- ▩ SHELL / MURPHY
- UNIT OUTLINE
- ACREAGE ELIGABLE FOR EXTENSION

**AMERADA HESS CORPORATION**  
**UNITED STATES EXPLORATION AND PRODUCTION**

AMERADA HESS CORPORATION  
 UNITED STATES EXPLORATION AND PRODUCTION  
NORTHSTAR UNIT PLAN OF DEVELOPMENT

COMMITMENTS	1990	1991	1992	1993	1994	1995	ESTIMATED PROJECT COSTS (\$ MILLIONS)
							GROSS
EXPIRATION						▼	
MAINTAIN ISLANDS	\$1.4	\$1.1	\$1.0	\$.1	\$5.0		\$ 8.6
PETROLOGICAL/PETRO- PHYSICAL STUDIES	\$.1	\$.1					0.2
PRODUCTION FACILITIES DESIGN		\$.4					0.4
SEISMIC PROGRAM		\$1.8	\$.7				2.5
SEISMIC MAPPING							-
RESERVOIR ENGINEERING STUDIES							-
SYNTHESIS AND FINAL PLANS					\$.1		0.1
DRILLING DELAY PAYMENT		\$1	\$2	\$2			5.0
DRILL - NORTHSTAR #3				\$.2	\$6.0		6.2
<b>TOTAL - \$ MILLIONS</b>	<b>\$1.5</b>	<b>\$4.4</b>	<b>\$3.7</b>	<b>\$2.3</b>	<b>\$11.1</b>	<b>\$0.0</b>	<u><u><b>\$23.0</b></u></u>

LEGEND

COMPLETED    
  ACTUAL    
  PLANNED    
 ▼ EXPIRATION  
 1/25/95

AMERADA HESS CORPORATION  
 UNITED STATES EXPLORATION AND PRODUCTION  
 NORTHSTAR UNIT

FIVE YEAR PLAN OF DEVELOPMENT

<u>WORK COMMITMENTS</u>	<u>TIMING</u>		<u>ISSUES</u>	<u>PROJECT COSTS (\$ MILLIONS)</u>
	<u>START</u>	<u>COMPLETE</u>		
1. MAINTAIN ISLANDS	AUG 1990	SEP 1994	SECURITY OF WELLS	\$ 8.6
2. PETROLOGICAL/PETROPHYSICAL STUDIES	MAR 1990	DEC 1991*	LOG VALUES INCONSISTENT WITH PRODUCTION TESTS	0.2
3. PRODUCTION FACILITIES DESIGN	MAR 1990	DEC 1991*	UPDATE COSTS AND INCORPORATE LATEST TECHNOLOGY	0.4
4. SEISMIC PROGRAM	AUG 1991	MAR 1992	ASSESS RESERVES AND WELL LOCATIONS	2.5
5. SEISMIC ANALYSIS AND INTERPRETATION	OCT 1991	NOV 1992	ASSESS RESERVES AND WELL LOCATIONS	.
6. RESERVOIR ENGINEERING STUDIES	JUL 1992	JUN 1994	DETERMINE MAXIMUM RESERVE POTENTIAL	.
7. FINAL PLANS	MAR 1994	OCT 1994*	EXTEND OR DROP LEASES OR DEVELOP	0.1
			SUBTOTAL	<u>\$11.8</u>
8. DRILLING DELAY PAYMENT				5.0
9. DRILL NORTHSTAR NO. 3				<u>6.2</u>
			TOTAL	<u>\$23.0</u>

\* REGULATORY AGENCY REVIEW

Field History  
Correspondence

AMERADA HESS CORPORATION

Bin - FYI  
Mike - Unit files

J. V. SIMON  
MANAGER CONSTRUCTION

1201 LOUISIANA, SUITE 700  
HOUSTON, TEXAS 77002-5681  
713-782-5920  
713-782-5457

October 18, 1994

RECEIVED  
OCT 24 1994  
DEPARTMENT OF OIL & GAS

Department of Natural Resources  
Attention: Mr. James E. Eason  
P. O. Box 107034  
Anchorage, Alaska 99510-7034

Re: Northstar Unit  
Plan of Development

Gentlemen:

It has been brought to our attention that your agency has inquired as to Amerada Hess Corporation 's (AHC) submittal of the final plan for the Northstar Unit during October 1994, as in accordance with the five year Plan of Development governing the Unit.

During our meeting held June 8, 1994 with representatives from your agency, Minerals Management Service, and the Alaska Oil and Gas Conservation Commission, AHC presented the results of its 1994 drilling program, analysis of the reservoir, and the project economics which resulted in AHC and its partners' determination not to develop the Unit. Since said meeting both the Seal and Northstar Islands have been abandoned and site clearance has been received from the respective agencies.

As a result of AHC and its partners decision not to develop the Northstar Unit, AHC has begun preliminary discussions with BP Exploration (Alaska) Inc. regarding a possible sale of our interest in the Unit. Pending the outcome of our discussions with BP, relief on the pending Unit expiration of January 25, 1995 may be requested from the agencies involved.

If you have any questions please advise.

Sincerely,



J. V. Simon

LETJMS

cc: Minerals Management Service  
Attention: Mr. Jeff Walker  
948 E. 38th Avenue, Room 803  
Anchorage, Alaska 99508-4370

Alaska Oil and Gas Conservation Commission  
Attention: Mr. David W. Johnson  
3001 Perseus Drive  
Anchorage, Alaska 99501-3192

**DEPT. OF NATURAL RESOURCES**

**DIVISION OF OIL AND GAS**

PO BOX 107034  
ANCHORAGE, ALASKA 99510-7034  
PHONE 1907 762-2553

(907) 762-2547

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

November 3, 1994

Amerada Hess Corporation  
1201 Louisiana, Suite 700  
Houston, Texas 77002-5681

Attn: Mr. J. V. Simon  
Manager, Construction

Re: Northstar Unit  
Notice of Default

Dear Mr. Simon:

The Division of Oil and Gas is in receipt of your letter dated October 18, 1994 regarding an updated Plan of Development (POD) for the Northstar Unit (NSU), and AHC and its partners' determination not to develop the NSU. Please be advised that failure to provide an updated POD on or before October 25, 1994 constitutes a default of the NSU Agreement per Articles 8.1 and 20.1 of the NSU Agreement and 11 AAC 83.343.

Pursuant to Article 20.2 of the NSU Agreement, this is notification of default of the Unit Agreement. Further, AHC and its partners may cure the default by (1) providing an updated POD within fifteen (15) days of receipt of this notice, or (2) voluntarily terminating the NSU Agreement per the provisions of Article 14.6 within fifteen (15) days of receipt of this notice.

Mr. J. V. Simon  
November 3, 1994  
Page 2

If you have any questions or foresee any problems complying with the proposed default cure, please contact Mike Kotowski at (907) 762-2546.

Sincerely,

*James E. Eason*  
James E. Eason  
Director

cc: Patrick Coughlin  
Carol Lee  
Jeff Walker - MMS

NSU Default Notice 1st

P 234 058 452

RECEIVED FULL CREDIT

*American Hess Corp  
Attn: J.V. Simon  
1201 Louisiana, Ste 700  
Houston, TX 77002*

• U.S. POST OFFICE

BY FORM 3811 June 1985

*11/4/94*

<b>RECIPIENT:</b> Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check boxes for additional services(s) requested. <input type="checkbox"/> Show to whom delivered, date, and addressee's address. <input type="checkbox"/> Restricted Delivery (Extra charge)	
Article Addressed to: <i>American Hess Corp Attn: J.V. Simon 1201 Louisiana, Ste 700 Houston, TX 77002</i>	
4. Article Number <i>P.234-058-452</i>	
Type of Service: <input checked="" type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Signature Required for Merchandise	
Signature of addressee <i>Billy Kiddle</i>	
Date of Delivery <i>11/2/94</i>	
Division of Oil & Gas <i>NOV 11 1994</i>	
Form 3811 Nov 1985	

AMERADA HESS CORPORATION

J. Y. CHRISTOPHER  
OFFSHORE LAND MANAGER

500 DALLAS STREET  
POST OFFICE BOX 2040  
HOUSTON, TEXAS 77002-2040  
713/809-5870  
713/809-5608 (FAX)

RECEIVED  
NOV 23 1994  
DIVISION OF OIL & GAS

November 15, 1994

State of Alaska  
Department of Natural Resources  
Division of Oil and Gas  
Attention: Mr. Mike Kotowski  
P. O. Box 107034  
Anchorage, Alaska 99510-7034

Re: Northstar Unit  
Notice of Default

Gentlemen:

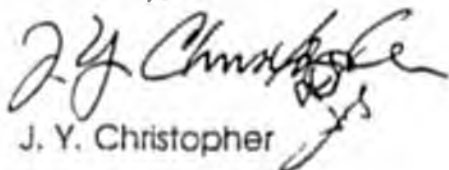
Amerada Hess Corporation (AHC) is in receipt of your letter of November 3, 1994 notifying AHC of its default of certain provisions of the Northstar Unit Agreement.

As advised in our meeting held on June 8, 1994 and AHC's letter of October 18, 1994, AHC and its partners elected not to pursue the development of the Northstar Unit, but only after diligent efforts to explore the unit were conducted in compliance and in fulfillment of the approved plan of development.

As previously advised, AHC is attempting to dispose of its interest in the Northstar Unit. AHC requests the State allow the Unit to be maintained until the expiration of the plan on January 23, 1995.

Thank you.

Sincerely,

  
J. Y. Christopher

LBT 526



Shell Frontier Oil & Gas Inc.

An affiliate of Shell Oil Company

P. O. Box 576  
Houston, TX 77001

FAX & CERTIFIED MAIL

November 17, 1994

Mr. Mike Kotowski  
State of Alaska  
Department of Natural Resources  
P. O. Box 107034  
Anchorage, AK 99510-7034

Dear Mr. Kotowski:

SUBJECT: NOTICE OF DEFAULT - NORTHSTAR UNIT  
C/AK/998/80/150  
NORTHSTAR UNIT  
BEAUFORT SEA, ALASKA

In response to the subject captioned notice to Amerada-Hess (Northstar Unit Operator) dated November 3, 1994 Shell Frontier Oil & Gas Inc. ("SFOGI"), as a working interest owner in the subject unit wishes to express our sincere concern over the possible outcome of noncompliance related to this default by the operator. Our understanding is that pursuant to State regulations, ninety (90) days prior to expiration of a current Plan of Development ("POD"), the unit operator is required to file a revised POD, however, we view this as an option and not as an obligation. If the State views this as an obligation, could this result in an early expiration of the current approved 5 year POD and in turn, the unit termination? We would appreciate your clarification of this issue. SFOGI feels that any action not allowing the unit to terminate consistent with the approved 5 year plan of development, which provides for a termination date of January 23, 1995, could significantly limit possible alternative development opportunities for the unit, which ultimately might benefit the State and MMS. SFOGI is involved in current negotiations with a third party for the possible transfer of our interest, which in turn could result in potential development at some future date. If the unit is allowed to terminate before January 23, 1995, then this option will most likely terminate with it.

We appreciate your advice and careful consideration on this issue. In the interim, should you have any questions or require additional information, please feel free to contact the undersigned at (713) 544-3195.

Sincerely,

D. B. Champlin  
As Agent For Shell Frontier Oil & Gas Inc.

DBC:dbc

TONY KNOWLES, GOVERNOR

**DEPT. OF NATURAL RESOURCES**

**DIVISION OF OIL AND GAS**

PO BOX 107034  
ANCHORAGE, ALASKA 99510-7034  
PHONE (907) 762-2553

(907) 762-2547

December 12, 1994

Via Fax and Certified Mail

Amerada Hess Corporation  
1201 Louisiana, Suite 700  
Houston, Texas 77002-5681

Attn: Mr. J. Y. Christopher  
Offshore Land Manager

Re: Northstar Unit  
Amended Notice of Default

Dear Mr. Christopher:

The November 3, 1994 North Star Unit (NSU) Notice of Default to the Amerada Hess Corporation, the NSU Unit Operator, provided for fifteen (15) days in which to cure the default. However, the unitization default regulation, 11 AAC 83.374(b), states:

The commissioner will give notice to a unit operator and defaulting party (if other than the unit operator) of the default. The notice will state the nature of the default and include a demand to cure the default by a specific date, which in the case of failure to pay rentals or royalties will be a date determined by the commissioner and in the case of any other default will be a date not less than 90 days after the date of the commissioner's notice of default.

Therefore, the second paragraph of the November 3, 1994 Notice of Default for the NSU is amended to the following:

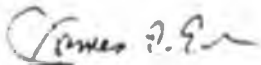
Pursuant to Article 20.2 of the NSU Agreement, this is notification of default of the Unit Agreement. Further, AHC and its partners may cure the default by (1) providing an updated POD within ninety (90) days, or (2) voluntarily terminating the NSU Agreement per the provisions of Article 14.6 within ninety (90) days.

Mr. Y. J. Christopher  
December 12, 1994  
Page 2

Under this amendment, the time period for cure of the default is 90 days, commencing November 3, 1994. If you have any questions or foresee any problems complying with the amended default notice, please contact Mike Kotowski at (907) 762-2546.

Finally, if the NSU terminates, three State of Alaska leases will continue beyond their primary term pursuant to paragraph 5(d) of the lease. The three leases are ADLs 312798, 312799 and 312809. This is further notice that within 90 days of termination of the NSU, the lessee shall file a plan of development in compliance with the requirements set forth in paragraph 17 of the lease.

Sincerely,



James E. Eason  
Director

cc: Carol Lee  
Patrick Coughlin  
D. B. Champlin - Shell Frontier O & G Inc.  
Jeff Walker - MMS



**BP EXPLORATION**  
Exploration Department

**RECEIVED**

JAN 18 1995

BP Exploration (Alaska) Inc.  
900 East Benson Boulevard  
P.O. Box 196612  
Anchorage, Alaska 99519-6612  
(907) 561-5111

January 13, 1995

**DIVISION OF OIL & GAS**

Mr. James E. Eason, Director  
State of Alaska  
Department of Natural Resources  
Division of Oil and Gas  
3601 C Street, 13th Floor  
Anchorage, Alaska 99503

Mr. Jeff Walker, Supervisor  
Operations Review & Approval  
U.S. Dept. of the Interior  
Minerals Management Service  
Alaska Outer Continental Shelf Region  
949 E. 36th Avenue, Room 603  
Anchorage, AK 99508-4302

Re: Request For Extension of Time  
Northstar Unit  
North Slope, Alaska

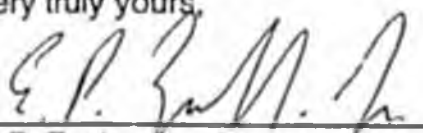
Gentlemen:

BP Exploration (Alaska) Inc. (BP) and Amerada Hess Corporation (AHC) are in the process of concluding an arrangement by which BP will acquire AHC's leasehold interest in the Northstar leases. Upon the conclusion of a satisfactory arrangement and with the acceptance of the other Northstar Unit working interest owners, BP will seek approval as the successor Unit Operator to the Northstar Unit Agreement and Unit Operating Agreement.

Subsequent to acquisition of AHC's interest and approval as successor Operator, BP will attempt to cure the default for the Northstar Unit. BP respectfully requests an extension of time to cure said default. An extension of not less than ninety (90) days should provide BP the opportunity to conclude its acquisition, succeed as Unit operator, and formulate with the other working interest owners a new Plan of Development for the Northstar Unit .

It is our intention to discuss this with you in our meeting scheduled for 9:00 A.M., January 19, 1995. If you have any questions or concerns, please contact me at (907) 564-5083 or R.L. Skillern at (907) 564-5567.

Very truly yours,

  
E. P. Zselezky, Jr.  
Land Manager, Alaska

EPZ:lbs

cc: J.Y. Christopher - AHC  
D.B. Champlin - Shell  
G.M. Shirley - Murphy  
J. Gottlieb - MMS





IN REPLY REFER TO

United States Department of the Interior

MINERALS MANAGEMENT SERVICE

Alaska Outer Continental Shelf Region  
949 E. 36th Avenue, Room 603  
Anchorage, Alaska 99508-4302

JAN 20 1995

Mr. E. Pete Zselezky, Jr.  
Manager, Land Exploration Department  
BP Exploration (Alaska) Inc.  
P.O. Box 196612  
Anchorage, AK 99519-6612

Dear Mr. Zselezky:

Subject: Resignation of Unit Operator and Designation of Successor Unit Operator,  
Northstar Unit

We have reviewed the Northstar Unit Resignation of Unit Operator and Designation of Successor Unit Operator dated January 19, 1995. The resignation of Amerada Hess Corporation as Unit Operator of the Northstar Unit and designation of BP Exploration (Alaska) Inc. (BPXA) as Successor Unit Operator is approved by the Regional Supervisor in accordance with Article 6.1 of the Unit Agreement. Approval is also required by the Commissioner of the Department of Natural Resources before the designation becomes effective.

The BPXA, as Successor Unit Operator, has accepted all rights and obligations of the Northstar Unit Operator. Minerals Management Service is currently reviewing BPXA's request for a 90-day extension of the unit term. Unless a new unit plan of development or an extension is approved by the Regional Supervisor and the Commissioner in accordance with Article 14.2 of the Unit Agreement, the unit will terminate on January 25, 1995.

If you have any questions regarding this decision, please contact Barry A. Boudreau at (907) 271-6065.

Sincerely,

Orig. Sgd. by  
Jeff Walker

Jeffrey Walker  
Acting Regional Supervisor  
Field Operations

# STATE OF ALASKA

## DEPT. OF NATURAL RESOURCES

### DIVISION OF OIL AND GAS

TONY KNOWLES, GOVERNOR

PO BOX 107034  
ANCHORAGE, ALASKA 99510-7034  
PHONE (907) 762-2547

(907)762-2547

January 20, 1995

BP Exploration (Alaska) Inc.  
PO Box 196612  
Anchorage, Alaska 99519

Attn: Peter Zselezcky, Land Manager

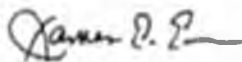
Subject: Northstar Unit  
Change of Unit Operator

Dear Mr. Zselezcky:

Pursuant to Article 5.1 of the Northstar Unit Agreement (NSUA), the Amerada Hess Corporation submitted its resignation as Unit Operator of the Northstar Unit (NSU). By vote of the Unit Working Interest Owners, BP Exploration (Alaska) Inc. (BPX) was approved as the successor Unit Operator. Furthermore, BPX has accepted the rights and obligations of the NSU Operator.

Pursuant to Article 6.1 of the NSUA, the division approves BPX as Successor NSU Operator, subject to the concomitant approval of the U.S. Department of the Interior, Minerals Management Service. The division's approval is effective January 20, 1995. Upon approval of assignments of interest in the Unit, the division requests that BPX submit updated Exhibits A and B to the NSUA.

Sincerely,



James E. Eason  
Director

cc: Patrick Coughlin - ADOL  
David Johnston - AOGCC  
Judith E. Buono - BPX  
J. Y. Christopher - AHC  
Tom Murrell - MMS

NSU Change of Operator.L11



**BP EXPLORATION**

Alaska Exploration & Developments

BP Exploration (Alaska) Inc.  
900 East Benson Boulevard  
P.O. Box 196612  
Anchorage, Alaska 99519-6612  
(907) 661-5111

RECEIVED

JAN 23 1995

DIV. OF OIL & GAS  
DIRECTOR'S OFFICE

January 23, 1995

CONFIDENTIAL

Mr. James E. Eason, Director  
State of Alaska  
Department of Natural Resources  
Division of Oil and Gas  
3601 C Street, 13th Floor  
Anchorage, Alaska 99503

Mr. Jeff Walker  
Acting Regional Supervisor  
Field Operations  
U.S. Dept. of the Interior  
Minerals Management Service  
Alaska Outer Continental Shelf Region  
949 East 36th Avenue, Room 603  
Anchorage, Alaska 99508-4302

Re: Plan of Development, Northstar Unit,  
North Slope, Alaska

Gentlemen:

Please find enclosed for your review two (2) copies each of an updated Plan of Development (POD) for the Northstar Unit. This POD is submitted by BP Exploration (Alaska) Inc. (BPX) as successor unit operator to Amerada Hess Corporation (AHC).

BPX requests your review and approval of the POD and an extension of the Unit Agreement for a two year term coincident with the POD term pursuant to Article 14.2 (b) of the Unit Agreement. We are also requesting strict confidentiality of the purchase and sale terms as outlined in paragraph two of this letter.

Letter - J.E.Eason, DNR & J.Walker, MMS - Anchorage  
Re: Plan of Development, Northstar Un., N/S, Alaska  
January 23, 1995  
Page 2 of 2

Thank you for your flexibility in discussing the Unit Agreement with BPX on short notice.

Very truly yours,



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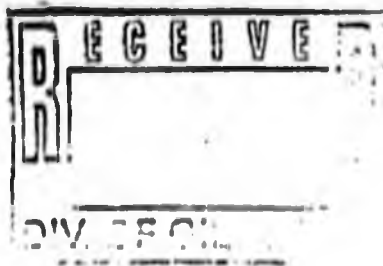
E. P. Zselezky, Jr.  
Land Manager, Alaska

EPZ:lbs

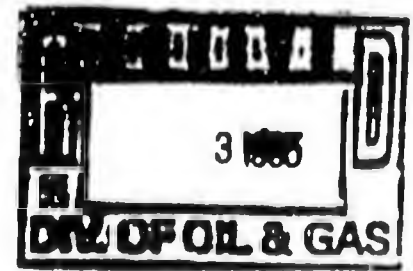
Enclosures

cc: Mr. John Shively, Commissioner,  
Alaska Department of Natural Resources

Ms. Judith Gottlieb,  
Regional Director, Minerals Mgmt. Service



NORTHSTAR UNIT  
PLAN OF DEVELOPMENT



This two-year Plan of Development is submitted to the Commissioner of Natural Resources, State of Alaska, and to the Regional Supervisor, Field Operations, of the Minerals Management Service pursuant to Article 8 of the NorthStar Unit Agreement. The Plan describes proposed development activities based on data reasonably available at the time of submission in accordance with 11 AAC 83.343.

**Introduction:**

In 1980, Northstar/Seal leases were awarded to Amerada Hess Corporation, Amoco, Murphy Oil USA Inc., Shell Oil, and Texas Eastern as a result of successful bidding in the 1979 BF lease sale. Since that time, four wells were drilled on Seal Island: three were successful in finding hydrocarbon in the Ivishak formation, the fourth well was a dry hole. Northstar Island was constructed in 1984. Two wells were drilled; one was successful confirming the extension of the Ivishak; the second well was abandoned because of mechanical downhole difficulties before it reached the Ivishak.

Four of the six wells (BF-46 #1, BF-47 #1, OCS-Y-181, and BF-57 #1) have been certified by the State of Alaska or the Minerals Management Service as capable of producing in paying quantities. In 1994, the Northstar Unit Working Interest Owners (WIOs) abandoned the two exploration islands with the approval of the Department of Environmental Conservation.

In late 1994 BP Exploration (Alaska) Inc. entered into discussions on acquiring Amerada Hess Corporation's interest and operatorship in the Northstar Unit. By the middle of January, 1995, an agreement was reached and BPXA became the operator of the Northstar Unit. Discussions are currently ongoing with the other Working Interest Owners to determine their interest in development and to review the current geophysical and engineering work completed for the possible development of a producing Unit.

**Previous Plan Of Development:**

Amerada Hess, as operator of the Northstar Unit has completed the 1990 approved Five Year Plan of Development. The requirements of the approved plan were achieved, although the islands were not maintained as originally planned. The Northstar and Seal Islands were abandoned, with agency approval, in 1994.

## Proposed Plan of Development:

BP Exploration (Alaska) Inc. hereby submits this two year Plan of Development on behalf of the Northstar Unit working Interest Owners to satisfy the requirements of Article 8 of the Northstar Unit Operating Agreement. This plan is composed of two parts, the first part will include determining Working Interest Owner commitment to the ultimate development of the Unit by reviewing all proposed development plans and options as well as reservoir modeling and conceptual engineering work to establish a base development plan. On the ground Environmental data gathering and studies ( ice and water movement, water quality and benthic sampling, waterfowl presence, etc.) to support an Environmental Assessment will also commence in 1995 to support the various permit applications required for the development of the hydrocarbon reserves. Some of the Environmental data gathering could commence this winter with ice and water movements. BP intends to start the process of meetings with the North Slope Borough and State and Federal agencies to ensure the permit approvals for the 1996 3-D seismic acquisition.

Early agency participation and involvement, especially with the North Slope Borough, is included in this Plan of Development. This is to ensure the scope of work and timelines are well established in order to define a permissible project development plan. This project will also include participation by representatives of the Alaska Department of Natural Resources and the Minerals Management Service and other agencies as are necessary to ensure the success of the project. The intent of BPXA is to assimilate the collective knowledge of the Current Working Interest Owners of the Northstar Unit and to also partner with the State and Federal participants to leverage their knowledge and skills in determining a development plan that will satisfy the National and State's Best Interests.

The second part of the Plan of Development is a summer 1996 3-D Seismic Program to delineate the reservoir for optimum location of the development wells and positioning of the Offshore structure for drilling and development. We will be working very closely with the North Slope Borough, especially the Whalers Association to minimize disturbances to the annual whaling season. Additional follow-on environmental work will also be included in 1996.

The intent of the two part program is to define a base development plan in 1995 in cooperation with all major stakeholders, including WIOs, the State DNR and Federal MMS, and also to delineate the optimum location of the production wells and position of the production structure.

The proposed joint work plan is as follows:

Commitment	Part 1	Year
Finalize Amerada Hess acquisition and data transfer		Q1 / 95
Create a cooperative Stakeholder Relationship		Q1 / 95
Obtain WIO commitment to ultimate development		Q1 / 95
Partner with State DNR & Federal MMS & NSB		Q1 / 95
Review of all existing development options		Q1 / 95
Define scope of reservoir/conceptual engineering		Q2 / 95
Review Permitting requirements with regulators		Q2 / 95
Initiate On the Ground Environmental Studies		Q2 / 95
Initiate Permitting for the 1996 3-D seismic		Q2 / 95
Joint Industry/Agency review		Q3 / 95
Draft Environmental Assessment/Project Description		Q4 / 95

Commitment	Part 2	Year
Permit approvals/Field Planning for 3-D Seismic		Q1 / 96
Initiate Preliminary Facility/Pipeline Engineering		Q1 / 96
Initiate Follow-on Environmental studies		Q2 / 96
Summer 3-D seismic acquisition		Q3 / 96
Seismic Processing		Q3 / 96
Pre-Application meetings with agencies		Q3 / 96
Final Environmental Assessment/Project Description		Q4 / 96
Submittal of Project construction Permit applications		Q1 / 97

The combined estimated cost for the proposed plan of development for the two year Plan of Development is \$10,000,000. The scope of the work will follow the requirements of the regulations and the outcomes of the Stakeholder meetings.

W TONY KNOWLES, GOVERNOR

DEPT. OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

P.O. BOX 107034  
ANCHORAGE, ALASKA 99510-7034  
PHONE: (907) 782-2533

cc Bill  
Mike  
Ken  
Hanson  
Rich  
Mark

January 24, 1995

Via Fax (564-5132)

Mr. Pete Zseleccky  
Land Manager, Alaska  
BP Exploration (Alaska) Inc.  
P. O. Box 196612  
Anchorage, Alaska 99519-6612

Dear Mr. Zseleccky:

This is in response to your letter dated January 13, 1995 requesting an extension of not less than 90 days to allow BP to submit a new plan of development for the Northstar Unit.

Since your letter, the division has had two meetings with representatives of BP and the MMS. In addition, BP has submitted a proposed plan of development, but has stated that with more time it could submit a more detailed and decisive plan. Based upon our discussions, BP's representations and submittals, and MMS's information, I believe that it is in everyone's best interest to allow BP additional time to conclude its acquisition and to formulate a new plan of development.

The extension is conditioned on BP's following through on its offer to make its technical staff available to the division and working with the division and the MMS to find an acceptable plan to further all parties' interest during the extension period. Accordingly, BP's request for an extension to file a proposed plan of development is extended to April 30, 1995.

Sincerely,

  
James E. Eason  
Director

cc: Barry Boudreau, MMS (via fax - 271-6805)  
Patrick Coughlin, Department of Law  
Marty K. Rutherford, Acting Commissioner, DNR



## United States Department of the Interior

## MINERALS MANAGEMENT SERVICE

Alaska Outer Continental Shelf Region  
949 E. 36th Avenue, Room 603  
Anchorage, Alaska 99508-4502

IN SEPLYE EPPA TTI

JAN 24 1995

Mr. E. P. Zselezky, Jr.  
Land Manager, Alaska  
BP Exploration (Alaska) Inc.  
P.O. Box 196612  
Anchorage, Alaska 99519-6612

Dear Mr. Zselezky:

We have reviewed the revised Plan of Development and request for an extension of the Northstar Unit Agreement submitted by BP Exploration (Alaska) Inc. (BPX) on January 23, 1995. After further discussion with the State of Alaska and BPX we have agreed to an extension of the unit term to April 30, 1995, as provided by Article 14.2(b) of the Northstar Unit Agreement. The State of Alaska and MMS grant this extension to allow BPX time to prepare a more detailed Plan of Development and schedule of activities and to allow for a more comprehensive review of BPX's proposal.

A new or revised Unit Plan of Development must be approved prior to the end of this extension in order to maintain the Unit Agreement beyond April 30, 1995.

We look forward to working with you and the State of Alaska over the next several months. If you have any further questions, please contact either myself or Tom Murrell at (907) 271-6065.

Sincerely,

Barry A. Boudreau  
Regional Supervisor  
Field Operations

cc: Ms. Marty Rutherford  
Acting Commissioner  
Department of Natural Resources  
3601 C Street, #1210  
Anchorage, AK 99503



BP EXPLORATION

Alaska Exploration & Developments

BP Exploration (Alaska) Inc  
300 East Benson Boulevard  
PO Box 196612  
Anchorage, Alaska 99519-6612  
907 561-5111

March 30, 1995

Mr. Kenneth Boyd, Deputy Director  
State of Alaska  
Department of Natural Resources  
Division of Oil and Gas  
3601 C Street, 13th Floor  
Anchorage, Alaska 99503

Mr. Barry Boudreau  
Regional Supervisor  
Field Operations  
U.S. Dept. of the Interior  
Minerals Management Service  
Alaska Outer Continental Shelf Region  
949 East 36th Avenue, Room 614  
Anchorage, Alaska 99508-4302

Re: Plan of Development, Northstar Unit,  
North Slope, Alaska

Gentlemen:

Please find enclosed for your review two (2) copies each of an updated Plan of Development (POD) for the Northstar Unit. This POD is submitted by BP Exploration (Alaska) Inc. (BPX), on behalf of itself, as Unit Operator of the Northstar Unit and Murphy Exploration & Production Company.

BPX requests your review and approval of the POD and an extension of the Unit Agreement for a three (3) year term coincident with the POD term pursuant to Article 14.2 (b) of the Unit Agreement.

We are available to meet with you to discuss this Plan at your earliest convenience. Please telephone me should you have any questions.

Very truly yours,

\_\_\_\_\_  
E. P. Zseleczky, Jr.  
Land Manager, Alaska  
Phone: 564-5083

RECEIVED

MAR 30 1995

DIVISION OF OIL & GAS

Enclosures

Received by:   
Title: ACTL  
Date: 3/30/95

Letter - K. Boyd, DNR & B. Boudreau, MMS - Anchorage  
Re: Plan of Development, Northstar Unit, N/S, Alaska  
March 30, 1995  
Page 2 of 2

cc: Mr. John Shively, Commissioner,  
Alaska Department of Natural Resources

Ms. Judith Gottlieb,  
Regional Director, Minerals Mgmt. Service

Mr. Jim Hunt,  
Murphy Exploration & Production Company

**NORTHSTAR UNIT  
1995-1997 PLAN OF DEVELOPMENT**

MAR 30 1995

DIVISION OF OIL & GAS

The following three year Plan of Development is submitted to the Commissioner of Natural Resources, State of Alaska, and to the Regional Supervisor, Field Operations, of the Minerals Management Service pursuant to Article 8 of the Northstar Unit Agreement. The Plan describes proposed development activities based on data reasonably available at the time of submission in accordance with 11 AAC 83.343 and 30CFR 250.

**Introduction:**

Northstar Unit leases (ADLs 312798, 312799, 312808, 312809, Y0179 and Y0181) were acquired by Amerada Hess Corporation, Amoco, Murphy Oil USA Inc., Shell Oil, and Texas Eastern as a result of successful bidding in the 1979 joint state/federal Sale 30/BF Lease Sale. A seventh lease (ADL 355001) was acquired in 1983 at State Lease Sale 39.

Since the leases were issued, six exploration wells have been drilled in the Unit area. Four wells were drilled from Seal Island, three of which were successful in finding hydrocarbons in the Ivishak formation. The fourth well was a dry hole. Two wells were drilled from Northstar Island; one well confirmed the extension of the Ivishak formation; the second well was abandoned because of mechanical difficulties downhole before it reached the Ivishak formation.

Four of the six wells BF-46 #1 (North Star #1), BF-47 #1 (Seal Island #1), BF-57 #1 (Seal Island #3), and OCS-Y-181 #1 (Northstar #1) have been certified by the State of Alaska or the Minerals Management Service as capable of producing in paying quantities.

The Northstar Unit Working Interest Owners abandoned Seal and North Star islands with the approval of State and Federal Agencies in 1994.

In late 1994 BP Exploration (Alaska) Inc. (BPXA) entered into discussions for acquisition of a working interest and operatorship of the Northstar Unit. By the end of February, 1995 agreements were reached with Amerada Hess Corporation and Shell Frontier Oil & Gas Inc. for their interests. BPXA assumed operatorship of the Northstar Unit. Discussions are currently ongoing with the remaining Working Interest Owner (Murphy Exploration and Production Company) to review the current geophysical and engineering work completed to date and plan for development of, and production from the Unit.

**1990-1995 Plan Of Development Status:**

Amerada Hess, as operator of the Northstar Unit, has completed requirements of the 1990 - 1995 Five Year Plan of Development. The requirements of the plan were achieved, although the Northstar and Seal Islands were abandoned in 1994.

## 1995-1998 Proposed Plan of Development:

BP Exploration (Alaska) Inc., as Northstar Unit Operator, hereby submits this three year Plan of Development on behalf of the Northstar Unit Working Interest Owners to satisfy the requirements of Article 8 of the Northstar Unit Operating Agreement.

The intent of the three part program is to define 1.) a base development plan in 1995 in cooperation with all major stakeholders, including the Northstar WIOs, the State Department of Natural Resources and Federal Minerals Management Service, 2.) to delineate the optimum location of the production wells and position of the production structure using 3-D seismic and finally during early 1997 3.) to commit to a scope and timing for Northstar development. This plan is composed of three parts:

### Part 1: Data Gathering/Project Development - 1995 thru 1998

Part 1 of the Plan of Development involves 1.) determining Working Interest Owner commitment to a plan of development for the Unit, 2.) commencement of environmental data gathering and studies, 3.) early agency participation and involvement, 4.) promulgation of marine mammal incidental take regulations and 5.) the signing of a cooperative agreement with the Alaska Eskimo Whalers Commission.

The Northstar Unit Working Interest Owner will determine their commitment to a plan of development for the Unit. This will be accomplished by reviewing development scenarios (including conceptual engineering and reservoir modeling) to establish an economically and environmentally sound base development plan.

On the ground environmental data gathering and studies (ice and water movement, benthic sampling, and wildlife presence) to support an Environmental Assessment and permitting requirements will commence in early 1995.

BPXA will seek the early participation and involvement of local, state and federal regulatory agencies. This is being done to ensure that a scope of work and timelines are well established so that 1.) permit approvals for 3-D seismic operations planned for the summer 1996 are issued in a timely manner, 2.) a project development plan is developed which addresses concerns of the regulatory agencies and 3.) promotes the concept of partnering and shared benefits between the Northstar Working Interest Owners and the public interest as represented by the various regulatory agencies.

In addition to the regular permitting issues, we anticipate that the promulgation of incidental take regulations for exploration, production and development activities will possibly require two years or more.

An Oil/Whalers Agreement that addresses concerns of local subsistence users will also need to be negotiated. The intent of BPXA is to assimilate the collective knowledge of the Northstar Unit Working Interest Owners, North Slope Borough, State and Federal regulatory agencies to leverage their knowledge and skills in determining a development plan that will serve the Nation's and State's Best Interests.

## Part 2: 3-D Seismic Acquisition - Summer 1996

Part 2 of the Plan of Development is focused on the summer 1996 3-D Seismic Acquisition Program. This program will be used to delineate the reservoir and assess the optimum location for drilling and production facilities. BPXA will be working very closely with the North Slope Borough, and the Alaska Eskimo Whalers Commission (AEWC) to minimize impacts of the seismic program on the annual whaling season.

Environmental studies not completed in 1995 will continue during 1996.

## Part 3: Overall Project Sanction Request - 1997

Part 3 of the Plan of Development addresses the processes and procedures leading to BPXA's request for sanction of the Northstar development project including identification of a target date for production start-up. This part of the plan includes the submittal of project construction permit applications, agency review of the applications (including appropriate opportunities for public comment), BPXA receipt of permit approvals and BPXA's internal request for sanction of the project.

It is recognized that funding commitments will depend on the economic competitiveness of the project compared to other BP projects worldwide, the business climate (oil price, etc.) and the status of the external permitting processes.

### Plan of Development Part 1

Amerada Hess/Shell Oil acquisition and data transfer	Q1 / 95
Create a cooperative Stakeholder Relationship	Q1 / 95
Obtain WIO commitment to ultimate development	Q1 / 95
Partner with State DNR & Federal MMS & NSB	Q1 / 95
Review development options	Q2 / 95
Define scope of reservoir/conceptual engineering	Q2 / 95
Review Permitting requirements with regulators	Q2 / 95
Initiate On the Ground Environmental Studies	Q2 / 95
Initiate permit preparation for:	
- 1996 3-D seismic	Q2 / 95
- Incidental Take Regulations	Q2 / 95
- Federal and State Construction permits	Q2 / 95
Joint Industry/Agency review	Q3 / 95
Draft Environmental Assessment/Project Description	Q4 / 95
Submit permit applications for:	
- 1996 3-D seismic	Q4 / 95
- Incidental Take Regulations	Q4 / 95

- Risks to delivery:
  - Adequate open water season
  - Federal / State jurisdictional conflicts

## Plan of Development Part 2

Permit Approvals/Field Planning for 3-D Seismic	Q1 / 96
Initiate Preliminary Facility/Pipeline Engineering	Q1 / 96
Initiate Follow-on Environmental studies	Q2 / 96
Summer 3-D seismic acquisition	Q3 / 96
Seismic Processing	Q3 / 94
Reservoir description	Q4 / 96
Pre-Application meetings with agencies	Q4 / 96
Final Environmental Assessment/Project Description	Q4 / 96

- Risks to delivery:
  - Adequate open water season
  - Extension of Incidental Take Regulations for Exploration
  - Successful negotiation of Oil/Whalers Agreement

## Plan of Development Part 3

Submittal of Proj Construction Permit applications	Q1 / 97
Agency review and public comment period	Q1 / 97
Integrate 3D Seismic and Reservoir Description	Q2 / 97
Permit approvals received or "in final review"	Q3 / 97
BPXA internal sanction request	Q4 / 97

- Risks to delivery:
  - EIS required thereby postponing approval dates
  - Development and production economics
  - Promulgation of Incidental Take Regulations for Production

The combined estimated cost for the proposed plan of development for the three year Plan of Development is approximately \$12,000,000. BPXA intends to have yearly reviews to discuss results and plans and, despite the risks noted, we are committed to this program and will proceed to identify opportunities to accelerate parts of the plan.



IN REPLY REFER TO

United States Department of the Interior

MINERALS MANAGEMENT SERVICE

Alaska Outer Continental Shelf Region  
949 E. 36th Avenue, Room 603  
Anchorage, Alaska 99508-4302

RECEIVED

MAY 04 1995

DIVISION OF OIL & GAS

MAY 1 1995

cc Bill  
Mike

Mr. E. P. Zselezcky, Jr.  
Land Manager, Alaska  
BP Exploration (Alaska), Inc.  
P.O. Box 196612  
Anchorage, Alaska 99519-6612

Dear Mr. Zselezcky:

We have reviewed the revised Northstar Plan of Development, your request for an extension of the Northstar Unit Agreement, and your request for a suspension of operations for leases OCS Y-0179 and Y-0181 dated March 30, 1995.

The revised Plan of Development includes a new schedule of activities which are deemed necessary to bring the unit into production. Accordingly, a 3-year extension of the unit term is approved, subject to approval by the State of Alaska. The new termination date for the unit is April 30, 1998, unless the unit term is extended by production or other activities under an approved Unit Plan of Development. A new or revised Unit Plan of Development must be approved prior to the end of this extension in order to maintain the Unit Agreement beyond April 30, 1998.

During the term of this extension, BP will be required to submit an annual status report reflecting the past year's unit activities and those unit activities planned for the upcoming year. The annual report must be received by May 1st of each year.

Leases OCS-Y 0179 and OCS-Y 0181 are committed to the Northstar Unit and a suspension consistent with the term of the unit is warranted and in the National interest. Accordingly, a 3-year suspension of operations for leases OCS-Y 0179 and OCS-Y 0181 is approved pursuant to 30 CFR 250.10. Termination of the Northstar Unit Agreement would result in termination of this suspension. The period of suspension will commence on May 1, 1995, and will terminate on April 30, 1998.


We are notifying the Minerals Management Service Royalty Management Division of this action by copy of this letter. Please be advised that, in accordance with 30 CFR 218.154, the rental or minimum royalty payments on leases OCS-Y 0179 and OCS-Y 0181 must continue to be made during the period of suspension. Any questions concern-

ing the rentals or minimum royalty payments should be addressed to the Royalty Management Division at the following address:

Associate Director for Royalty Management  
Minerals Management Service  
P.O. Box 25165  
Denver, Colorado 80225

We look forward to working with you, the State of Alaska, the North Slope Borough, and other Federal agencies on this project. If you have any further questions, please contact either myself or Tom Murrell at (907) 271-6065.

Sincerely,



Barry A. Boudreau  
Regional Supervisor  
Field Operations

✓cc: Ken Boyd  
Acting Director, Division of Oil & Gas  
Department of Natural Resources  
3601 C Street, #1210  
Anchorage, AK 99503

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

3601 C STREET, SUITE 1380  
ANCHORAGE, ALASKA 99503-5948  
PHONE: (907) 762-2549

(907)762-2547

June 2, 1995

BP Exploration (Alaska) Inc.  
PO Box 196612  
Anchorage, Alaska 99519-6612

Attn: Peter Zselezcky, Land Manager

Subject: Northstar Unit  
Proposed Unit Plan of Development

Dear Mr. Zselezcky:

The Division of Oil and Gas has reviewed the proposed Second Northstar Unit Plan of Development (POD) and BPX's request for an extension of the Northstar Unit Agreement for a three year term coincident with the three year POD, dated March 30, 1995.

The proposed Second POD and the three year extension of the Northstar Unit (NSU) is approved subject to the following conditions:

1) During the three year term of the POD, BPX must submit an annual status report describing the unit activities conducted during the preceding year and the unit activities planned for the coming year. The annual report shall be filed with the Division by May 1 of each year.

2) The Division remains concerned with the appropriateness of continuing to include ADL 355001 within the NSU. In Part 2 of the proposed Second NSU POD, BPX plans to acquire and process 3-D seismic data during the 3rd Quarter 1996, and have a reservoir description available by the 4th Quarter 1996. BPX must present the results of the 3-D seismic acquisition program and the reservoir description to the Division by December 15, 1996. If the 3-D data is not acquired and the presentation not made to the Division, ADL 355001 will contract from the NSU as of December 31, 1996.

Mr. Peter Zseleczky

June 2, 1995

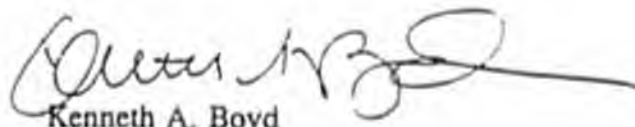
Page 2

The Division may waive the requirement for additional 3-D data on ADL 355001 specified in the preceding paragraph if, prior to December 15, 1996, BPX can provide other evidence demonstrating that ADL 355001 should remain within the NSU.

3) At least ninety (90) days before the termination of the three year extension period, the Division will require BPX to submit a report to the Division that synthesizes the data and studies performed by BPX during the extension period. The report shall include BPX's opinion of the extent and characteristics of the hydrocarbon accumulations within the NSU and address the development scenarios, timelines, and technical and environmental issues associated with developing the NSU. The report shall also include BPX's conclusions and recommendations regarding the development of the NSU.

Finally, the NSU will terminate on April 30, 1998, unless the unit term is extended by production or other activities under an approved NSU POD. A new or revised NSU POD must be submitted to the commissioner for approval at least 90 days before the expiration of the current plan.

Sincerely,



Kenneth A. Boyd  
Director

cc: Barry Boudreau, MMS  
Patrick Coughlin, ADCL  
Marty K. Rutherford

NSU.2ndPOD.Approve.txt

# STATE OF ALASKA

## DEPARTMENT OF NATURAL RESOURCES

JAY S. HAMMOND, GOVERNOR

MINERALS AND ENERGY MANAGEMENT

103 W. NORTHERN LIGHTS BLVD.  
ANCHORAGE, ALASKA 99503

December 27, 1979

### RESULTS OF THE 30TH COMPETITIVE OIL AND GAS LEASE SALE

A total of 200 bids were submitted on 71 state-managed tracts (BF-46 through BF-116) offered in the State of Alaska's 30th Competitive Oil and Gas Lease Sale, held jointly with the federal government on December 11, 1979, in Fairbanks, for exploration and development rights in the Beaufort Sea, for an area encompassing approximately 341,140.18 acres.

Additional lands were offered, and bids were received by the federal government for tracts which are subject to a dispute as to ownership between the state and federal governments. In accordance with a Memorandum of Understanding, these tracts were offered and will be managed by the federal government until the legal dispute is resolved; information concerning the bidding on these tracts may be obtained from the Outer Continental Shelf Office, Bureau of Land Management, U. S. Department of Interior. Four of the 71 state-managed tracts, namely, BF-64, BF-70, BF-71, and BF-116, are subject to this same dispute and Memorandum of Understanding.

Twenty-seven companies, 20 individuals, and one association participated in the bidding for 62 of the 71 state-managed tracts offered. The highest cash bonus bid was offered by Exxon Corporation for tract BF-110, a total of \$85,689,000.00 representing a bid of \$15,169.74 per acre. The lowest successful cash bonus bid was offered by Mary Gustafson, Cliff Burqlin, and Alberta H. Grant for tract BF-81, a total of \$14,312.05, representing a bid of \$5.00 per acre. Of the tracts offered under the net profit share system of bidding, the highest bid (93.2%) was submitted by Amerada Hess Corporation for tracts BF-46 and BF-69; and the lowest successful bid (2.76002%), by Chevron USA, Inc. for tract BF-66. The nine state-managed tracts receiving no bid were all offered under the net profits system of bidding.

The following is a breakdown of the sale results as a whole:

	Net Profits Tracts	Sliding Scale Royalty Tracts	Total
# of Bids	57	143	200
Average Bid/ Tract	\$60,738,921	\$10,573,464.13	\$9,151,475.76
Tracts Offered/ Acres	26/119,169.00	45/221,970.1	71/341,140.18
Tracts Bid/ Acres	17/74,337.38	45/221,970.27	62/296,307.65
Leased/Unleased	62.38/37.61	100%/0%	86.88/13.11
Total Bonus	\$91,585,611.25	\$475,805,886.23	\$567,391,497.48

Attached is a detailed recap of the bidding by tract and a list of the participants in the sale.

# SALE RESULTS - BidRecap by Tract

TRACT NO.	JCS NO.	BLUER NO.	ACRES	SUBDIVISION	ADL NO.
0046	70001	000470	4392.02	BLK 514	ADL 312798

312798

GRP NO.	NO.	PCT.	C O M P A N Y N A M E	BID PER ACRE	TOTAL BID	BID STANDIN
059	1002		AMERADA HESS CORPORATION	ROYALTY BID	91.20000	1 OF 6
				ROYALTY BID	80.56789	2 OF 6
235	502		TEXAS EASTERN EXPLOR. CO.			
040	502		TEXACO INC.			
114	1002		AMOCO PRODUCTION COMPANY	ROYALTY BID	71.12509	3 OF 6
				ROYALTY BID	61.67000	4 OF 6
129	102		TEXASGULF INC.			
001	202		CUNOCO INC			
066	222		PLACID OIL COMPANY			
369	202		CITIES SERVICE COMPANY			
				ROYALTY BID	40.79133	5 OF 6
109	102		MURPHY OIL CORPORATION			
117	902		SHELL OIL COMPANY			
				ROYALTY BID	34.46464	6 OF 6
056	502		PHILLIPS PETROLEUM CORP.			
078	502		CHEVRON USA INC			

TRACT NO.	JCS NO.	BLUER NO.	ACRES	SUBDIVISION	ADL NO.
0047	20002	000471	4472.37	BLK 515	ADL 312799

ADL 312799

059	1002		AMERADA HESS CORPORATION	ROYALTY BID	91.20000	1 OF 7
114	1002		AMOCO PRODUCTION COMPANY	ROYALTY BID	82.59999	2 OF 7
				ROYALTY BID	80.56789	3 OF 7
040	502		TEXACO INC.			
235	502		TEXAS EASTERN EXPLOR. CO.			
				ROYALTY BID	71.62539	4 OF 7
359	22		ROMAN PETROLEUM INC.			
001	202		CUNOCO INC			
129	52		TEXASGULF INC.			
005	202		GETTY OIL COMPANY			
066	132		PLACID OIL COMPANY			
112	202		GULF OIL CORPORATION			
369	202		CITIES SERVICE COMPANY			
				ROYALTY BID	56.77133	5 OF 7
109	102		MURPHY OIL CORPORATION			
117	902		SHELL OIL COMPANY			
				ROYALTY BID	43.26273	6 OF 7
056	332		PHILLIPS PETROLEUM CORP.			
039	332		MOBIL OIL COMPANY			
078	342		CHEVRON USA INC			
003	1002		UNION OIL COMPANY OF CALIF.	ROYALTY BID	32.00000	7 OF 7

TRACTS BF-48

52

NO BID

CBF053 23003 000523 5241.36 ADL 312805

001 1002 TENNECO OIL COMPANY ROYALTY BID 21.0000 1 OF

CBF054 23004 000521 5643.29 ADL 312806

001 1002 TENNECO OIL COMPANY ROYALTY BID 29.0000 1 OF

CBF055 23005 000522 5353.60 ADL 312807

001 1002 TENNECO OIL COMPANY ROYALTY BID 31.67000 1 OF

CBF056 23006 000516 3432.92 BLK 513 552 559 ADL 312808

001 1002 TEXAS EASTERN EXPLOR. ROYALTY BID 05.25978 1 OF

ROYALTY BID 38.12530 2 OF

- 129 02 TEXASGULF INC.
- 112 252 GULF OIL CORPORATION
- 001 252 CONOCO INC
- 056 162 PLACID OIL COMPANY
- 159 32 ROWAN PETROLEUM, INC.
- 167 252 CITIC SERVICE COMPANY

003 1002 UNION OIL COMPANY OF CALIFORNIA ROYALTY BID 29.50000 3 OF

ROYALTY BID 10.14550 4 OF

- 076 502 CHEVRON USA INC
- 056 502 PHILLIPS PETROLEUM COMP

ROYALTY BID 2.31111 5 OF

- 002 402 ATLANTIC RICHFIELD CORP
- 100 102 MURPHY OIL CORPORATION
- 117 302 SHELL OIL COMPANY

CBF057 23007 000516 5301.30 BLK 563 ADL 312809

001 1002 TEXAS EASTERN EXPLOR. ROYALTY BID 05.25978 1 OF

001 1002 AMOCO PRODUCTIONS COMPANY ROYALTY BID 23.25000 2 OF

ROYALTY BID 13.00000 3 OF

- 115 502 MARATHON OIL COMPANY
- 059 502 AMERADA HESS CORPORATION

ROYALTY BID 18.27500 4 OF

- 112 252 GULF OIL CORPORATION
- 066 162 PLACID OIL COMPANY
- 005 252 GETTY OIL COMPANY
- 129 02 TEXASGULF INC.
- 159 32 ROWAN PETROLEUM, INC.
- 167 252 CITIC SERVICE COMPANY

003 1002 UNION OIL COMPANY OF CALIFORNIA ROYALTY BID 38.00000 5 OF

ROYALTY BID 14.23333 6 OF

- 076 502 PHILLIPS PETROLEUM COMP

ROYALTY BID 31.00000 7 OF

- 002 452 ATLANTIC RICHFIELD CORP

39-11

BIO TALLY LIST - O/G LEASE SALE 39

May 17, 1983

Tract #	No. of Bids	Bidder	% ownership	Bid amount	Bid/Acre	20% dep	
DL 355001	3	Exxon Corp.	50%	60,300.00	10.49	12,060	
		Sohio Alaska	50%				
			Kelley Everette	5%	64,620.00	11.25	13,000.
			G. Burglin	15%			
			K. K. Everette POA	20%			
			Robert Malone POA	15%			
			Bruce Burglin POA	45%			
			James F. Dieringer, Jr.	15%	72,144.64	12.56	14,428.
			J. Andrew Bachner	30%			
			W. G. Stroecker	22.5%			
		Richard E. Wagner	32.5%				
002	3	Kelley Everette	5%	50,343.75	11.25	11,000.	
		G. Burglin	15%				
			K. K. Everette POA	20%			
			Robert Malone POA	15%			
			Bruce Burglin POA	45%			
			James F. Dieringer, Jr.	15%	69,631.00	15.56	13,926.2
			J. Andrew Bachner	30%			
			W. G. Stroecker	22.5%			
			Richard E. Wagner	32.5%			
		Exxon Corp.	50%	281,100.00	62.81	56,220.0	
		Sohio Alaska	50%				
003	3	Exxon Corp.	50%	39,200.00	10.08	7,040.0	
		Sohio Alaska	50%				
			Kelley Everette	5%	39,251.25	11.25	8,000.0
			G. Burglin	15%			
			K. K. Everette POA	20%			
			David Burglin POA	60%			
			James F. Dieringer, Jr.	15%	43,817.07	12.56	8,763.41
			J. Andrew Bachner	30%			
			W. G. Stroecker	22.5%			
			Richard E. Wagner	32.5%			
		Shell Oil Co.	50%	47,485.00	13.61	9,497.0	
		Amoco Production	50%				
		Amerada Hess Corp.	100%	1,212,295.45	347.50	242,459.09	

Tract #	No. of Bids	Bidder	% ownership	Bid amount	Bid/Acre	20% depo	
004	2	Kelley Everette	5%	49,905.00	11.25	10,000.00	
		C. Burglin	15%				
	K. K. Everette POA	20%					
	Mary Gustafson POA	60%					
	...		James F. Dieringer, Jr.	15%	69,013.42	15.56	13,801.68
	J. Andrew Bachner	30%					
	W. G. Stroecker	22.5%					
	Richard E. Wagner	32.5%					
	005	3	Kelley Everette	5%	57,600.00	11.25	12,000.00
			C. Burglin	15%			
K. K. Everette POA			20%				
Ladessa Nordale POA			15%				
Barbara Burglin POA			45%				
James F. Dieringer, Jr.		15%	64,307.20	12.56	12,861.44		
J. Andrew Bachner		30%					
W. G. Stroecker		22.5%					
Richard E. Wagner		32.5%					
Exxon Corp.		50%	4,116,800.00	804.06	832,360.00		
Sohio Alaska		50%					
006		3	Kelley Everette	5%	64,305.00	11.25	13,000.00
			C. Burglin	15%			
	K. K. Everette POA		20%				
	Michael Petrocele POA		15%				
	Joe Burglin POA		45%				
	James F. Dieringer, Jr.	15%	71,792.96	12.56	14,358.59		
	J. Andrew Bachner	30%					
	W. G. Stroecker	22.5%					
	Richard E. Wagner	32.5%					
	Exxon Corp.	50%	1,104,500.00	193.22	220,900.00		
	Sohio Alaska	50%					

Tract #	No. of Bids	Bidder	% ownership	Bid amount	Bid/Acre	20% dep.
007	3	Kelley Everette	5%	43,020.00	11.25	9,000
		C. Burglin	15%			
		K. K. Everette POA	20%			
		Constance Cole POA	15%			
		Joe Burglin POA	45%			
		James F. Dieringer, Jr.	15%	59,501.44	15.56	11,900.
		J. Andrew Bachner	30%			
		W. G. Stroecker	22.5%			
		Richard E. Wagner	32.5%			
		Exxon Corp.	50%	70,300.00	18.38	14,060.0
		Sohio Alaska	50%			
008	4	Kelley Everette	5%	59,343.75	11.25	12,000.0
		C. Burglin	15%			
		K. K. Everette POA	20%			
		Bernard Shier POA	15%			
		Bruce Burglin POA	45%			
		Shell Oil Co.	50%	73,457.00	13.92	14,691.4
		Amoco Production Co.	50%			
		James F. Dieringer, Jr.	15%	82,075.89	15.56	16,415.1
		J. Andrew Bachner	30%			
		W. G. Stroecker	22.5%			
		Richard E. Wagner	32.5%			
Placid Oil Co.	100%	131,870.00	25.00	26,374.00		
009	4	Kelley Everette	5%	53,167.50	11.25	11,000.00
		C. Burglin	15%			
		K. K. Everette POA	20%			
		Constance Cole POA	15%			
		Brian Burglin POA	45%			
		James F. Dieringer, Jr.	15%	59,347.26	12.56	11,869.45
		J. Andrew Bachner	30%			
		W. G. Stroecker	22.5%			
		Richard E. Wagner	32.5%			
		Shell Oil Co.	50%	84,729.00	17.93	16,945.80
		Amoco Production Co.	50%			
Placid Oil Co.	100%	118,127.50	25.00	23,625.50		

Tract #	No. of Bids	Bidder	% ownership	Bid amount	Bid/Acre	20% depo
010	3	Shell Oil Co.	50%	58,431.00	10.14	11,686.
		Amoco Production Co.	50%			
		Kelley Everette	5%			
	C. Burglin	15%				
	K. K. Everette POA	20%				
	Ed Carlson	15%				
	David Burglin	45%				
	James F. Dieringer, Jr.	15%	89,625.60	15.56	17,925.1	
	J. Andrew Bachner	30%				
	W. G. Stroecker	22.5%				
Richard E. Wagner	32.5%					
011	4	Kelley Everette	5%	64,125.00	11.25	13,000.00
		C. Burglin	15%			
		K. K. Everette POA	20%			
		Mary Gustafson POA	60%			
	James F. Dieringer, Jr.	15%	88,692.00	15.56	17,738.40	
	J. Andrew Bachner	30%				
	W. G. Stroecker	22.5%				
	Richard E. Wagner	32.5%				
	Shell Oil Co.	50%	210,794.00	36.98	42,158.80	
	Amoco Production Co.	50%				
	Texaco Inc.	1/3%	410,400.00	72.00	82,080.00	
	Amerada Hess Corp.	1/3%				
	Placid Oil Co.	1/3%				
012	2	Kelley Everette	5%	57,600.00	11.25	12,000.00
		C. Burglin	15%			
		K. K. Everette POA	20%			
		Ed Carlson POA	15%			
		Barbara Burglin POA	45%			
	James F. Dieringer, Jr.	15%	79,667.20	15.56	15,933.44	
	J. Andrew Bachner	30%				
	W. G. Stroecker	22.5%				
Richard E. Wagner	32.5%					

Tract #	No. of Bids	Bidder	% ownership	Bid amount	Bid/Acre	20% depo
013	2	Shell Oil Co.	50%	55,793.00	10.47	11,158.
		Amoco Production Co.	50%			
		Kelley Everette	5%	59,906.25	11.25	12,000.
		C. Burglin	15%			
		K. K. Everette POA	20%			
		Jack Randolph POA	15%			
Joseph Burglin POA	45%					
014	1	Kelley Everette	5%	56,463.75	11.25	12,000.00
		C. Burglin	15%			
		K. K. Everette POA	20%			
		Frank McGilvary POA	15%			
		James Burglin POA	45%			
015	3	Shell Oil Co.	50%	46,112.00	10.29	9,222.40
		Amoco Production Co.	50%			
		Kelley Everette	5%	50,400.00	11.25	11,000.00
		C. Burglin	15%			
		K. K. Everette POA	20%			
		Bruce Burglin POA	60%			
		James F. Dieringer, Jr.	15%	69,708.80	15.56	13,941.76
		J. Andrew Bachner	30%			
		W. G. Stroecker	22.5%			
		Richard E. Wagner	32.5%			
016	2	Kelley Everette	5%	57,048.75	11.25	12,000.00
		C. Burglin	15%			
		K. K. Everette POA	20%			
		Bruce Burglin POA	15%			
		Brian Burglin POA	45%			
		James F. Dieringer, Jr.	15%	63,691.76	12.56	12,738.35
		J. Andrew Bachner	30%			
		W. G. Stroecker	22.5%			
		Richard E. Wagner	32.5%			

Tract #	No. of Bids	Bidder	% ownership	Bid amount	Bid/Acre	20% dep	
017	3	Kelley Everette	5%	50,400.00	11.25	11,000.	
		C. Burglin	15%				
		K. K. Everette POA	20%				
		David Burglin POA	60%				
	-----		James F. Dieringer, Jr.	15%	69,708.80	15.56	13,941.
			J. Andrew Bachner	30%			
			W. G. Stroecker	22.5%			
			Richard E. Wagner	32.5%			
			Chevron U.S.A. Inc.	33.33%	351,000.00	78.35	70,200.0
			Conoco Inc.	66.67%			
	018	4	Kelley Everette	5%	57,183.75	11.25	12,000.0
			C. Burglin	15%			
K. K. Everette POA			20%				
Mary Gustafson POA			60%				
		James F. Dieringer, Jr.	15%	79,091.48	15.56	15,818.3	
		J. Andrew Bachner	30%				
		W. G. Stroecker	22.5%				
		Richard E. Wagner	32.5%				
		Amerada Hess Corp.	50%	195,695.50	38.50	39,139.10	
		Diamond Shamrock Corp.	50%				
		Chevron U.S.A. Inc.	33.33%	808,000.00	158.96	161,600.00	
		Conoco Inc.	66.67%				
019	2	Kelley Everette	5%	53,088.75	11.25	11,000.00	
		C. Burglin	15%				
		K. K. Everette POA	20%				
		Barbara Burglin POA	60%				
			Amerada Hess Corp.	50%	118,632.15	25.14	23,726.43
			Diamond Shamrock Corp.	50%			
020	2	Kelley Everette	5%	58,522.50	11.25	12,000.00	
		C. Burglin	15%				
		K. K. Everette POA	20%				
		Joseph Burglin POA	60%				
			James F. Dieringer, Jr.	15%	65,333.73	12.56	13,066.75
			J. Andrew Bachner	30%			
		W. G. Stroecker	22.5%				
		Richard E. Wagner	32.5%				

Tract #	No. of Bids	Bidder	% ownership	Bid amount	Bld/Acre	20% dep		
021	3	Kelley Everette	5%	57,600.00	11.25	13,000		
		C. Burglin	15%					
		K. K. Everette POA	20%					
		James Burglin POA	60%					
-----			100%	73,165.00	14.29	14,633.		
-----			50%	257,177.60	50.23	51,435		
-----			50%					
022	2	Kelley Everette	5%	64,507.50	11.25	13,000.		
		C. Burglin	15%					
		Gene Everette POA	20%					
		Bruce Burglin POA	60%					
		-----			15%	89,221.04	15.56	17,844..
		-----			30%			
		-----			22.5%			
		-----			32.5%			
023	4	Kelley Everette	5%	58,218.75	11.25	13,000.0		
		C. Burglin	15%					
		Gene Everette POA	20%					
		Brian Burglin POA	60%					
		-----			15%	80,523.00	15.56	16,104.6
		-----			30%			
		-----			22.5%			
		-----			32.5%			
		-----			50%	606,000.00	117.10	121,200.0
		-----			50%			
		-----			100%	2,365,233.75	457.03	473,046.7
		024	3	Kelley Everette	5%	62,715.00	11.25	13,000.00
C. Burglin	15%							
Gene Everette POA	20%							
David Burglin POA	60%							
-----				15%	86,824.80	15.56	17,364.90	
-----				30%				
-----				22.5%				
-----				32.5%				
-----				100%	984,7511.40	176.48	196,951.68	

Tract #	No. of Bids	Bidder	% ownership	Bid amount	Bld/Acre	20% depo:
025	2	Kelley Everette	5%	41,411.25	11.25	11,000.00
		C. Burglin	15%			
		Gene Everette POA	20%			
		George Berry POA	20%			
		Mary Gustafson POA	40%			
James F. Dieringer, Jr.			15%	57,267.96	15.56	11,453.50
J. Andrew Bachner			30%			
W. G. Stroecker			22.5%			
Richard E. Wagner			32.5%			
026	2	Kelley Everette	5%	64,800.00	11.25	13,000.00
		C. Burglin	15%			
		Gene Everette POA	20%			
		Constance Cole POA	15%			
		Barbara Burglin POA	45%			
James F. Dieringer, Jr.			15%	89,625.60	15.56	17,925.12
J. Andrew Bachner			30%			
W. G. Stroecker			22.5%			
Richard E. Wagner			32.5%			
027	3	Kelley Everette	5%	48,993.75	11.25	11,000.00
		C. Burglin	30%			
		Gene Everette POA	20%			
		Joseph Burglin POA	45%			
		James F. Dieringer, Jr.				
J. Andrew Bachner			30%			
W. G. Stroecker			22.5%			
Richard E. Wagner			32.5%			
Chevron U.S.A. Inc.			100%	88,750.00	20.38	17,750.00
028	3	Kelley Everette	5%	53,887.50	11.25	11,000.00
		C. Burglin	30%			
		Gene Everette POA	20%			
		James Burglin POA	45%			
		Chevron U.S.A. Inc.				
James F. Dieringer, Jr.			15%	60,157.63	12.56	12,031.53
J. Andrew Bachner			30%			
W. G. Stroecker			22.5%			
Richard E. Wagner			32.5%			

Tract #	No. of Bids	Bidder	% ownership	Bid amount	Bid/Acre	20% det	
029	3	Kelley Everette	5%	49,725.00	11.25	13,000	
		C. Burglin	15%				
		Gene Everette POA	20%				
		Bruce Burglin POA	60%				
	----- Chevron U.S.A. Inc. -----			100%	53,630.00	12.13	10,725
	James F. Dieringer, Jr.			15%	55,515.20	12.56	11,100
	J. Andrew Bachner			30%			
	W. G. Stroecker			22.5%			
	Richard E. Wagner			32.5%			
	030	3	Kelley Everette	5%	50,400.00	11.25	11,000
C. Burglin			15%				
Jack Sexton POA			20%				
Brian Burglin POA			60%				
James F. Dieringer, Jr.			15%	69,708.80	15.56	13,940	
J. Andrew Bachner			30%				
W. G. Stroecker			22.5%				
Richard E. Wagner			32.5%				
Arco Alaska, Inc.			100%	273,190.40	60.98	54,638.	
031		1	Kelley Everette	5%	64,355.00	11.25	13,000
	C. Burglin		15%				
	Jack Sexton POA		20%				
	David Burglin POA		60%				
	Arco Alaska, Inc.			100%			
032	3	Kelley Everette	5%	57,465.00	11.25	13,000	
		C. Burglin	15%				
		Jack Sexton POA	20%				
		Mary Gustafson POA	60%				
	James F. Dieringer, Jr.			15%	64,156.48	12.56	12,831.2
	J. Andrew Bachner			30%			
	W. G. Stroecker			22.5%			
	Richard E. Wagner			32.5%			
	Arco Alaska, Inc.			100%	262,295.80	51.35	52,459.

Tract #	No. of Bids	Bidder	% ownership	Bid amount	Bid/Acre	20% depo	
033	2	Kelley Everette	5%	44,808.75	11.25	13,000.00	
		C. Burglin	15%				
	Jack Sexton POA	20%					
	Barbara Burglin POA	60%					
	----- James F. Dieringer, Jr. -----			15%	50,024.85	12.56	10,004.5
	J. Andrew Bachner			30%			
	W. G. Stroecker			22.5%			
	Richard E. Wagner			32.5%			
	034	1	Kelley Everette	5%	64,800.00	11.25	13,000.00
			C. Burglin	15%			
Jack Sexton POA			20%				
Joseph Burglin POA			60%				
035	2	Kelley Everette	5%	64,125.00	11.25	13,000.00	
		C. Burglin	15%				
		Jack Sexton POA	20%				
		Joseph Burglin POA	60%				
	Chevron U.S.A. Inc.			50%	102,000.00	17.90	20,400.00
	Getty Oil Co.			50%			
	036	2	Kelley Everette	5%	64,800.00	11.25	13,000.00
			C. Burglin	15%			
Paul Quist POA			20%				
Charles Helmes POA			15%				
Bruce Burglin POA			45%				
Amerada Hess Corp.			50%	117,216.00			
Placid Oil Co.			50%				
037		4	Kelley Everette	5%	64,395.00	11.25	12,000.00
			C. Burglin	15%			
			Paul Quist POA	20%			
	Brian Burglin POA		60%				
	Union Oil Co. of CA			100%	70,691.40	12.35	14,138.28
	Chevron U.S.A. Inc.			40%			
	Getty Oil Co.			25%	440,155.00	76.90	88,031.00
	Gulf Oil Corp.			40%			
	Texaco Inc.			25%	4,081,212.00	713.00	816,242.40
	Amerada Hess Corp.			25%			
	Diamond Shamrock			25%			
	Placid Oil			25%			

Tract #	No. of Bids	Bidder	% ownership	Bid amount	Bid/Acre	20% def		
038	3	Kelley Everette	5%	64,800.00	11.25	13,000		
		C. Burglin	15%					
		Paul Culst POA	20%					
		Davia Burglin POA	60%					
----- Union Oil Co. of CA -----			100%	91,872.00	15.95	18,374		
Texaco Inc.			25%	241,920.00	42.00	48,384		
Amerada Hess Corp.			25%					
Diamond Shamrock			25%					
Placid Oil			25%					
039	3	Union Oil Co. of CA	100%	57,412.09	10.17	11,482		
		Kelley Everette	5%	63,417.50	11.25	13,000		
		C. Burglin	15%					
		Paul Culst POA	20%					
		Mary Gustafson POA	60%					
		Texaco Inc.			25%	2,054,867.36	364.00	410,973
		Amerada Hess Corp.			25%			
		Diamond Shamrock			25%			
		Placid Oil			25%			
		040	4	Kelley Everette	5%	57,802.50	11.25	13,000
C. Burglin	15%							
Paul Culst POA	20%							
James Johnson POA	15%							
Barbara Burglin	45%							
James F. Dieringer Jr. -				15%	79,942.77	15.56	15,988.5	
J. Andrew Bachner				30%				
W. G. Strocker				22.5%				
Richard E. Wagner				32.5%				
Arco Alaska, Inc.				100%	88,008.98	17.13	17,601.80	
Chevron U.S.A. Inc.				40%	102,580.00	19.97	20,516.0	
Getty Oil Co.				20%				
Gulf Oil Corp.				40%				

Tract #	No. of Bids	Bidder	% ownership	Bid amount	Bid/Acre	20% depo	
041	3	Kelley Everette	5%	51,356.25	11.25	11,000.00	
		C. Burglin	15%				
		Paul Quist POA	20%				
		Joseph Burglin POA	60%				
	<hr/>						
	James F. Dieringer Jr. 15% 71,029.84 15.56 14,205.9						
	J. Andrew Bachner 30%						
	W. G. Stroecker 22.5%						
	Richard E. Wagner 32.5%						
	<hr/>						
Chevron U.S.A., Inc. 100% 105,350.00 23.08 21,070.0							
047	2	Kelley Everette	5%	59,265.00	11.25	13,000.00	
		C. Burglin	15%				
		Paul Quist POA	20%				
		James Burglin POA	60%				
	<hr/>						
	James F. Dieringer Jr. 15% 81,962.14 15.56 16,392.43						
	J. Andrew Bachner 30%						
	W. G. Stroecker 22.5%						
	Richard E. Wagner 32.5%						

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FORM NO. DMEM-1-79A (NET PROFIT SHARE)  
(Revised November 5, 1979)

STATE OF ALASKA  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERALS AND ENERGY MANAGEMENT

Competitive Oil and Gas Lease

ADL No. 312798

THIS LEASE is made by and between the State of Alaska, acting by and through the Commissioner of Natural Resources or his authorized agent, hereafter referred to as "the State," and

Amerada Hess Corporation

hereafter referred to as "Lessee," whether one or more.

In consideration of the cash payment heretofore made by Lessee to the State, which payment includes the first year's rental and any required cash bonus, and the promises, terms, conditions and covenants contained herein, including the Stipulation(s) numbered

1, 2, 3, 6, 7, 8, 9, 12, 13, 14, 17 and 5

*See 6/7/79*

attached hereto and by this reference incorporated herein, the State and Lessee agree as follows:

1. GRANT (a) Subject to the promises, terms, conditions and covenants contained herein, the State hereby grants and leases to Lessee, without warranty, the exclusive right to drill for, extract, remove, clean, process and dispose of oil, gas and associated substances in or under the following described tract of land:

Tract C30--46 (BF-46) is a portion of Blocks 470 and 514 as shown on the "Leasing and Nomination Map" for the Federal/State Beaufort Sea Oil and Gas Lease Sale, dated 1/30/79, more particularly described as follows:

Those lands located Easterly of the West boundary of T13N, and T14N, R13E U.M. Ak. being the North-South line intersecting the North and South boundary of Block 470, within the offshore three-mile arc lines listed as state area of Block 470 "Supplemental Official O.C.S. Block Diagram" approved 10/4/79, containing 690.35 Hectares, and those lands in Block 514 Easterly of the West boundary of T13N, R13E, U.M. Ak. (being identical with line 1-2 of Block 514) and lying Northerly of the South boundary of Sections 7 and 8 T13N, R13E U.M. Ak. (being identical with line 2-3 of Block 514) and that portion of Section 16 T13N, R13E U.M. Ak. within the N $\frac{1}{2}$ S $\frac{1}{2}$  (being Easterly of line 3-4 of Block 514), being a portion of the listed state area of Block 514 on the "Supplemental Official O.C.S. Block Diagram" approved 12/9/79 containing 1087.37 Hectares.

(General Location: T14N,R13E; T13N,R13E; U.M., Ak.)

containing approximately 4392.82 acres, more or less (hereafter referred to as the "leased area"), the nonexclusive right to conduct within the leased area geological and geophysical exploration for oil, gas and associated substances, and the nonexclusive right to install pipelines and structures thereon to find, produce, save, store, treat, process, transport, take care of and market all such substances and to house and board employees in its operations thereon.

(b) For the purposes of this lease, the leased area contains the legal subdivisions as shown on the attached plot marked Exhibit A.

(c) If the leased area is described above by protracted legal subdivisions and the State hereafter causes the leased area to be surveyed under the public land rectangular system, the boundaries of the leased area are those established by such survey, when approved, subject, however, to the provisions of applicable regulations relating to such surveys. If for any reason the leased area includes more acreage than the maximum permitted under applicable law (including the "rule of approximation" authorized in AS 38.05.14G and defined in AS 38.05.365(13)), this lease is not void and the acreage included in the leased area shall be reduced to the permitted maximum. If the State determines that this lease exceeds the permitted acreage and notifies Lessee in writing of the amount of acreage that must be eliminated, Lessee shall have sixty (60) days after such notice to surrender one or more legal subdivisions included in the leased area comprising at least the amount of acreage that must be eliminated. Any such subdivision(s) surrendered must be located on the perimeter of the leased area as originally described. If such a surrender is not filed within sixty (60) days, the State may terminate this lease as to the acreage that must be eliminated by mailing notice of such termination to Lessee describing the subdivision(s) eliminated.

(d) If the State's ownership interest in the oil, gas and associated substances in the leased area is less than an entire and undivided interest, the grant under this lease is effective only as to the State's interest in that oil, gas and associated substances, and the royalties and rentals herein provided shall be paid to the State in the proportion which the State's interest bears to the entire undivided fee.

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2. RESERVED RIGHTS. (a) The State, for itself and others, reserves all rights not expressly granted to Lessee by this lease. Without limiting the generality of the foregoing sentence, such reserved rights include:

- (1) the right to explore for oil, gas and associated substances by geological and/or geophysical means;
- (2) the right to explore for, develop and remove natural resources other than oil, gas and associated substances on or from the leased area;
- (3) the right to establish or grant easements and rights-of-way for any lawful purpose, including without limitation for shafts and tunnels necessary or appropriate for the working of the leased area or other lands for natural resources other than oil, gas and associated substances;
- (4) the right to dispose of land within the leased area for well sites and well bores of wells drilled from or through the leased area to explore for or produce oil, gas and associated substances in and from lands not within the leased area; and
- (5) the right otherwise to manage and dispose of the surface of the leased area or interests therein by grant, lease, permit or otherwise to third parties.

(b) Rights reserved by the State may be exercised in any manner which does not unreasonably interfere with or endanger Lessee's operations under this lease.

3. TERM. This lease is issued for an initial primary term of ten (10) years from the effective date hereof, which term may be extended as provided in Paragraph 4 below. This lease may be extended beyond its primary term as provided in Paragraph 5 below.

4. EXTENSION OF PRIMARY TERM. (a) By Suspension of Operations. If, prior to the expiration of the primary term, the State directs or approves in writing suspension of all operations on or production from the leased area, the primary term shall be extended by adding the period of suspension to the primary term originally specified. For purposes of this subparagraph, any suspension of operations or production required by any stipulation made a part of this lease shall not be considered a suspension under any order by, or with the written consent of, the State.

(b) By Force Majeure. If the State determines that, prior to the expiration of the primary term, Lessee has been prevented by any of the conditions specified in Paragraph 32 from performing any act which would extend the lease beyond the primary term, the primary term shall be extended by adding the period of disability to the primary term originally specified.

or 5. EXTENSION BEYOND PRIMARY TERM. (a) By Production. This lease shall be extended automatically if and for so long as oil and gas is produced in paying quantities from the leased area.

(b) By Commitment to Approved Unit. This lease shall be extended automatically if it is committed to a unit agreement approved by the State, and shall remain in full force and effect as long as it remains committed to such a unit agreement.

(c) By Drilling. (1) If drilling has commenced as of the date on which this lease otherwise would expire and is continued with reasonable diligence, this lease shall continue in full force and effect until ninety (90) days after cessation of such drilling and for so long thereafter as oil or gas is produced in paying quantities from the leased area. (2) If oil or gas in paying quantities is produced from the leased area, and if such production ceases at any time, this lease shall not terminate if drilling or reworking operations are commenced on the leased area within (6) months after cessation of production and thereafter are prosecuted with reasonable diligence; if such drilling or reworking operations result in the production of oil or gas, this lease shall remain in full force and effect as long as oil or gas is produced in paying quantities from the leased area.

(d) By Shut-in Production. If there is a well capable of producing oil or gas in paying quantities on the leased area, this lease shall not expire because Lessee fails to produce the same unless the State gives notice to Lessee allowing a reasonable time, which shall not be less than six (6) months, after such notice to place the well on a producing status, and Lessee fails to do so. If producing status is established within the time allowed, this lease is extended only for so long thereafter as oil or gas is produced in paying quantities from the leased area.

(e) By Suspension of Operations or Production. This lease shall not expire because of any suspension of operations on or production from the leased area if the suspension is made under any order by, or with the written consent of, the State. Upon removal of such suspension, Lessee shall have a reasonable time, which shall not be less than six (6) months after notice that the suspension has been removed, to resume operations or production. For purposes of this subparagraph, any suspension of operations or production required by any stipulation made a part of this lease shall not be considered a suspension under any order by, or with the written consent of, the State.

(f) By Force Majeure. If the State determines that Lessee has been prevented by any of the conditions specified in Paragraph 32 from performing an act which would extend the lease beyond the primary term, this lease shall not expire during the term of disability plus a reasonable time thereafter, which shall not be less than sixty (60) days, for Lessee to resume operations or production.

6. RENTALS. (a) Lessee shall pay annual rental to the State in accordance with the following rental schedule:

- (1) For the first year, \$1.00 per acre or fraction thereof;
- (2) For the second year, \$1.50 per acre or fraction thereof;
- (3) For the third year, \$2.00 per acre or fraction thereof;
- (4) For the fourth year, \$2.50 per acre or fraction thereof;
- (5) For the fifth year and following years, \$3.00 per acre; provided that the State may increase the annual rental rate as

provided by law upon extension of this lease beyond the primary term.

(b) Annual rental paid in advance is a credit on the royalty or net profit share due under this lease for that year.

(c) Lessee shall pay the annual rental to the State (or any depository designated by the State with at least sixty (60) days' notice to Lessee) in advance, on or before the annual anniversary date of this lease. The State is not required to give notice that rentals are due by billing Lessee, and no bill need be sent by the State to Lessee. If the State's (or depository's) office is not open for business on the annual anniversary date of this lease, the time for payment is extended to include the next day on which said office is open for business. If the annual rental is not paid timely, this lease automatically terminates as to both parties at 11:59 p.m., Alaska Standard Time, on the date by which the rental payment was to have been paid.

7. SHARE OF NET PROFIT. Lessee will pay to the State 20.00% of the net profit derived by Lessee from this lease. For purposes of this Paragraph, calculation of the net profit shall be determined in accordance with 11 AAC 83.201 through 11 AAC 83.295 as those regulations exist on the effective date of this lease, copies of which are attached as Exhibits and by this reference made a part of this lease. The amount of interest to be earned on the net profit share development account pursuant to 11 AAC 83.212 will be the average of the prime rates of the Citibank, NA New York; Chase Manhattan Bank, NA New York, and the Bank of America, NT and SA San Francisco, prevailing during the month.

8. ROYALTY ON PRODUCTION. (a) Except for oil, gas and associated substances used on the leased area for development and production or unavoidably lost, Lessee shall pay to the State as royalty the following:

- (1) On oil, twenty (20) percent in amount or value of the oil saved, removed, or sold from the leased area.
- (2) On gas, twenty (20) percent in amount or value of the gas saved, removed or sold from the leased area or used on the leased area for the extraction of natural gasoline or other products therefrom.
- (3) On associated substances, twenty (20) percent in amount or value of the associated substances saved, removed, or sold from the leased area.

9. **REDUCTION OF ROYALTY.** After two (2) years' initial production from the field in which the leased area is located has occurred, the State, in its discretion, may reduce Lessee's obligations to pay royalty on all of the leased area or on any tract or portion thereof segregated for royalty purposes upon (1) request by Lessee, (2) a clear showing by Lessee that the revenue from all oil, gas and associated substances produced from the field is insufficient to produce a reasonable rate of return with respect to Lessee's total investment in the field, and (3) a clear showing by Lessee that a reduction in royalty will increase total production from the field.

10. **ROYALTY IN VALUE.** Unless the State elects to receive all or a portion of its royalty in kind as provided in Paragraph 12 below, Lessee shall pay to the State the value of all royalty oil, gas and associated substances as determined under Paragraph 11 below. Royalty paid in value shall be free and clear of all lease expenses (and any portion of such expenses which is incurred away from the leased area), including, but not limited to, expenses for separation, cleaning, dehydration, gathering, saltwater disposal, and preparing the oil, gas or associated substances for transportation off the leased area. All royalty that may become payable in money to the State shall be paid on or before the last day of the calendar month following the month in which the oil, gas or associated substances are produced. Royalty payments shall be accompanied by copies of run tickets or such other information relating to valuation of royalty as the State may require, which may include, but is not limited to, evidence of sales, shipments, and amounts of gross oil, gas and associated substances produced.

11. **VALUE.** (a) For purposes of computing royalties due under this lease, the value of royalty oil, gas or associated substances shall not be less than the highest of:

- (1) the field price actually received by Lessee for such oil, gas or associated substances;
- (2) Lessee's posted price in the field for such oil, gas or associated substances;
- (3) the volume weighted average field price actually received by other producers in the same field or area for oil of like grade and gravity, gas of like kind and quality or associated substances of like kind and quality at the time such oil, gas or associated substances are removed from the leased or unit area or such gas is delivered to an extraction plant if such a plant is located on the leased or unit area; or
- (4) the volume weighted average posted price in the field of other producers in the same field or area for oil of like grade and gravity, gas of like kind and quality or associated substances of like kind and quality at the time such oil, gas or associated substances are removed from the leased or unit area or such gas is delivered to an extraction plant if such a plant is located on the leased or unit area.

(b) If oil, gas or associated substances are sold away from the leased or unit area, the term "field price" in subparagraph (a) above shall be the actual price for such oil, gas or associated substances received from the purchaser thereof less the actual cost of transportation away from the leased or unit area to the point of delivery.

(c) **Minimum Value Determinations.** The State may establish minimum values for purposes of computing royalties on oil, gas or associated substances obtained from this lease, with consideration being given to the price actually received by Lessee, to the price or prices paid in the same field or area for production of like quality, to posted prices, to prices received by Lessee and/or other producers from sales occurring away from the leased area, and to other relevant matters. Each such determination will be made only after Lessee has been given notice and a reasonable opportunity to be heard. Under this provision, it is expressly agreed that the minimum value of royalty oil, gas or associated substances under this lease may not necessarily equal the price of such oil, gas or associated substances.

12. **ROYALTY IN KIND.** (a) At the State's option, which may be exercised from time to time upon not less than six (6) months' notice to Lessee, Lessee shall deliver all or a portion of the State's royalty oil, gas or associated substances produced from the leased area in kind. Delivery shall be on the leased area or at a place mutually agreed to by the State and Lessee, and shall be to the State or to any individual, firm or corporation designated by the State.

(b) Royalty oil, gas or associated substances delivered in kind shall be delivered in good and merchantable condition and be of pipeline quality, and shall be free and clear of all lease expenses (and any portion of such expenses which are incurred away from the leased area), including, but not limited to, expenses for separation, cleaning, dehydration, gathering, saltwater disposal, and preparing the oil, gas or associated substances for transportation off the leased area.

(c) After having given notice of its intention to take, or after having taken, its royalty oil, gas or associated substances in kind, the State, at its option and upon six (6) months' notice to Lessee, may elect to receive a different portion or none of its royalty in kind. If, under federal regulations, the Lessor's taking of royalty oil, gas or associated substances in value creates a supplier-purchaser relationship, Lessee hereby waives its right to continue to receive royalty oil, gas or associated substances under such a relationship, and further agrees that it will require any purchasers of the royalty oil, gas or associated substances to likewise waive any such rights.

(d) Lessee shall furnish storage for royalty oil and natural gas liquids produced from the leased or unit area to the same extent that Lessee provides storage for Lessee's share of oil and natural gas liquids. Lessee shall not be liable for the loss or destruction of stored royalty oil and natural gas liquids from causes beyond Lessee's reasonable control.

13. **RECORDS.** Lessee shall keep and have in its possession books and records showing the development and production (including records of development and production expenses) and disposition of all oil, gas and associated substances produced from the leased area. Lessee shall permit the State or its agents to examine such books and records at all reasonable times. Such books and records of development and production must employ methods and techniques that will ensure the most accurate figures reasonably available without requiring Lessee to provide separate tankage and/or meters for each well. Lessee shall use standard and consistent accounting procedures which are common to the industry.

14. **APPORTIONMENT OF ROYALTY FROM APPROVED UNIT.** The landowner's royalty share of the unit production allocated to each separately owned tract shall be regarded as royalty to be distributed to and among, or the proceeds of it paid to, the landowners, free and clear of all unit expense and free of any lien for it. Under this provision, the State's royalty share of any unit production allocated to the leased area shall be regarded as royalty to be distributed to, or the proceeds of it paid to, the State, free and clear of all unit expenses (and any portion of such expenses which is incurred away from the unit area), including, but not limited to, expenses for separation, cleaning, dehydration, gathering, saltwater disposal, and preparing oil, gas or associated substances for transportation off the unit area, and free of any lien for it.

15. **PAYMENTS.** All payments to the State under this lease shall be made payable to the State in the manner directed by the State, and shall be rendered to the State at

**DEPARTMENT OF NATURAL RESOURCES  
323 EAST FOURTH AVENUE  
ANCHORAGE, ALASKA 99501**

or to any depository designated by the State with at least sixty (60) days' notice to Lessee.

16. **PLAN OF OPERATIONS.** (a) No lease operations other than surface reconnaissance may be undertaken by Lessee, its agents or assigns, on the leased area, except in conformity with a plan of operations approved by the State. Lessee shall file with the State four (4) copies of its application for approval of its proposed plan of operations.

(b) The application shall set forth a detailed proposed plan of operations, including, but not limited to, statements and maps or drawings setting forth each of the following: (1) the sequence and schedule of the operations proposed to be conducted on the leased area; (2) projected use requirements associated with the proposed operations, including, but not limited to, the location and design of well sites, material sites, water supplies, buildings, roads, utilities, airstrips and all other facilities necessary for exploration, development and production of the leased area; (3) plans for restoration of the leased area upon the completion of operations or phases thereof; and (4) a description of operating procedures designed to prevent or minimize adverse impacts upon other natural resources and other uses of the leased area and adjacent areas.

(c) Within sixty (60) days of Lessee's filing of complete application for approval of its proposed plan of operations, the State shall approve or deny the application. If the application is denied, the State shall state in writing its reasons for such denial and may propose modifications which, if accepted by Lessee, would qualify the plan for approval.

(d) Subsequent modification of an approved plan of operations may be proposed by Lessee. A modification of an approved plan of operations proposed by Lessee shall be considered under the same procedures used for review and approval of Lessee's original plan of operations.

(e) Approval by the State of a plan of operations or any modifications thereto signifies only that the State has no objection to the operations outlined in the plan from the standpoint of the lease administrator and does not relieve Lessee of its obligations to obtain approvals and permits required by other governmental agencies having regulatory authority over such operations.

(f) All of Lessee's operations on the leased area shall be in conformance with the approved plan of operations.

17. **PLAN OF DEVELOPMENT.** (a) Within six (6) months after certification of a well capable of producing oil, gas or associated substances in paying quantities, Lessee shall file two (2) copies of an application for approval by the State of an initial plan of development. The initial plan of development shall describe Lessee's plans for developing the leased area. No development of the leased area may occur until a plan of development has been approved by the State.

(b) Within sixty (60) days of Lessee's filing of a complete application for approval of its proposed initial plan of development, the State shall approve or deny the application. If the application is denied, the State shall state in writing its reason for such a denial and may propose modifications which, if accepted by Lessee, would qualify the plan for approval.

(c) The plan of development shall be revised, updated and submitted for the State's approval annually on the anniversary date of this lease or on such other date as may be mutually agreed to by Lessee and the State, if no changes from an approved plan are contemplated for the following year, a statement to that effect shall be filed in lieu of the required revision and updating.

18. **EXCEPTION FOR LEASE INCLUDED IN AN APPROVED UNIT.** If this lease is included in an approved unit, the Lessee shall not be required to submit a separate plan of operations or plan of development under Paragraphs 16 and 17 above.

19. **LOGS AND OTHER RECORDS OF OPERATIONS.** (a) Lessee shall file all logs and surveys taken, a description of all tests run for each well drilled on the leased area, together with a plat showing the exact location of each such well, with the State within thirty (30) days after each such well has been completed, suspended or abandoned.

(b) Any and all information filed by Lessee with the State in connection with this lease shall be available at all times for the confidential use of the State for the purpose of enforcing compliance with the promises, terms, conditions and covenants of this lease and the provisions of State law. Inspection of such information by any persons other than officers or employees of the State (and persons performing any function or work assigned to them by the State) shall be governed by applicable law.

20. **DIRECTIONAL DRILLING.** This lease may be maintained in force by directional wells drilled under the leased area from locations on other lands not covered by this lease. In such circumstances, drilling shall be considered to have commenced on the leased area when actual drilling is commenced on such other lands for the purpose of directionally drilling under the leased area. Production of oil or gas from the leased area through any directional well surfaced on such other lands or drilling or reworking of such directional well shall be considered production or drilling or reworking operations on the leased area for all purposes of this lease. Nothing contained in this Paragraph is intended or shall be construed as granting to Lessee any interest, license, easement or other right in or with respect to such lands in addition to any such interest, license, easement or other right which the Lessee may have lawfully acquired from the State or from others.

21. **DILIGENCE AND PREVENTION OF WASTE.** (a) Lessee shall exercise reasonable diligence in drilling, producing and operating wells on the leased area unless consent to suspend operations temporarily is granted by the State.

(b) Upon discovery of oil or gas on the leased area in quantities which would appear to a reasonable and prudent operator to be sufficient to recover ordinary costs of drilling, completing and producing an additional well in the same geologic structure at another location with a reasonable profit to the operator, Lessee shall drill such wells as a reasonably prudent operator would drill, having due regard for the interest of the State as well as the interest of the Lessee.

(c) Lessee shall carry on all operations under this lease in a good and workmanlike manner in accordance with the methods and practices set out in the approved plan of operations and plan of development with due regard for the prevention of waste of oil, gas and associated substances and the entrance of water to the oil and gas-bearing sands or strata to the destruction or injury of the same, and to the preservation and conservation of the property for future productive operations. Lessee shall carry out at Lessee's expense all orders and requirements of the State relative to the prevention of waste and the preservation of the leased area. If Lessee fails to carry out such orders, the State shall have the right, together with any other available legal recourse, to enter on the leased area to repair damage or prevent waste at Lessee's expense.

(d) Lessee shall securely plug in an approved manner any well before abandoning it.

22. **OFFSET WELLS.** Lessee shall drill such wells as a reasonably prudent operator would drill to protect the State adequately from loss by reason of drainage resulting from production on other land. Without limiting the generality of the foregoing sentence, if oil or gas should be produced in a well on other land not owned by the State or on which the State receives a lower rate of royalty than under this lease, and such well is within 500 feet in the case of an oil well or 1,500 feet in the case of a gas well of lands then subject to this lease, and such well produces oil or gas for a period of thirty (30) consecutive days in quantities which would appear to a reasonable and prudent operator to be sufficient to recover ordinary costs of drilling, completing and producing an additional well in the same geologic structure at an offset location with a reasonable profit to the operator, and if, after notice to Lessee and an opportunity to be heard, the State finds that production from such well is draining lands then subject to this lease, Lessee shall within thirty (30) days after written demand by the State begin in good faith and diligently prosecute drilling operations for an offset well on the leased area. In lieu of drilling any well required by this Paragraph, Lessee may, with the State's consent, compensate the State in full each month for the estimated loss of royalty through drainage in the amount determined by the State.

23. **UNITIZATION.** (a) Lessee may unite with others, jointly or separately, in collectively adopting and operating under a cooperative or unit agreement for the exploration, development or operation of the pool or field or like area or part thereof which includes or underlies the leased area or any part thereof whenever a regulatory agency having appropriate jurisdiction determines and certifies that such an agreement is in the public interest for the purpose of properly conserving the natural resources of any oil or gas pool, field or like area or any part thereof.

(b) Lessee agrees, within six (6) months after demand by the State, to subscribe to a reasonable cooperative or unit agreement which shall adequately protect all parties in interest, including the State. The State reserves the right to prescribe such an agreement.

(c) With the consent of Lessee, the State may establish, alter, change, or revoke drilling, producing, rental and royalty requirements of this lease if the leased area is committed to any such cooperative or unit agreement, and may adopt such regulations with reference to this lease in connection with the institution and operation of any such cooperative or unit agreement as the State determines are necessary and proper to secure the proper protection of the public interest.

(d) If a portion of the leased area or any separate and distinct zone or geological horizon is committed to an approved or prescribed unit agreement, the committed acreage or zone or horizon shall be segregated into a separate and distinct lease having the same effective date as this lease. Any portion of the leased area or any separate and distinct zones or geological horizons not committed to such a cooperative or unit agreement shall remain subject to the terms and conditions of this lease unaffected by the pooling or unitization of any other portion of the leased area or zone or horizon or by operations in any such unit.

24. **INSPECTION.** Lessee shall keep open at all reasonable times, for inspection by any duly authorized representative of the State, the leased area, all wells, improvements, machinery and fixtures thereon, and all reports and records relative to operations and surveys or investigations on or with regard to the leased area or under this lease.

25. **SUSPENSION.** The State may from time to time direct or approve in writing suspension of production or other operations under this lease.

26. **ASSIGNMENT, PARTITION AND CONVERSION.** This lease, or any undivided interest herein, may, with the approval of the State, be assigned, subleased or otherwise transferred as to the entire leased area or any one or more legal subdivisions included therein, or any separate and distinct zone or geological horizon underlying the leased area or such one or more legal subdivisions therein, to any person or persons qualified to hold a lease. No assignment, sublease or other transfer of an interest in this lease, including assignments of working or royalty interests and operating agreements and subleases, shall be binding upon the State unless approved by the State. Lessee shall remain liable for all obligations under this lease accruing prior to the approval by the State of any assignment, sublease or other transfer of an interest in this lease. All covenants, conditions and agreements contained in this lease shall extend to and be binding upon the heirs, administrators, successors, and assigns of the State and/or Lessee. Applications for approval of an assignment, sublease or other transfer shall comply with all applicable regulations and must be filed within ninety (90) days after the date of final execution of the instrument of transfer. Transfer of this lease or an interest therein shall be approved by the State unless (1) Lessee fails to comply with applicable statutes and regulations or (2) the State determines in writing that the best interests of the State justify a denial. Where an assignment, sublease or other transfer is made of all or a part of Lessee's interest in and to a portion of the leased area, that portion may, at the option of the State or upon request of the transferee and with the approval of the State, be segregated into a separate and distinct lease having the same effective date as this lease.

27. **SURRENDER.** Lessee at any time may make and file with the State a written surrender of all rights under this lease or any portion thereof comprising one or more legal subdivision or, with the consent of the State, any separate and distinct zone or geological horizon underlying the leased area or one or more legal subdivisions thereof. Such a surrender shall be effective as of the date of filing, subject to the continued obligations of Lessee and his surety to make payment of all accrued royalties and to place all wells and surface facilities on the surrendered land or in the surrendered zones or horizons in condition satisfactory to the State for suspension or abandonment. Thereafter, Lessee shall be released from all obligations under this lease with respect to the surrendered lands, zones or horizons.

28. **DEFAULT AND TERMINATION; CANCELLATION.** (a) The failure of Lessee to perform timely its obligations under this lease, or the failure of Lessee otherwise to abide by all express and implied promises, terms, conditions and covenants of this lease, shall be deemed to be a default in Lessee's obligations hereunder. Whenever Lessee fails to comply with any of the provisions of this lease (other than a provision which, by its terms, provides for automatic termination) and fails within sixty (60) days after written notice of such default to commence to remedy and thereafter diligently prosecute operations to remedy such default, the State may terminate this lease if at that time there is no well on the leased area capable of producing oil or gas in paying quantities. If at that time there is a well on the leased area capable of producing oil or gas in paying quantities, this lease may be terminated by an appropriate judicial proceeding. In the event of any termination under this subparagraph, Lessee shall have the right to retain under this lease any and all drilling or producing wells as to which no default exists together with a parcel of land surrounding each well or wells and such rights-of-way through the leased area as are reasonably necessary to enable Lessee to drill, operate, and transport oil and/or gas from such retained well or wells.

(b) The State may cancel this lease at any time if the State determines, after Lessee has been given notice and a reasonable opportunity to be heard, that (1) continued operations pursuant to this lease probably will cause serious harm or damage to biologic resources, to property, to mineral resources or to the environment (including the human environment), (2) the threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time, and (3) the advantages of cancellation outweigh the advantages of continuing this lease in force. Any cancellation under this subparagraph shall not occur unless and until operations under this lease have been under suspension or temporary prohibition by the State, with due extension of the term of this lease, continuously for a period of five (5) years or for a lesser period upon request of the Lessee. Any cancellation under this subparagraph will entitle Lessee to receive such compensation as Lessee demonstrates to the State is equal to the lesser of (1) the value of the cancelled rights as of the date of cancellation, with due consideration being given to both anticipated revenues from this lease and anticipated costs, including costs of compliance with all applicable regulations and stipulations, liability for clean-up costs or damages, or both, in the case of an oil spill, and all other costs reasonably anticipated under this lease, or (2) the excess, if any, over Lessee's revenues from this lease (plus interest thereon from the date of receipt to date of reimbursement) of all consideration paid for this lease and all direct expenditures made by Lessee after the effective date of this lease and in connection with exploration or development, or both, pursuant to this lease, plus interest on such consideration and such expenditures from the date of payment to the date of reimbursement.

29. **RIGHTS UPON TERMINATION.** Upon the expiration or earlier termination of this lease as to all or any portion of the leased area, Lessee will be directed in writing by the State and shall have the right at any time within a period of one (1) year thereafter, or such extension thereof as may be granted by the State, to remove from the leased area or portion thereof all machinery, equipment, tools, and materials. Upon the expiration of such period and at the option of the State, any machinery, equipment, tools, and materials which Lessee has not removed from the leased area or portion thereof become the property of the State or may be removed by the State at Lessee's expense. At the option of the State, all improvements such as roads, pads and wells shall either be abandoned and the sites restored by Lessee to the satisfaction of the State or be left intact and Lessee absolved of all further responsibility as to their maintenance, repair and eventual abandonment and restoration. Subject to the foregoing, Lessee shall deliver up the leased area or such portion or portions thereof in good condition.

30. **DAMAGES AND INDEMNIFICATION.** (a) No rights under reservations contained in leases or grants of Alaska land may be exercised by the State or by its Lessee until provision has been made to pay the owner of the land upon which the reserved rights are sought to be exercised full payment for all damages sustained by the owner by reason of entering on the land. If the owner for any reason refuses or neglects to settle the damages, the State or its Lessee may enter upon the land after posting a surety bond determined by the State, after notice and an opportunity to be heard, to be sufficient as to form, amount, and security to secure to the owner payment for damages, and may institute legal proceedings in a court of competent jurisdiction where the land is located to determine the damages which the owner of the land may suffer. Lessee hereby agrees to pay any damages that may become payable under AS 38.05.130 and to indemnify the State and hold it harmless from and against any claims, demands, liabilities and expenses arising from or in connection with such damages. The furnishing of a bond in compliance with this Paragraph shall be regarded by the State as sufficient provision for the payment of all damages that may become payable under AS 38.05.130 by virtue of this lease.

(b) Lessee shall indemnify the State for, and hold it harmless from, any claim, including claims for loss or damage to property or injury to a person or persons caused by or resulting from any act or omission committed pursuant to this lease by or on behalf of Lessee. Lessee shall not be held responsible to the State under this subparagraph for any loss, damage or injury caused by or resulting from the sole negligence of the State.

(c) Lessee expressly waives any defense to an action for breach of a covenant of this lease or for damages resulting from an oil spill or other harm to the environment which is based on the fact that the act or omission complained of was committed by an independent contractor. Lessee expressly agrees to assume responsibility for all actions of its independent contractors.

31. **BONDS.** (a) If required by the State, Lessee shall furnish a bond prior to the issuance of this lease in an amount equal to at least \$5.00 per acre or fraction thereof contained in the leased area, but no less than \$10,000.00, and shall maintain said bond as long as required by the State.

(b) Before beginning drilling operations on the leased area, Lessee shall furnish a bond in the amount of at least \$100,000.00 and shall maintain said bond as long as required by the State.

(c) Lessee may, in lieu of the bond required under (a) above, furnish and maintain a Statewide bond in accordance with applicable regulations.

(d) The State may, after notice to Lessee and a reasonable opportunity to be heard, require a bond in a reasonable amount greater than the amount specified in (a) and (b) above where such greater amount is justified by the nature of the surface and its uses and the degree of risk involved in the types of operations being or to be carried out under this lease. A Statewide bond shall not satisfy any requirement of a bond imposed under this subparagraph, but shall be considered by the State in determining the need for and the amount of any additional bond under this subparagraph.

(e) If the leased area is committed in whole or in part to a cooperative or unit agreement approved or prescribed by the State and a unit bond is furnished, Lessee need not thereafter maintain any bond with respect to the portion of the leased area committed to such agreement.

32. **FORCE MAJEURE.** If the State determines that Lessee has been prevented, after efforts made in good faith, from complying with any express or implied promise, term, condition or covenant of this lease, from conducting drilling operations, or from producing or marketing oil or gas from the leased area, by reason of war, riots, acts of God, unusually severe weather, or any other cause beyond Lessee's reasonable ability to foresee or control (including delays caused by judicial decisions or lack thereof), whether similar to those enumerated or not, Lessee's obligation to comply with such provision shall be suspended, but not voided, and Lessee shall not be liable for damages for failure to comply therewith. If Lessee's obligations to conduct drilling or reworking operations are suspended under this Paragraph and the continuation of such operations without suspension would have had the effect of preventing the expiration or termination of this lease, this lease shall not terminate during the period which the obligation to perform such operations is suspended. Nothing in this Paragraph shall be construed to suspend the obligation to pay rentals, or to suspend the obligation to pay royalties or other production or profit-based payments from operations on the leased area which are not suspended or from operations which are not affected by any such suspension, to the State.

33. **AUTHORIZED REPRESENTATIVES.** The State Director of the Division of Minerals and Energy Management, Department of Natural Resources, and the person executing this lease on behalf of Lessee shall be the authorized representatives for their respective principals for purposes of administering this lease. The State or Lessee may change the designation of its authorized representative or the address to which notices to that representative are to be sent by a notice given in accord with Paragraph 34 below. Where activities pursuant to a plan of operations are underway, Lessee will also designate, pursuant to a notice under Paragraph 34 below, by name, job title and address, an agent who will be present in the State during all such activities.

34. **NOTICES.** Any notices required or permitted under this lease shall be by electronic media producing a permanent record or in writing and shall be given personally or by registered or certified mail, return receipt requested, addressed as follows:

**TO THE STATE**

DIRECTOR, DIVISION OF MINERALS AND ENERGY MANAGEMENT  
DEPARTMENT OF NATURAL RESOURCES  
703 W. NORTHERN LIGHTS BOULEVARD  
ANCHORAGE, ALASKA 99503

**TO THE LESSEE:**

Amerada Hess Corporation  
C/o N. D. Bernard  
P. O. Box 2040  
Tulsa, Oklahoma 74102

Any such notice shall be effective when delivered to the foregoing authorized representative.

35. **STATUTES AND REGULATIONS.** This lease is subject to all State and Federal statutes and regulations in effect on the effective date hereof, and, insofar as is constitutionally permissible, to all statutes and regulations hereinafter placed in effect. This lease shall not be interpreted as a limitation upon the exercise by the State of Alaska or by the United States of America of the power to enact and enforce legislation or to promulgate and enforce regulations affecting, directly or indirectly, the activities of Lessee or its agents in connection with this lease or the value of the interests held under this lease.

36. **INTERPRETATION.** This lease is to be interpreted in accordance with the rules applicable to the interpretation of contracts made in the State of Alaska. The Paragraph headings are not part of this lease and are inserted only for convenience. The State and Lessee expressly covenant that the law of the State of Alaska shall apply in any judicial proceeding under this lease.

37. **INTEREST IN REAL PROPERTY.** It is the intention of the parties that the rights granted to Lessee by this lease constitute an interest in real property in the lease area.

38. **SEVERABILITY.** If it is finally determined in any judicial proceeding that any provision of this lease is invalid, the State and Lessee may jointly determine and agree by a written amendment to this lease that, in consideration of the promises, terms, conditions and covenants contained in that written amendment, the invalid portion of the lease will be treated as severed from the lease and that the remainder of the lease, as amended, will remain in effect.

39. **DEFINITIONS.** All words and phrases used in this lease are to be interpreted where possible in the manner required in respect to the interpretation of statutes by AS 01.10.040. However, the following words have the following meanings unless the context unavoidsly requires otherwise:

(1) "oil" means crude petroleum oil and other hydrocarbons regardless of gravity which are produced in liquid form by ordinary production methods, including liquid hydrocarbons known as distillate or condensate recovered by separation from gas other than at a gas processing plant;

(2) "gas" means all natural gas (except helium gas) and all other hydrocarbons produced which are not defined herein as oil;

(3) "associated substances" means all substances except helium produced as an incident of production of oil or gas by ordinary production methods and not defined herein as oil or gas;

(4) "drilling" means the act of boring a hole to reach a proposed bottom hole location through which oil or gas may be produced if encountered in paying quantities, and includes re-drilling, sidetracking, deepening or other means necessary to reach the proposed bottom hole location, testing, logging, plugging and other operations necessary and incidental to the actual boring of the hole;

(5) "reworking operations" means all operations designed to secure, restore or improve production through some use of a hole previously drilled, including, but not limited to, mechanical or chemical treatment of any horizon, plugging back to test higher strata, etc.; and

(6) "paying quantities" means quantities sufficient to yield a return in excess of operating costs, even though drilling and equipment costs may never be repaid and the undertaking considered as a whole may ultimately result in a loss.

40. **CONDITIONAL LEASE.** If all or a part of the leased area is land that has been selected by the State under laws of the United States granting lands to the State, but such land has not been patented to the State by the United States, then this lease is a conditional lease as provided by law until such a patent becomes effective. If for any reason such a selection is not finally approved, or such a patent does not become effective, any rental, royalty or profit-based payments made to the State under this lease will not be refunded.

41. **EMPLOYMENT OF ALASKAN RESIDENTS.** Lessee shall comply with all valid and applicable laws and regulations with regard to the hiring of Alaska residents. Lessee will not discriminate against Alaska residents, as prohibited by applicable laws and regulations of the State of Alaska. Lessee will furnish the Alaska Department of Labor a quarterly report regarding the employment of Alaska residents on the leased area in compliance with regulations adopted by the Commissioner of Labor.

IN WITNESS WHEREOF the parties have executed this lease effective as of the 1st day of February, 19 80.

LESSEE  
AMERADA HESS CORPORATION

STATE OF ALASKA

By [Signature]  
V. M. Hebertson, Vice President, U.S.  
Exploration & Offshore Joint Venture  
Operations

By: Ethel H. Nelson  
ETHEL H. NELSON  
Title: Leasing Manager

THE UNITED STATES OF AMERICA

Acknowledgement of Lessor

STATE OF ALASKA

This certifies that on the 11th day of January, 19 80, before me, a notary public in and for the State of Alaska, duly commissioned and sworn, personally appeared [Signature] to me known to be the person who executed the foregoing lease on behalf of the State of Alaska, who, after being duly sworn according to law, stated to me under oath that he has authority pursuant to law to execute the foregoing lease on behalf of the State of Alaska, acting through the Division of Minerals and Energy Management, Department of Natural Resources and that he executed the same freely and voluntarily as the act and deed of the State of Alaska and for the Division of Minerals and Energy Management, Department of Natural Resources.

WITNESS my hand and official seal.

MARY K. WEISENBERGER  
NOTARY PUBLIC  
STATE OF ALASKA

Mary K. Weisenberger  
Notary Public in and for Alaska  
My Commission expires 3/29/83

Q WEISENBERGER  
NOTARY PUBLIC  
STATE OF ALASKA

STATE OF ALASKA  
30th COMPETITIVE OIL AND GAS LEASE SALE  
- BEAUFORT SEA -

LEASE STIPULATIONS

ADL 312798

State Stipulation No. 1 - Historic and Archaeologic Discoveries

In the event any site, structure, or object of historic or archaeological significance should be discovered during the conduct of any operations on the leased area, the lessee shall report immediately such findings to the Director, Division of Minerals and Energy Management, and make every reasonable effort to preserve and protect such site, structure, or object from damage until the Director has given directions as to its preservation.

Upon abandonment of the drilling platform or related facilities, such facilities will be removed to the extent that they no longer intrude on the historic or cultural scene or could otherwise adversely affect an archaeological, or historic site or area included in or eligible for inclusion in the National Register of Historic Places.

State Stipulation No. 2 - Environmental Training

The lessee shall include in any exploration and/or development plans a proposed environmental training program for all personnel involved in exploration or development activities (including personnel of the lessee's contractors and subcontractors) for review and approval by the Director, Division of Minerals and Energy Management. The program shall be designed to inform each person working on the project of specific types of environmental, social, and cultural concerns which relate to the individual's job. The program shall be formulated and implemented by qualified instructors experienced in each pertinent field of study and shall employ effective methods to ensure that personnel understand and use techniques necessary to preserve archaeological, geological, and biological resources. The program shall also be designed to increase the sensitivity and understanding of personnel to community values, customs, and lifestyles in areas in which such personnel will be operating.

The lessee shall also submit for review and approval a continuing technical environmental briefing program for supervisory and managerial personnel of the lessee and its agents, contractors, and subcontractors.

State Stipulation No. 3 - Site Restoration

After completion of the exploratory drilling phase, all structures will be removed from the lease and the lessee will restore the site to its original condition unless the structure or site will be used in the production phase or for additional exploratory drilling or unless it is not in the best interest of the public or the environment to require removal or restoration. Authorization to leave the structure in place must be obtained from the Director, Division of Minerals and Energy Management, after consultation with the Department of Fish and Game and the Department of Environmental Conservation.

~~State Stipulation No. 4 - Surface Entry~~

~~Surface entry by the lessee or subcontractors will be prohibited on Grosz Island (State leasing unit BF-64) and Pole Island (State leasing units BF-61 and BF-62) during the period May 15 to August 15. Surface entry during other periods may be permitted by the Director, Division of Minerals and Energy Management, provided any structures, equipment, personnel, or supplies are removed before May 15.~~

State Stipulation No. 5 - Special Biological Resources

If biological populations or habitats which may require additional protection are identified by the Director, Division of Minerals and Energy Management, on any tracts in the leasing area, the Director will require the lessee to conduct environmental surveys, as approved by the Director, to determine the extent and composition of biological populations or habitats, and the effects of proposed or existing operations on the populations or habitats which might require additional protective measures. The Director shall provide written notice to the lessee of his decision to require such surveys. Such surveys will be required for the area known as the Boulder Patch, which applies to the following leasing units: BF-62, BF-70, BF-71, BF-76, BF-77, BF-78, BF-79, BF-82, BF-83, BF-88, and BF-116. For all other tracts within the lease area, the nature and extent of any surveys will be determined by the Director on a case-by-case basis.

Based on any surveys which the Director may require of the lessee, or other information available to the Director on special biological resources, the Director may require the lessee to: (1) locate the site of such operation so as not to adversely affect the resource identified; (2) establish to the satisfaction of the Director, on the basis of a site-specific survey, either that such operation will not have a significant adverse effect upon the resource identified or that a special biological resource does not exist; (3) operate during those periods of time that do not adversely affect the biological resources as established by the Director; and (4) modify operations in such a way as not to affect adversely the significant biological populations or habitats deserving protection.

The lessee agrees that, if any area of biological significance should be discovered during the conduct of any operations on the leased area, he shall immediately report such findings to the Director, and make every reasonable effort to preserve and protect the biological resource from damage until the Director has given the lessee directions with respect to its protection.

The lessee shall submit all data obtained in the course of such surveys to the Director, with the locational information for drilling or other activity. The lessee may take no action that might result in any effect on the biologic populations or habitats surveyed, until the Director provides written directions to the lessee, with regard to permissible actions.

Known special biological resources and their habitats include hard and rocky bottoms with kelp, bryozoans, sponges, coral, or other epibenthic communities.

State Stipulation No. 6 - Drilling Discharges

1. Discharge of produced waters into marine waters is prohibited, except that the Commissioner of the Department of Environmental Conservation may approve discharges in tracts greater than 10 meters of water on a case-by-case basis.
2. Discharge of drilling muds and cuttings into marine waters is prohibited, except that the Commissioner of the Department of Environmental Conservation may approve discharges (a) in tracts greater than 10 meters of water on a case-by-case basis and (b) in tracts of less than 10 meters of water on a case-by-case basis if effluents are shown to be non-toxic and can be adequately dispersed.

State Stipulation No. 7 - Pipelines

1. Pipelines will be required (a) if pipeline rights-of-way can be determined and obtained; (b) if laying such pipelines is technically feasible and environmentally preferable; and (c) if, in the opinion of the lessor, pipelines can be laid without net social loss, taking into account any incremental costs of pipelines over alternative methods of transportation and any incremental benefits in the form of increased environmental protection or reduced multiple-use conflicts. The lessor specifically reserves the right to require that any pipeline used for transporting production to shore be placed in certain designated management areas. In selecting the means of transportation, consideration will be given to any recommendation of the Beaufort Sea Coordination Committee. Where feasible, and environmentally preferable, all pipelines, including both flow lines and gathering lines for oil and gas, shall be designed and constructed to provide for adequate protection from water currents, storm and ice scouring, subfreezing conditions, and other hazards as determined on a case-by-case basis.
2. Following the completion of pipeline installation of sufficient capacity, no crude oil production will be transported by surface vessel from offshore production sites, except in the case of emergency. Determinations as to emergency conditions and appropriate responses to these conditions will be made by the Director, Division of Minerals and Energy Management.
3. Where the three criteria set forth in the first sentence of this stipulation are not met and surface transportation must be employed, all vessels used for carrying hydrocarbons to shore from the leased area will conform with all standards established for such vessels, pursuant to the Ports and Waterways Safety Act of 1972 (46 U.S.C. 391(a)).

State Stipulation No. 8 - Solid Waste

Solid waste disposal on natural or artificial islands or in marine waters within the lease area is prohibited.

State Stipulation No. 9 - Seasonal Operations

Exploratory drilling and testing, and other downhole exploratory activities from surface locations outside the barrier islands will be limited to the period November 1 through March 31, unless the Director, Division of Minerals and Energy Management, after consulting with the Oil and Gas Conservation Commission, determines that continued operations are necessary to prevent a loss of well control or to ensure human safety. This stipulation will remain in effect for two years following issuance of the lease.

Exploratory drilling and testing, and other downhole exploratory activities from surface locations inside the barrier islands will be limited to the period November 1 through March 31, except the Director, Division of Minerals and Energy Management after consultation with the Biological Task Force may allow drilling and downhole activities to continue no later than May 15 if the lessee demonstrates the ability to operate safely and ice conditions justify; provided, however, that the Director, Division of Minerals and Energy Management, after consultation with the Oil and Gas Conservation Commission may allow continued operations leading to shut down which are necessary to prevent loss of well control or to ensure human safety. This stipulation will remain in effect two years following issuance of the lease.

~~State Stipulation No. 10 - Operational Restrictions (Block 700)~~

~~Exploratory drilling operations, emplacement of structures (platforms) or seafloor wellheads for production or storage of oil or gas, and the emplacement of pipelines will not be allowed on the state-owned portion of lease block 700. All exploration for and development of oil and gas must be performed from locations outside of the state-owned portion of lease block 700.~~

State Stipulation No. 11 - Interim Agreement

This lease is subject to the "Agreement Between the United States and State of Alaska pursuant to Section 7 of the Outer Continental Shelf Lands Act, and Alaska Statute 38.05.137" (signed on October 26, 1979, and commonly referred to as the "Interim Agreement"), and the lessee hereby consents to every term of that agreement.

Any loss incurred or sustained by the lessee as a result of obtaining validation and recognition of this lease pursuant to the "Interim Agreement," and in particular any loss incurred or sustained by the lessee as a result of conforming this lease with any and all provisions of all applicable laws of the party prevailing in *United States of America v. State of Alaska*, United States Supreme Court No. 84, Original, shall be borne exclusively by the lessee.

No taxes payable to the State of Alaska will be required to be paid with respect to this lease until such time as ownership of or jurisdiction over the lands subject to this lease is resolved. In the event that the lands subject to this lease, or any portion of them, are judicially determined to be state lands, the lessee shall pay to the State a sum equivalent to the state taxes which would have been imposed under Alaska law if the lands, or portion thereof determined to be state lands, had been undisputed state lands from the date the lease was executed, plus interest at the rate of 10 percent per year accruing from the date the taxes would have become due under Alaska law. Such payment shall be in lieu of and satisfaction of the state tax liability.

State Stipulation No. 12 - Utilization Agreement

This lease is subject to the "Agreement Regarding Utilization for the Proposed Joint Federal/State Beaufort Sea Lease Sale" executed by the United States and State of Alaska on October 26, 1979, and the lessee is bound by the terms of that agreement.

State Stipulation No. 13 - Seismic Activity

Seismic activity will be prohibited during the period March 20 until the breakup of sea ice, except that the Director, Division of Minerals and Energy Management, after consulting with the Biological Task Force, may allow seismic activity to occur after March 20 on a case-by-case basis.

State Stipulation No. 14 - Coastal Zone

During the conduct of all activities related to this lease, the lessee will be subject to the provisions of all valid coastal zone plans and ordinances.

~~State Stipulation No. 15 - Coastal Zone~~

~~If the State is ultimately determined to be the owner of lands on which this lease is located, conduct of all activities on this lease will thereafter be subject to the provisions of all valid coastal zone plans and ordinances.~~

State Stipulation No. 16 - Drilling Commitment (Five-Year)

The lessee must commence to drill a well, or commit the lease to an exploratory unit approved by the Commissioner of Natural Resources, by the end of the fifth year of the lease. If a well has not been commenced or the lease has not been committed to an approved unit by that time, the lease terminates automatically as to both parties.

State Stipulation No. 17 - Drilling Commitment (Seven-Year)

The lessee must commence to drill a well, or commit the lease to an exploratory unit approved by the Commissioner of Natural Resources, by the end of the seventh year of the lease. If a well has not been commenced or the lease has not been committed to an approved unit by that time, the lease terminates automatically as to both parties.

~~State Stipulation No. 18 - Royalty in Kind~~

~~Although the royalty rate specified in this lease, or as subsequently modified in accordance with applicable regulations and stipulations, is applicable to all production under this lease, not more than 18.6667 percent of the production saved, removed, or sold from the leased area may be taken as royalty in amount (in kind); the royalty on any portion of the production saved, removed, or sold from the lease in excess of 18.6667 percent may only be taken in value of the production saved, removed, or sold from the leased area.~~

State Stipulation No. 19 - Royalty in Kind

Although the royalty rate specified in this lease or as subsequently modified in accordance with applicable regulations and stipulations, is applicable to all production under this lease, not more than twenty (20) percent of the production saved, removed, or sold from the leased area may be taken as royalty in amount (in kind); the royalty on any portion of the production saved, removed, or sold from the lease in excess of twenty (20) percent may only be taken in value of the production saved, removed, or sold from the leased area.

FORM NO. DMEM-4-83  
(NET PROFIT SHARE)  
(Revised May 6, 1983)  
DNR 10-1113

BOOK 40 PAGE 844  
Barrow Recording District

STATE OF ALASKA  
DEPARTMENT OF NATURAL RESOURCES

Competitive Oil and Gas Lease

ADL No. 355081

THIS LEASE is entered into August 1, 1983, between the State of Alaska, "The state," and

J. ANDREW BACHNER (30%), JAMES F. DIERINGER, JR. (15%), W.G. STROECKER (22.5%),  
RICHARD E. WAGNER (32.5%)

"the lessee," whether one or more, whose sole address for purposes of notification under Paragraph 25 is

J. Andrew Bachner et al  
c/o Main Hurdman

1001 Noble Street, Fairbanks, AK 99701

In consideration of the cash payment made by the lessee to the state, which payment includes the first year's rental and any required cash bonus, and subject to the provisions of this lease, including applicable stipulation(s) and mitigating measures attached to this lease and by this reference incorporated in this lease, the state and the lessee agree as follows:

1. GRANT. (a) Subject to the provisions in this lease, the state grants and leases to the lessee, without warranty, the exclusive right to drill for, extract, remove, clean, process, and dispose of oil, gas, and associated substances in or under the following described tract of land:

TRACT 39-01

T. 13 N., R. 13 E., Uniat Meridian, Alaska

Section 17,	Protracted, All, 640.00 acres;
Section 18,	Protracted, All, 631.00 acres;
Section 19,	Protracted, All, 633.00 acres;
Section 20,	Protracted, All, 640.00 acres;
Section 25,	Protracted, All, 640.00 acres;
Section 26,	Protracted, All, 640.00 acres;
Section 27,	Protracted, All, 640.00 acres;
Section 28,	Protracted, All, 640.00 acres;
Section 29,	Protracted, All, 640.00 acres.

RECEIVED

JUN 4 1984

DIVISION OF OIL & GAS  
ANCHORAGE, ALASKA

containing approximately 5744.00 acres, more or less (referred to in this lease as the "leased area"); the nonexclusive right to conduct within the leased area geological and geophysical exploration for oil, gas, and associated substances; and the nonexclusive right to install pipelines and build structures on the leased area to find, produce, save, store, treat, process, transport, take care of, and market all oil, gas, and associated substances and to lease and board employees in its operations on the leased area. The rights granted by this lease are to be exercised in a manner which will not unreasonably interfere with the rights of any permittee, lessee or grantee of the state consistent with the principle of reasonable concurrent uses set out in article VIII, section 8 of the Alaska Constitution.

(b) For the purposes of this lease the leased area contains the legal subdivisions as shown on the attached plat marked Exhibit A.

(c) If the leased area is described by protracted legal subdivisions and, after the effective date of this lease, the leased area is surveyed under the public land rectangular system, the boundaries of the leased area are those established by that survey, when approved, subject, however, to the provisions of applicable regulations relating to those surveys. If for any reason the leased area includes more acreage than the maximum permitted under applicable law (including the "rule of approximation" authorized in AS 38.05.145 and defined in AS 38.05.365(1)(3)), this lease is not void and the acreage included in the leased area must be reduced to the permitted maximum. If the state determines that the leased area exceeds the permitted acreage and notifies the lessee in writing of the amount of acreage that must be eliminated, the lessee must have 60 days after that notice to surrender one or more legal subdivisions included in the leased area comprising at least the amount of acreage that must be eliminated. Any subdivision surrendered must be located on the perimeter of the leased area as originally described. If a surrender is not filed within 60 days, the state may terminate this lease as to the acreage that must be eliminated by mailing notice of the termination to the lessee describing the subdivisions to be eliminated.

(d) If the State of Alaska's ownership interest in the oil, gas, and associated substances in the leased area is less than an entire and undivided interest, the grant under this lease is effective only as to the state's interest in that oil, gas, and associated substances, and the royalties and rentals provided in this lease must be paid to the state in the proportion that the state's interest bears to the entire undivided fee.

(e) The state makes no representations or warranties, express or implied, as to title, or access to, or quiet enjoyment of, the leased area. The state is not liable to the lessee for any deficiency in title to the leased area, nor is the lessee or any successor in interest to the lessee entitled to any refund due to deficiency in title for any rentals, bonuses, or royalties paid under this lease.

2. RESERVED RIGHTS. (a) The state, for itself and others, reserves all rights not expressly granted to the lessee by this lease. These reserved rights include, but are not limited to:

- (1) the right to explore for oil, gas, and associated substances by geological and geophysical means;
- (2) the right to explore for, develop, and remove natural resources other than oil, gas, and associated substances on or from the leased area;
- (3) the right to establish or grant easements and rights-of-way for any lawful purpose, including without limitation for shafts and tunnels necessary or appropriate for the working of the leased area or other lands for natural resources other than oil, gas, and associated substances;
- (4) the right to dispose of land within the leased area for well sites and well bores of wells drilled from or through the leased area to explore for or produce oil, gas, and associated substances in and from lands not within the leased area; and
- (5) the right otherwise to manage and dispose of the surface of the leased area or interests in that land by grant, lease, permit, or otherwise to third parties.

(b) The rights reserved may be exercised by the state, or by any other person or entity acting under authority of the state, in any manner that does not unreasonably interfere with or endanger the lessee's operations under this lease.

3. TERM. This lease is issued for an initial primary term of 10 years from the effective date of this lease. The term may be extended as provided in Paragraph 4 below.

4. EXTENSION. (a) This lease will be extended automatically if and for so long as oil or gas is produced in paying quantities from the leased area.

(b) This lease will be extended automatically if it is committed to a unit agreement approved or prescribed by the state, and will remain in effect for so long as it remains committed to that unit agreement.

(c) (1) If the drilling of a well whose bottom hole location is in the leased area has commenced as of the date on which the lease otherwise would expire and is continued with reasonable diligence, this lease will continue in effect until 90 days after cessation of that drilling and for so long as oil or gas is produced in paying quantities from the leased area.

(2) If oil or gas in paying quantities is produced from the leased area, and if that production ceases at any time, this lease will not terminate if drilling or reworking operations are commenced on the leased area within six months after cessation of production and are prosecuted with reasonable diligence; if those drilling or reworking operations result in the production of oil or gas, this lease will remain in effect for so long as oil or gas is produced in paying quantities from the leased area.

(d) If there is a well capable of producing oil or gas in paying quantities on the leased area, this lease will not expire because the lessee fails to produce that oil or gas unless the state gives notice to the lessee, allowing a reasonable time, which will not be less than six months after notice, to place the well into production, and the lessee fails to do so. If production is established within the time allowed, this lease is extended only for so long as oil or gas is produced in paying quantities from the leased area.

(e) If the state directs or approves in writing a suspension of all operations on or production from the leased area (except for a suspension necessitated by the lessee's negligence), or if a suspension of all operations on or production from the leased area has been ordered under federal, state, or local law, the lessee's obligation to comply with any express or implied provision of this lease requiring operations or production will be suspended, but not voided, and the lessee shall not be liable for damages for failure to comply with that provision. If the suspension occurs before the expiration of the primary term, the primary term will be extended at the end of the period of the suspension by adding the period of time lost under the primary term because of the suspension. If the suspension occurs during an extension of the primary term under this paragraph, upon removal of that suspension, the lessee will have a reasonable time, which will not be less than six months after notice that the suspension has been removed, to resume operations or production. For the purposes of this subparagraph, any suspension of operations or production specifically required or imposed as a term of sale or by any stipulation made a part of this lease will not be considered a suspension ordered by law.

(f) If the state determines that the lessee has been prevented by force majeure, after efforts made in good faith, from performing any act that would extend the lease beyond the primary term, this lease will not expire during the period of force majeure. If the force majeure occurs before the expiration of the primary term, the primary term will be extended at the end of the period of force majeure by adding the period of time lost under the primary term because of the force majeure. If the force majeure occurs during an extension of the primary term under this paragraph, this lease will not expire during the period of force majeure plus a reasonable time after that period, which will not be less than 60 days, for the lessee to resume operations or production.

(g) Nothing in subparagraph (e) or (f) suspends the obligation to pay royalties or other production or profit-based payments to the state from operations on the leased area that are not affected by any suspension or force majeure, or suspends the obligation to pay rentals.

5. RENTALS. (a) The lessee shall pay annual rental to the state in accordance with the following rental schedule:

- (1) For the first year, \$1.00 per acre or fraction of an acre;
- (2) For the second year, \$1.50 per acre or fraction of an acre;
- (3) For the third year, \$2.00 per acre or fraction of an acre;
- (4) For the fourth year, \$2.50 per acre or fraction of an acre;
- (5) For the fifth year and following years, \$3.00 per acre or fraction of an acre; provided that the state may increase the annual rental rate as provided by law upon extension of this lease beyond the primary term.

(b) Annual rental paid in advance is a credit on the royalty or net profit share due under this lease for that year.

(c) The lessee shall pay the annual rental to the State of Alaska for any depository designated by the state with at least 60 days notice to the lessee in advance, on or before the annual anniversary date of this lease. The state is not required to give notice that rentals are due by billing the lessee. If the state's (or depository's) office is not open for business on the annual anniversary date of this lease, the time for payment is extended to include the next day on which that office is open for business. If the annual rental is not paid timely, this lease automatically terminates as to both parties of 11:59 p.m., Alaska Standard Time, on the date by which the rental payment was to have been made.

d. RECORDS. The lessee shall keep and have in its possession books and records showing the development and production (including records of development and production expenses) and disposition (including records of sales prices, volumes, and purchasers) of all oil, gas, and associated substances produced from the leased area. The lessee shall permit the State of Alaska or its agents to examine these books and records at all reasonable times. These books and records of development, production, and disposition must employ methods and techniques that will ensure the most accurate figures reasonably available without requiring the lessee to provide separate tankage or meters for each well. The lessee shall use standard and consistent accounting procedures.

7. APPORTIONMENT OF ROYALTY FROM APPROVED UNIT. The state's royalty share of the unit production allocated to each separately owned tract must be regarded as royalty to be distributed to and among, or the proceeds of it paid to, the state, free and clear of all unit expenses and free of any lien for them. Under this provision, the state's royalty share of any unit production allocated to the leased area will be regarded as royalty to be distributed to, or the proceeds of it paid to, the state, free and clear of all unit expenses (and any portion of those expenses incurred away from the unit area), including, but not limited to, expenses for separating, cleaning, dehydration, gathering, saltwater disposal, and preparing oil, gas, or associated substances for transportation off the unit area, and free of any lien for them.

8. PAYMENTS. All payments to the State of Alaska under this lease must be made payable to the state in the manner directed by the state, and, unless otherwise specified, must be tendered to the state at

DEPARTMENT OF NATURAL RESOURCES  
POUCH 7-005  
ANCHORAGE, ALASKA 99510  
ATTENTION: ACCOUNTING

or to any depository designated by the state with at least 60 days notice to the lessee.

9. PLAN OF OPERATIONS (a) Except as provided in subparagraph (b) below, no lease operations may be undertaken on the leased area until a plan of operations has been approved by the state if:

- (1) the State of Alaska owns all or part of the surface estate of the leased area;
- (2) the lease reserves a net profit share to the State of Alaska; or
- (3) the State of Alaska owns all or part of the mineral estate, but the entire surface estate of the leased area is owned by a party other

than the State of Alaska and a surface owner requests that a plan of operations be required by the state for the portion of the leased area owned by that surface owner.

(b) A lease plan of operations will not be required by the state for:

- (1) lease operations that would not require a land use permit under 11 AAC; or
- (2) lease operations undertaken under an approved unit plan of operations in accordance with 11 AAC.

(c) Before undertaking operations on the leased area, the lessee shall provide for full payment of all damages sustained by the owner of the surface estate as well as by the surface owner's lessees and permittees by reason of entering the land. If the surface estate is owned by a party other than the State of Alaska, the lessee shall also notify the surface owner of his opportunity to request that the state require a plan of operations before allowing lease operations to be undertaken on the portion of the leased area owned by the requesting surface owner.

(d) The lessee shall file with the state 10 copies of its proposed plan of operations if the proposed operations are within the coastal zone, and five copies if the proposed operations are not within the coastal zone.

(e) An application for approval of a plan of operations must contain sufficient information, based on data reasonably available at the time the plan is submitted for approval, for the state to determine the surface use requirements and impacts directly associated with the proposed operations. An application must include statements and maps or drawings setting out the following:

- (1) the sequence and schedule of the operations to be conducted on the leased area, including the date operations are proposed to begin and their proposed duration;
- (2) projected use requirements directly associated with the proposed operations, including but not limited to the location and design of well sites, material sites, water supplies, solid waste sites, sumps, buildings, roads, utilities, airstrips, and all other facilities and equipment necessary to conduct the proposed operations;
- (3) plans for rehabilitation of the affected leased area after completion of operations or phases of those operations; and
- (4) a description of operating procedures designed to prevent or minimize adverse effects on other natural resources and other uses of the leased area and adjacent areas, including fish and wildlife habitats, historic and archeological sites, and public use areas.

(f) In approving a lease or unit plan of operations, or an amendment of a plan, the state will require amendments if determined necessary to protect the state's interest, including the environment. The state will not require any amendment that would be inconsistent with the terms of sale under which the lease was obtained or with the terms of the lease itself, or would deprive the lessee of reasonable use of the leasehold interest.

(g) The lessee may, with the approval of the state, amend an approved plan of operations.

(h) Approval by the state of a plan of operations or any modifications of a plan of operations signifies only that the state has no objection to the operations outlined in the plan from the standpoint of the lease administrator and does not relieve the lessee of its obligation to obtain approvals and permits required by other governmental agencies having regulatory authority over those operations.

(i) All of the lessee's operations on the leased area must be in conformance with the approved plan of operations.

(j) Upon completion of operations, the lessee shall inspect the area of operations and submit a report indicating the completion date of operations and stating any noncompliance of which the lessee knows, or should reasonably know, with requirements imposed as a condition of approval of the plan.

10. PLAN OF DEVELOPMENT (a) Except as provided in subparagraph (d) below, within 12 months after certification of a well capable of producing oil, gas, or associated substances in paying quantities, the lessee shall file two copies of an application for approval by the state of an initial plan of development that must describe the lessee's plans for developing the leased area. No development of the leased area may occur until a plan of development has been approved by the state.

(b) The plan of development must be revised, updated, and submitted to the state for approval annually before or on the anniversary date of the previously approved plan. If no changes from an approved plan are contemplated for the following year, a statement to that effect must be filed for approval in lieu of the required revision and update.

(c) The lessee may, with the approval of the state, subsequently modify an approved plan of development.

(d) If the leased area is included in an approved unit, the lessee will not be required to submit a separate lease plan of development for unit activities.

11. LOGS AND OTHER RECORDS OF OPERATIONS. (a) The lessee shall file with the state all logs, geological and geophysical surveys taken, a description of all tests run for each well drilled on the leased area, and a plat showing the exact location of each well, within 30 days after each well or survey has been completed, suspended, or abandoned.

(b) Any information filed by the lessee with the state in connection with this lease will be available at all times for the use of the state and its agents, subject to the duty to keep the information confidential as provided in AS 38.05.035(a)(9), AS 31.05.035, and applicable regulations.

**12. DIRECTIONAL DRILLING** This lease may be maintained in effect by directional wells whose bottom hole location is on the leased area but that are drilled from locations on other lands not covered by this lease. In those circumstances, drilling will be considered to have commenced on the leased area when actual drilling is commenced on those other lands for the purpose of directionally drilling into the leased area. Production of oil or gas from the leased area through any directional well surfaced on those other lands, or drilling or reworking of that directional well, will be considered production or drilling or reworking operations on the leased area for all purposes of this lease. Nothing contained in this paragraph is intended or will be construed as granting to the lessee any interest, license, easement, or other right in or with respect to those lands in addition to any interest, license, easement, or other right that the lessee may have lawfully acquired from the state or from others.

**13. DILIGENCE AND PREVENTION OF WASTE** (a) The lessee shall exercise reasonable diligence in drilling, producing, and operating wells on the leased area unless consent to suspend operations temporarily is granted by the state.

(b) Upon discovery of oil or gas on the leased area in quantities that would appear to a reasonable and prudent operator to be sufficient to recover ordinary costs of drilling, completing, and producing an additional well in the same geologic structure at another location with a reasonable profit to the operator, the lessee must drill those wells as a reasonable and prudent operator would drill, having due regard for the interest of the state as well as the interest of the lessee.

(c) The lessee shall perform all operations under this lease in a good and workmanlike manner in accordance with the methods and practices set out in the approved plan of operations and plan of development, with due regard for the prevention of waste of oil, gas, and associated substances and the entrance of water to the oil and gas-bearing sands or strata to the destruction or injury of those sands or strata, and to the preservation and conservation of the property for future productive operations. The lessee shall carry out at the lessee's expense all orders and requirements of the State of Alaska relative to the prevention of waste and to the preservation of the leased area. If the lessee fails to carry out these orders, the state will have the right, together with any other available legal recourse, to enter the leased area to repair damage or prevent waste at the lessee's expense.

(d) The lessee shall securely plug in an approved manner any well before abandoning it.

**14. OFFSET WELLS** The lessee shall drill such wells as a reasonable and prudent operator would drill to protect the state from loss by reason of drainage resulting from production on other land. Without limiting the generality of the foregoing sentence, if oil or gas is produced in a well on other land not owned by the State of Alaska or on which the State of Alaska receives a lower rate of royalty than under this lease, and that well is within 500 feet in the case of an oil well or 1,500 feet in the case of a gas well of lands then subject to this lease, and that well produces oil or gas for a period of 30 consecutive days in quantities that would appear to a reasonable and prudent operator to be sufficient to recover ordinary costs of drilling, completing, and producing an additional well in the same geological structure at an offset location with a reasonable profit to the operator, and if, after notice to the lessee and an opportunity to be heard, the state finds that production from that well is draining lands then subject to this lease, the lessee shall within 30 days after written demand by the state begin in good faith and diligently prosecute drilling operations for an offset well on the leased area. In lieu of drilling any well required by this paragraph, the lessee may, with the state's consent, compensate the state in full each month for the estimated loss of royalty through drainage in the amount determined by the state.

**15. UNITIZATION** (a) The lessee may unite with others, jointly or separately, in collectively adopting and operating under a cooperative or unit agreement for the exploration, development, or operation of the pool, field, or like area or part of the pool, field, or like area that includes or underlies the leased area or any part of the leased area whenever the state determines and certifies that the cooperative or unit agreement is in the public interest.

(b) The lessee agrees, within six months after demand by the state, to subscribe to a reasonable cooperative or unit agreement that will adequately protect all parties in interest, including the state. The state reserves the right to prescribe such an agreement.

(c) With the consent of the lessee, and if the leased area is committed to a unit agreement approved by the state, the state may establish, alter, change, or revoke drilling, producing, and royalty requirements of this lease as the state determines necessary or proper to secure the proper protection of the public interest.

(d) Except as otherwise provided in this subparagraph, where only a portion of the leased area is committed to a unit agreement approved or prescribed by the state, that commitment constitutes a severance of this lease as to the unitized and nonunitized portions of the leased area. The portion of the leased area not committed to the unit will be treated as a separate and distinct lease having the same effective date and term as this lease and may be maintained only in accordance with the terms and conditions of this lease, statutes, and regulations. Any portion of the leased area not committed to the unit agreement will not be affected by the unitization or pooling of any other portion of the leased area, by operations in the unit, or by suspension approved or ordered for the unit. If the leased area has a well certified as capable of production in paying quantities on it before commitment to a unit agreement, this lease will not be severed. If any portion of this lease is included in a participating area formed under a unit agreement, the entire leased area will remain committed to the unit and this lease will not be severed.

**16. INSPECTION** The lessee shall keep open at all reasonable times, for inspection by any duly authorized representative of the State of Alaska, the leased area, all wells, improvements, machinery, and fixtures on the leased area, and all reports and records relative to operations and surveys or investigations on or with regard to the leased area or under this lease. Upon request, the lessee shall furnish the State of Alaska with copies of and extracts from any such reports and records.

**17. SUSPENSION** The state may from time to time direct or approve in writing suspension of production or other operations under this lease.

**18. ASSIGNMENT, PARTITION, AND CONVERSION** This lease, or any undivided interest in this lease, may, with the approval of the state, be assigned, subleased, or otherwise transferred as to the entire leased area, or any one or more legal subdivisions included in the leased area, or any separate and distinct zone or geological horizon underlying the leased area or one or more legal subdivisions of the leased area, to any person or persons qualified to hold a lease. No assignment, sublease, or other transfer of an interest in this lease, including assignments of working or royalty interests and operating agreements and subleases, will be binding upon the state unless approved by the state. The lessee shall remain liable for all obligations under this lease accruing prior to the approval by the state of any assignment, sublease, or other transfer of an interest in this lease. All provisions of this lease will extend to and be binding upon the heirs, administrators, successors, and assigns of the state and the lessee. Applications for approval of an assignment, sublease, or other transfer must comply with all applicable regulations and must be filed within 90 days after the date of final execution of the instrument of transfer. Transfer of this lease or an interest in this lease will be approved by the state unless (1) the lessee fails to comply with applicable statutes and regulations, (2) the state determines in writing that the transfer would adversely affect the interests of the State of Alaska, or (3) at the discretion of the state, if the transfer covers a portion of the leased area or a separate and distinct zone or geological horizon. Where an assignment, sublease, or other transfer is made of all or a part of the lessee's interest in a portion of the leased area, this lease may, at the option of the state or upon request of the transferee and with the approval of the state, be severed, and a separate and distinct lease will be issued to the transferee having the same effective date and terms as this lease.

**19 SURRENDER** The lessee at any time may file with the state a written surrender of all rights under this lease or any portion of the leased area comprising one or more legal subdivisions or, with the consent of the state, any separate and distinct zone or geological horizon underlying the leased area or one or more legal subdivisions of the leased area. That surrender will be effective as of the date of filing, subject to the continued obligations of the lessee and its surety to make payment of all accrued royalties and to place all wells and surface facilities on the surrendered land or in the surrendered zones or horizons in condition satisfactory to the state for suspension or abandonment. After that, the lessee will be released from all obligations under this lease with respect to the surrendered lands, zones, or horizons.

**20 DEFAULT AND TERMINATION CANCELLATION** (a) The failure of the lessee to perform timely its obligations under this lease, or the failure of the lessee otherwise to abide by all express and implied provisions of this lease, is a default of the lessee's obligations under this lease. Whenever the lessee fails to comply with any of the provisions of this lease (other than a provision which, by its terms, provides for automatic termination), and fails within 60 days after written notice of that default to begin and diligently prosecute operations to remedy that default, the state may terminate this lease if at the time of termination there is no well on the leased area capable of producing oil or gas in paying quantities. If there is a well on the leased area capable of producing oil or gas in paying quantities, this lease may be terminated by an appropriate judicial proceeding. In the event of any termination under this subparagraph, the lessee shall have the right to retain under this lease any and all drilling or producing wells for which no default exists, together with a parcel of land surrounding each well or wells and rights-of-way through the leased area that are reasonably necessary to enable the lessee to drill, operate, and transport oil or gas from the retained well or wells.

(b) The state may cancel this lease at any time if the state determines, after the lessee has been given notice and a reasonable opportunity to be heard, that (1) continued operations pursuant to this lease probably will cause serious harm or damage to biological resources, to property, to mineral resources, or to the environment (including the human environment), (2) the threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time, and (3) the advantages of cancellation outweigh the advantages of continuing this lease in effect. Any cancellation under this subparagraph will not occur unless and until operations under this lease have been under suspension or temporary prohibition by the state, with due extension of the term of this lease continuously for a period of five years or for a lesser period upon request of the lessee. Any cancellation under this subparagraph will entitle the lessee to receive compensation as the lessee demonstrates to the state is equal to the lesser of (1) the value of the cancelled rights as of the date of cancellation, with due consideration being given to both anticipated revenues from this lease and anticipated costs, including costs of compliance with all applicable regulations and stipulations, liability for clean-up costs or damages, or both, in the case of an oil spill, and all other costs reasonably anticipated under this lease, or (2) the excess, if any, over the lessee's revenues from this lease (plus interest on the excess from the date of receipt to date of reimbursement) of all consideration paid for this lease and all direct expenditures made by the lessee after the effective date of this lease and in connection with exploration or development, or both, under this lease, plus interest on that consideration and those expenditures from the date of payment to the date of reimbursement.

**21 RIGHTS UPON TERMINATION** Upon the expiration or earlier termination of this lease as to all or any portion of the leased area, the lessee will be directed in writing by the state and will have the right at any time within a period of one year after the termination, or any extension of that period as may be granted by the state, to remove from the leased area or portion of the leased area all machinery, equipment, tools, and materials. Upon the expiration of that period or extension of that period and at the option of the state, any machinery, equipment, tools, and materials that the lessee has not removed from the leased area or portion of the leased area become the property of the state or may be removed by the state at the lessee's expense. At the option of the state, all improvements such as roads, pads, and wells must either be abandoned and the sites rehabilitated by the lessee to the satisfaction of the state, or be left intact and the lessee absolved of all further responsibility as to their maintenance, repair, and eventual abandonment and rehabilitation. Subject to the above conditions, the lessee shall deliver up the leased area or those portions of the leased area in good condition.

**22 DAMAGES AND INDEMNIFICATION** (a) No rights under the AS 38.05.125 reservation may be exercised by the lessee until the lessee has provided to pay the owner of the land, his lessees and permittees, upon which the AS 38.05.125 reserved rights are sought to be exercised, full payment for all damage sustained by the owner by reason of entering the land. If the owner for any reason does not settle the damages, the lessee may enter the land after posting a surety bond determined by the state, after notice and an opportunity to be heard, to be sufficient as to form, amount, and security to secure to the owner, his lessees and permittees, payment for damages, and may institute legal proceedings in a court of competent jurisdiction where the land is located to determine the damages which the owner of the land may suffer. The lessee agrees to pay for any damages that may become payable under AS 38.05.130 and to indemnify the state and hold it harmless from and against any claims, demands, liabilities, and expenses arising from or in connection with such damages. The furnishing of a bond in compliance with this paragraph will be regarded by the state as sufficient provision for the payment of all damages that may become payable under AS 38.05.130 by virtue of this lease.

(b) The lessee shall indemnify the state for, and hold it harmless from, any claim, including claims for loss or damage to property or injury to any person caused by or resulting from any act or omission committed under this lease by or on behalf of the lessee. The lessee is not responsible to the state under this subparagraph for any loss, damage, or injury caused by or resulting from the sole negligence of the state.

(c) The lessee expressly waives any defense to an action for breach of a provision of this lease or for damages resulting from an oil spill or other harm to the environment that is based on an act or omission committed by an independent contractor in the lessee's employ. The lessee expressly agrees to assume responsibility for all actions of its independent contractors.

**23 BONDS** (a) If required by the state, the lessee shall furnish a bond prior to the issuance of this lease in an amount equal to at least \$5 per acre or fraction of an acre contained in the leased area, but no less than \$10,000, and must maintain that bond as long as required by the state.

(b) The lessee may, in lieu of the bond required under (a) above, furnish and maintain a statewide bond in accordance with applicable regulations.

(c) The state may, after notice to the lessee and a reasonable opportunity to be heard, require a bond in a reasonable amount greater than the amount specified in (a) above where a greater amount is justified by the nature of the surface and its uses and the degree of risk involved in the types of operations being or to be carried out under this lease. A statewide bond will not satisfy any requirement of a bond imposed under this subparagraph, but will be considered by the state in determining the need for and the amount of any additional bond under this subparagraph.

(d) If the leased area is committed in whole or in part to a cooperative or unit agreement approved or prescribed by the state, and the unit operator furnishes a statewide bond, the lessee need not maintain any bond with respect to the portion of the leased area committed to the cooperative or unit agreement.

**24. AUTHORIZED REPRESENTATIVES.** The Director of the Division of Minerals and Energy Management, Department of Natural Resources, State of Alaska, and the person executing this lease on behalf of the lessee shall be authorized representatives for their respective principal for the purpose of administering this lease. The state or the lessee may change the designation of its authorized representative or the address to which notices to that representative are to be sent by a notice given in accordance with Paragraph 25 below. Where activities pursuant to a plan of operations are underway, the lessee shall also designate, pursuant to a notice under Paragraph 25 below, by name, job title, and address, an agent who will be present in the state during all lease activities.

**25. NOTICES; PROTEST.** (a) Any notices required or permitted under this lease must be by electronic media producing a permanent record or in writing and must be given personally or by registered or certified mail, return receipt requested, addressed as follows:

TO THE STATE:

DIRECTOR, DIVISION OF MINERALS AND ENERGY MANAGEMENT  
DEPARTMENT OF NATURAL RESOURCES  
POUCH 7-034  
ANCHORAGE, ALASKA 99510

TO THE LESSEE:

J. Andrew Bachner et al  
c/o Main Hurdman  
1001 Noble Street  
Fairbanks, Alaska 99701

(b) Any notice given under this paragraph will be effective when delivered to the above authorized representative.

(c) A lessee who wishes to protest the amount of money due the state under the lease or any action of the state regarding a provision of this lease must file a written protest with the Division of Minerals and Energy Management within 30 days after the mailing date of the state's notice or bill. A lessee who fails to file a protest within the required time waives any further right to protest. The state will establish the administrative appeal procedure to be followed and will inform the lessee of the procedure no later than 30 days after the filing of the written protest.

**26. STATUTES AND REGULATIONS.** This lease is subject to all applicable state and federal statutes and regulations in effect on the effective date of this lease, and insofar as is constitutionally permissible, to all statutes and regulations placed in effect after the effective date of this lease. A reference to a statute or regulation in this lease includes any change in that statute or regulation whether by amendment, repeal and replacement, or other means. This lease does not limit the power of the State of Alaska or the United States of America to enact and enforce legislation or to promulgate and enforce regulations affecting, directly or indirectly, the activities of the lessee or its agents in connection with this lease or the value of the interest held under this lease. In case of conflicting provisions, statutes and regulations take precedence over this lease.

**27. INTERPRETATION.** This lease is to be interpreted in accordance with the rules applicable to the interpretation of contracts made in the State of Alaska. The paragraph headings are not part of this lease and are inserted only for convenience. The state and the lessee expressly agree that the law of the State of Alaska will apply in any judicial proceeding affecting this lease.

**28. INTEREST IN REAL PROPERTY.** It is the intention of the parties that the rights granted to the lessee by this lease constitute an interest in real property in the leased area.

**29. WAIVER OF CONDITIONS.** The state reserves the right to waive any breach of a provision of this lease, but any such waiver extends only to the particular breach so waived and does not limit the rights of the state with respect to any future breach; nor will the waiver of a particular breach prevent cancellation of this lease for any other cause or for the same cause occurring at another time. Notwithstanding the foregoing, the state will not be deemed to have waived a provision of this lease unless it does so in writing.

**30. SEVERABILITY.** If it is finally determined in any judicial proceeding that any provision of this lease is invalid, the state and the lessee may jointly agree by a written amendment to this lease that, in consideration of the provisions in that written amendment, the invalid portion will be treated as severed from this lease and that the remainder of this lease, as amended, will remain in effect.

**31. LOCAL HIRE.** The lessee is encouraged to hire Alaska residents to the extent they are available and qualified, to perform work done in Alaska in connection with this lease. The lessee shall submit annually to the Director, Division of Minerals and Energy Management, for transmission to the Alaska Department of Labor, a report that details the specific measures the lessee and its contractors and subcontractors have taken or are planning to take to recruit qualified Alaska residents for available jobs, and describes on-the-job training opportunities. The report must also include statistical data concerning the number of resident personnel hired within the past year for Alaska operations.

**32. CONDITIONAL LEASE.** If all or a part of the leased area is land that has been selected by the state under laws of the United States granting lands to the state, but the land has not been patented to the state by the United States, then this lease is a conditional lease as provided by law until the patent becomes effective. If for any reason the selection is not finally approved, or the patent does not become effective, any rental, royalty, or other production or profit-based payments made to the state under this lease will not be refunded.

**33. NONDISCRIMINATION.** The lessee and the lessee's contractors and subcontractors may not discriminate against any employee or applicant because of race, religion, marital status, change in marital status, pregnancy, parenthood, physical handicap, color, sex, age, or national origin as set out in AS 18.80.220. The lessee and its contractors and subcontractors must, on beginning any operations under this lease, post in a conspicuous place notices setting out this nondiscrimination provision.

**34. DEFINITIONS.** All words and phrases used in this lease are to be interpreted where possible in the manner required in respect to the interpretation of statutes by AS 01.10.040. However, the following words have the following meanings unless the context unavoidably requires otherwise:

(1) "oil" means crude petroleum oil and other hydrocarbons, regardless of gravity, that are produced in liquid form by ordinary production methods, including liquid hydrocarbons known as distillate or condensate recovered by separation from gas other than at a gas processing plant;

(2) "gas" means all natural gas (except helium gas) and all other hydrocarbons produced that are not defined in this lease as oil;

(3) "associated substances" means all substances except helium produced as an incident of production of oil or gas by ordinary production methods and not defined in this lease as oil or gas;

(4) "drilling" means the act of boring a hole to reach a proposed bottom hole location through which oil or gas may be produced if encountered in paying quantities, and includes reworking, sidetracking, deepening, or other means necessary to reach the proposed bottom hole location, testing, logging, plugging, and other operations necessary and incidental to the actual boring of the hole;

(5) "reworking operations" means all operations designed to secure, restore, or improve production through some use of a hole previously drilled, including, but not limited to, mechanical or chemical treatment of any horizon, plugging back to test higher strata, etc.;

(6) "paying quantities" means quantities sufficient to yield a return in excess of operating costs, even if drilling and equipment costs may never be repaid and the undertaking considered as a whole may ultimately result in a loss; quantities are insufficient to yield a return in excess of operating costs unless those quantities, not considering the costs of transportation and marketing, will produce sufficient revenue to induce a prudent operator to produce those quantities; and

(7) "force majeure" means war, riots, acts of God, unusually severe weather, or any other cause beyond the lessee's reasonable ability to foresee or control and includes operational failure of existing transportation facilities and delays caused by judicial decisions or lack of them.

**35 ROYALTY ON PRODUCTION** (a) Except for oil, gas, and associated substances used on the leased area for development and production or unavoidably lost, the lessee shall pay to the state as a royalty 12 1/2 percent in amount or value of the oil, gas, and associated substances saved, removed, or sold from the leased area and of the gas used on the leased area for extraction of natural gasoline or other products from the leased area.

**36 VALUE.** (a) For the purposes of computing royalties due under this lease, the value of royalty oil, gas, or associated substances must not be less than the highest of

(1) the field price received by the lessee for the oil, gas, or associated substances;

(2) the volume-weighted average of the three highest field prices received by other producers in the same field or area for oil of like grade and gravity, gas of like kind and quality, or associated substances of like kind and quality at the time the oil, gas, or associated substances are sold or removed from the leased or unit area or the gas is delivered to an extraction plant if that plant is located on the leased or unit area; if there are less than three prices reported by other producers, the volume-weighted average will be calculated using the lesser number of prices received by other producers in the field or area.

(3) the lessee's posted price in the field or area for the oil, gas, or associated substances; or

(4) the volume-weighted average of the three highest posted prices in the same field or area of the other producers in the same field or area for oil of like grade and gravity, gas of like kind and quality, or associated substances of like kind and quality at the time the oil, gas, or associated substances are sold or removed from the leased or unit area or the gas is delivered to an extraction plant if that plant is located on the leased or unit area; if there are less than three prices posted by other producers, the volume-weighted average will be calculated using the lesser number of prices posted by other producers in the field or area.

(b) If oil, gas, or associated substances are sold away from the leased or unit area, the term "field price" in subparagraph (a) above will be the cash value of all consideration received by the lessee or other producer from the purchaser of the oil, gas, or associated substances, less the reasonable costs of transportation away from the leased or unit area to the point of sale. The "reasonable costs of transportation" are as defined in 11 AAC 63 228 - 11 AAC 63 229 as those regulations exist on the effective date of this lease.

(c) In the event the lessee does not sell in an arm's-length transaction the oil, gas, or associated substances after removal from the leased or unit area, the term "field price" in subparagraphs (a) and (b) above will mean the price, on the leased or unit area, the lessee would expect to receive for the oil, gas, or associated substances if the lessee did sell the oil, gas, or associated substances in an arm's-length transaction. The lessee shall determine this price in a consistent and logical manner using information available to the lessee and report that price to the state.

(d) The state may establish minimum values for the purposes of computing royalties on oil, gas, or associated substances obtained from this lease with consideration being given to the price actually received by the lessee, to the price or prices paid in the same field or area for production of like quality, to posted prices, to prices received by the lessee and other producers from sales occurring away from the leased area, and to other relevant matters. In establishing minimum values, the state may use, but is not limited to, the methodology for determining "prevailing value" as defined in 11 AAC 63 227 in circumstances where terms of a contract set a single price for oil, gas, or associated substances for periods of longer than six years without adjustments tied to market conditions, or where the terms of a contract set prices which do not reasonably reflect market conditions for production from that field or area prevailing at the time the contract is executed or renegotiated, or where fraud or an intent to evade payment is demonstrated. Each minimum value determination will be made only after the lessee has been given notice and a reasonable opportunity to be heard. Under this provision, it is expressly agreed that the minimum value of royalty oil, gas, or associated substances under this lease may not necessarily equal the price of the oil, gas or associated substances.

**37 ROYALTY IN VALUE** Unless the state elects to receive all or a portion of its royalty in kind as provided in Paragraph 38 below, the lessee shall pay to the state that value of all royalty oil, gas, and associated substances as determined under Paragraph 36 above. Royalty paid in value will be free and clear of all lease expenses (and any portion of those expenses that is incurred away from the leased area), including, but not limited to, expenses for separating, cleaning, dehydration, gathering, saltwater disposal, and preparing the oil, gas, or associated substances for transportation off the leased area. All royalty that may become payable in money to the State of Alaska must be paid on or before the last day of the calendar month following the month in which the oil, gas, or associated substances are produced. The amount of all royalty in value payments which are not paid when due under this lease or which are subsequently determined to be due as the result of a redetermination will bear interest from the date the obligation accrued, until it is paid in full, at a variable annual rate equal to 1.25 percent plus the prime rate as announced from time to time by the Bank of America, San Francisco, California. Royalty payments must be accompanied by copies of run tickets or other information relating to valuation of royalty as the state may require which may include, but is not limited to, evidence of sales, shipments, and amounts of gross oil, gas, and associated substances produced.

**38 ROYALTY IN KIND** (a) At the state's option, which may be exercised from time to time upon not less than six months' notice to the lessee, the lessee shall deliver all or a portion of the state's royalty oil, gas, or associated substances produced from the leased area in kind. Delivery will be on the leased area or at a place mutually agreed to by the state and the lessee, and must be delivered to the State of Alaska or to any individual, firm, or corporation designated by the state.

(b) Royalty oil, gas, or associated substances delivered in kind must be delivered in good and merchantable condition and be of pipeline quality, and must be free and clear of all lease expenses (and any portion of those expenses incurred away from the leased area), including, but not limited to, expenses for separating, cleaning, dehydration, gathering, saltwater disposal, and preparing the oil, gas, or associated substances for transportation off the leased area.

(c) After having given notice of its intention to take, or after having taken its royalty oil, gas, or associated substances in kind, the state, at its option and upon six months' notice to the lessee, may elect to receive a different portion or none of its royalty in kind. If, under federal regulations, the taking of royalty oil, gas, or associated substances in value by the state creates a supplier-purchaser relationship, the lessee hereby waives its right to continue to receive royalty oil, gas, or associated substances under that relationship, and further agrees that it will require any purchasers of the royalty oil, gas, or associated substances likewise to waive any supplier-purchaser rights.

(d) The lessee shall furnish storage for royalty oil and natural gas liquids produced from the leased or unit area to the same extent that the lessee provides storage for the lessee's share of oil and natural gas liquids. The lessee shall not be liable for the loss or destruction of stored royalty oil and natural gas liquids from causes beyond the lessee's reasonable control.

(e) If a state royalty purchaser refuses or for any reason fails to take delivery of oil, gas, or associated substances, or in an emergency, and with as much notice to the lessee as is practical or reasonable under the circumstances, the state may elect without penalty to underlift for up to six months all or a portion of the state's royalty on oil, gas, or associated substances produced from the leased or unit area and taken in kind. The state's right to underlift is limited to the portion of royalty oil, gas, or associated substances that the royalty purchaser refused or failed to take delivery of, or the portion necessary to meet the emergency condition. Underlifted oil, gas, or associated substances may be recovered by the state at a daily rate not to exceed 10 percent of its royalty interest share of daily production at the time of the underlift recovery.

39. REDUCTION OF ROYALTY After initial production for two years from the field in which the leased or unit area is located has occurred, the state, in its discretion, may reduce the lessee's obligations to pay royalty on all of the leased area or on any tract or portion of the leased area segregated for royalty purposes upon (1) request by the lessee, (2) a clear showing by the lessee that the revenue from all oil, gas, and associated substances produced from the field is insufficient to produce a reasonable rate of return with respect to the lessee's total investment in the field, and (3) a clear showing by the lessee that a reduction in royalty will increase total production from the field.

40. SHARE OF NET PROFIT The lessee shall pay to the State of Alaska 40% of the net profit derived from this lease. For the purposes of this paragraph, calculation of the net profit will be determined in accordance with 11 AAC 83.201 through 11 AAC 83.295 as those regulations exist on the effective date of this lease, which by reference are made a part of this lease. The amount of interest to be earned on the net profit share development account pursuant to 11 AAC 83.212 will be the average of the prime rates of the Citibank, NA New York; Chase Manhattan Bank, NA New York; and the Bank of America, NT and SA San Francisco, prevailing during the month.

41. EFFECTIVE DATE This lease takes effect on August 1, 1983.

BY SIGNING THIS LEASE, the state as lessor and the lessee agree to be bound by its provisions.

LESSEE

By: J. Andrew Bachner

Title: J. Andrew Bachner

By: James F. Dieringer, Jr.

Title: James F. Dieringer, Jr.

By: W.G. Stroecker

Title: W.G. Stroecker

By: Richard E. Wagner

Title: Richard E. Wagner

STATE OF ALASKA  
Third Judicial District )

STATE OF ALASKA

By: Kay Brown

Title: Kay Brown, Director, DMEM

This is to certify that on July 19, 1983 before me appeared KAY BROWN of the Division of Minerals and Energy Management of the State of Alaska, Department of Natural Resources, and who executed this lease and acknowledged voluntarily signing it on behalf of the State of Alaska as lessor.

Carol D. Wilkinson  
Notary public in and for Alaska  
My commission expires: **STATE OF ALASKA  
NOTARY PUBLIC  
CAROL D. WILKINSON  
My Commission Expires Oct. 19, 1986**

INSERT NOTARY ACKNOWLEDGEMENT OF LESSEE'S SIGNATURE HERE.

This is to certify that on June 23, 1983, before me appeared J. Andrew Bachner, James F. Dieringer, Jr., W.G. Stroecker, and Richard E. Wagner of J. Andrew Bachner et al, and who executed this lease and acknowledged voluntarily signing it.

Eileen G. Ring  
Notary public in and for Alaska  
My commission expires: 9-11-84



EXHIBIT "A"

BOOK 40 PAGE 852  
Barrow Recording District

TRACT 39-01

T. 13 N., R. 13 E., Umiat Meridian, Alaska

- Section 17, Protracted, All, 640.00 acres;
- Section 18, Protracted, All, 631.00 acres;
- Section 19, Protracted, All, 633.00 acres;
- Section 20, Protracted, All, 640.00 acres;
- Section 25, Protracted, All, 640.00 acres;
- Section 26, Protracted, All, 640.00 acres;
- Section 27, Protracted, All, 640.00 acres;
- Section 28, Protracted, All, 640.00 acres;
- Section 29, Protracted, All, 640.00 acres.

This tract contains 5744.00 acres more or less.

8 40 5 7 9  
32.00

RECORDED-~~FILED~~  
BARROW RECORDING  
DISTRICT

MAY 16 12 00 PM '84

REQUESTED BY AS/DNR

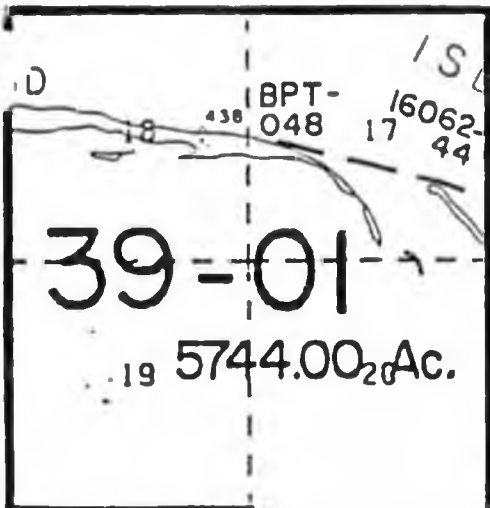
ADDRESS DIV. OF OIL + GAS

POUCH 7-034

ANCHORAGE, AK. 99510

ATTN: ROSENA

# 304731



## MITIGATING MEASURES

AS 38.05.035(a) (14) and the departmental delegation of authority give the Director, Division of Minerals and Energy Management (DDEM), the authority to impose conditions or limitations, in addition to those imposed by statute, to ensure that a resource disposal is in the state's best interest. Lease stipulations will be enforced throughout the term of the lease. Measures listed under "Plans of Operations and Other Terms of Sale" will be imposed through Plans of Operations and other permits to mitigate the social and environmental effects of lease activities. These measures have been developed considering the Social, Economic, and Environmental Analysis for Lease Sale 39, public comment, and measures imposed in prior north slope lease sales.

### Lease Stipulations

#### 1. Spill Prevention Control and Countermeasure (SPCC) Plan:

A Spill Prevention, Control and Countermeasure Plan must be submitted to the Department of Environmental Conservation for approval prior to onshore drilling operations and construction of onshore oil and gas storage facilities (with a capacity of greater than 660 gallons), transfer, and transportation facilities. In addition to addressing the prevention, detection and cleanup of oil, the SPCC plan for drilling operations should include, but not be limited to, methods for controlling blowouts, location of spill clean-up equipment, identification and location of a suitable alternative drilling rig, and the time required to obtain equipment, mobilize, rig-up, and commence drilling of a relief well, if needed.

#### 2. Discovery of historic or archeologic objects:

In the event any site, structure, or object of historic or archeologic significance is discovered during operations on the leased area, the lessee must report immediately such findings to the Director, DDEM, and make every reasonable effort to preserve and protect such site, structure, or object from damage until the Director, after consultation with the State Historic Preservation Officer, has given directions as to its preservation.

#### 3. Seasonal drilling restriction:

This stipulation will be reevaluated periodically on the basis of experience and new information.

A principle purpose of this stipulation is to ensure that the migration route of the bowhead whale will be oil free in the fall.

This stipulation assumes compliance with otherwise applicable laws and regulations, including a Plan of Operations approved by the Department of Natural Resources (DNR) and an Oil Discharge Contingency Plan approved by the Department of Environmental Conservation (DEC).

The restrictions set out below apply only to exploratory drilling offshore. As a matter of policy, the state does not intend to impose seasonal drilling restrictions during development or production stages; however, seasonal restrictions will be imposed as necessary in the development and production stages to satisfy requirements of the federal Endangered Species Act and other applicable state and federal laws and regulations.

The seasonal drilling restriction does not apply to exploratory operations on Pingok Island, which has been identified by the Commissioner of Natural Resources, in consultation with the Commissioners of Environmental Conservation and Fish and Game, as analogous to upland areas because of its size and configuration.

Logistical, construction, and other activities related to exploratory drilling may be restricted outside the barrier islands during the fall whale migration.

The threshold depth as used in this stipulation is a point above which major accumulations of hydrocarbons are not likely. This depth will be determined on a case-by-case basis by the Division of Minerals and Energy Management after consultation with the Alaska Oil and Gas Conservation Commission and, when appropriate, the Minerals Management Service.

Tier 1 is effective immediately. Tier 2 will be available on a case-by-case basis for each proposed well.

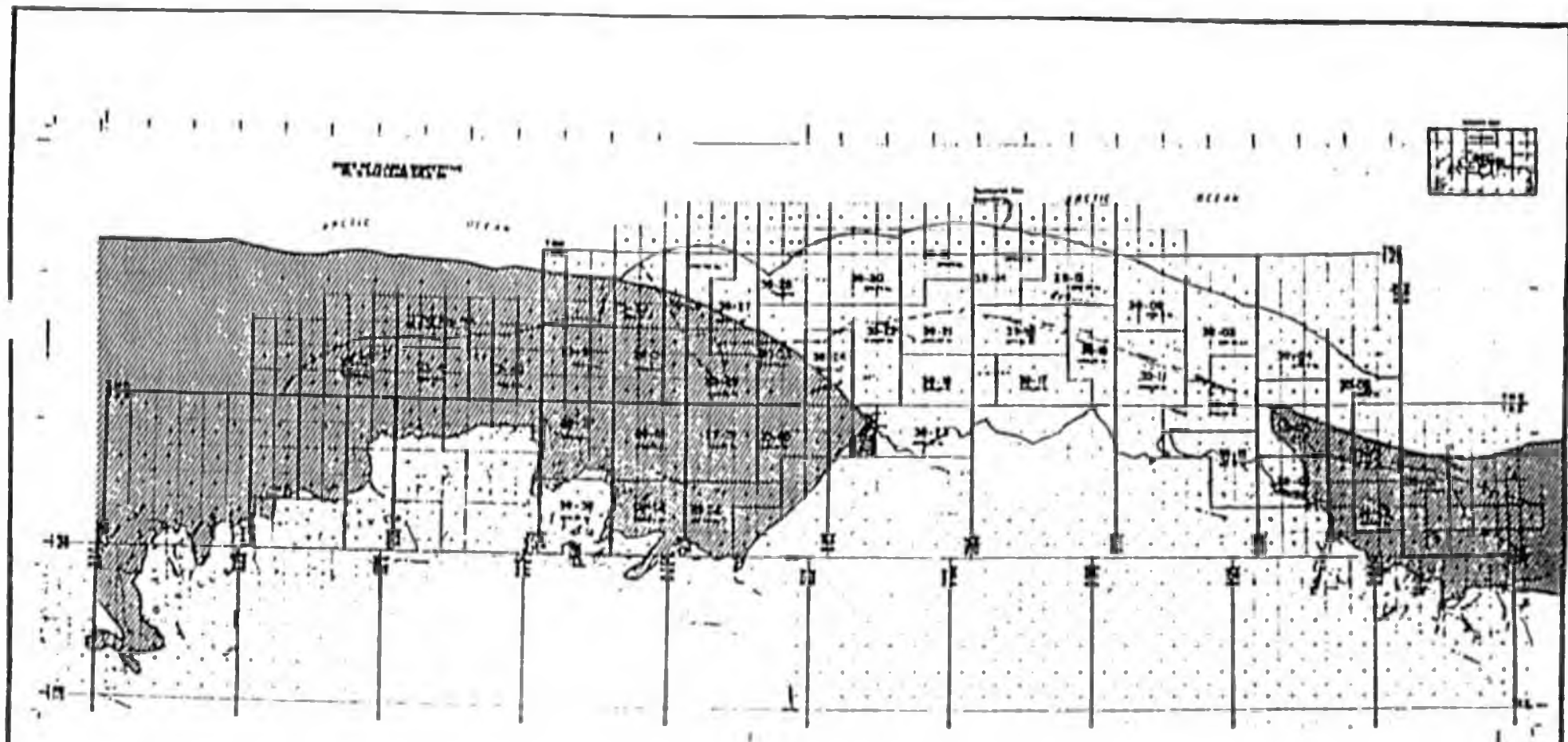
#### TIER 1

A. On and inside the barrier islands--(Figure 1 indicates the tracts and portions of tracts that are located "on and inside" and "outside" the barrier islands.)

1. Exploratory drilling and other downhole activities above a predetermined threshold depth will be allowed year-round.

2. Testing will be allowed year-round provided that casing has been set through the zones to be tested and DNR and DEC find compliance with applicable laws and regulations.

3. Exploratory drilling and other downhole activities below the predetermined threshold depth will be allowed from November 1 to May 15, except on tracts at the mouths of major rivers that are inundated by river overflow in the spring. On these tracts, which are shown in Figure 8, exploratory drilling and other downhole activities below the predetermined threshold depth must cease by April 30 unless the Commissioner of Natural Resources, in consultation with the Commissioners of Fish and Game and Environmental Conservation, determines that ice conditions justify an extension to May 15. Exploratory drilling and other downhole activities below the predetermined threshold depth will be allowed during the "open water" period except during the fall bowhead whale migration.



STATE OF ALASKA  
 DEPARTMENT OF NATURAL RESOURCES  
 DIVISION OF MINERALS AND ENERGY MANAGEMENT  
**OIL AND GAS LEASE SALE 39  
 BEAUFORT SEA TRACT MAP**

WILES

INSPECTOR, D.M.E.M. KIM BUCHAN	DATE APPROVED 3/18/85
LEASING MANAGER PAMELA ROSE	CHECKED 3/18/85

NOTE: THIS MAP IS NOT TO BE CONSIDERED AS AN OFFICIAL TRACT MAP. A SET OF TWO HIGHER SCALE TRACT MAPS IS AVAILABLE AT THE DEPT. OF NATURAL RESOURCES, DIV. OF MINERALS & ENERGY MANAGEMENT, 934 CONROY ST., P.O. BOX 7-030, ANCHORAGE, ALASKA 99507. PHONE (907) 576-2443.

**Seasonal Drilling Restriction  
 Stipulation No. 3**

Note:  
 ----- Denotes boundary between "on and inside" and "outside" the barrier islands for the purpose of administering state stipulation no. 3, 39th Competitive Oil and Gas Lease Sale. This line is not intended to have any other legal effect. For a complete listing of the geographic positions, see the information to Bidders section of the notice of sale.

Tentative Area of Overflooding

FIGURE 1

For the purpose of administering this stipulation, "open water" shall begin when the ice concentration between the drill site and a major onshore staging and support area (such as the West Dock) does not restrict the transport of heavy equipment and supplies (including drilling muds, cleanup equipment, casing and drill rigs) and when the ice concentration within a mile radius of the drill pad is 25 percent or less. Once a determination is made that open water conditions exist, drilling and other downhole activity below the threshold depth will not be suspended until the commencement of the bowhead whale migration or freezeup, whichever is first, even if ice incursions result in ice concentrations greater than 25 percent.

The Director, Division of Minerals and Energy Management (DMEM), in consultation with the Department of Environmental Conservation (DEC), shall determine when the criteria stated above have been met based on: 1) information obtained from on-site inspections by Department of Natural Resources (DNR) or DEC representatives, at the request of the lessee, or 2) corroborating information and photographs obtained from a qualified independent consultant hired by the lessee who certifies that these conditions exist.

4. A monitoring program will be required if lessees propose to drill above the threshold depth or test through casing during the fall bowhead whale migration. The program will be initiated and funded by the lessee(s) proposing to conduct the activity. The proposed monitoring program should be submitted with the lessee's Plan of Operations for the well for review by DNR, the National Marine Fisheries Service and other members of the Beaufort Sea Biological Task Force. If the proposed monitoring program is approved by DNR, the lessee may conduct the stipulated operations during the migration period (provided other necessary state and federal permits have been obtained).

B. Outside the barrier islands

1. Exploratory drilling and other downhole activities above the predetermined threshold depth will be allowed year-round except during the fall bowhead whale migration.

2. Testing will be allowed year-round, except during the fall bowhead whale migration, provided that casing has been set through the zones to be tested and DNR and DEC find compliance with applicable laws and regulations.

3. Exploratory drilling and other downhole activities below the predetermined threshold depth will be allowed from November 1 to May 15, except on tracts at the mouths of major rivers that are likely subject to river overflow in the spring. Exploratory drilling and other downhole activities below the predetermined threshold depth on these tracts must cease by April 30 unless the Commissioner of Natural Resources, in consultation with the Commissioners of Fish and Game and Environmental Conservation, determines that ice conditions justify an extension to May 15.

## TIER 2

All exploratory drilling and other downhole activities will be allowed areawide year-round except outside the barrier islands during the fall bowhead whale migration. Whale monitoring will be required to determine when the whales are actually migrating through or near the area.

This modification of the drilling restriction will be approved on a case-by-case basis for the benefit of lessees who demonstrate compliance with applicable laws and regulations, including the theoretical and physical capability to detect, contain, clean up and dispose of spilled oil in broken ice conditions.

### Plans of Operations and Other Terms of Sale

Lessees must submit a detailed plan of operations to the Division of Minerals and Energy Management for approval prior to conducting any exploratory or development operations. The lessee shall concurrently submit an informational copy of its plan of operations to the North Slope Borough. The following restrictions will be imposed as a condition of the approval of plans of operations:

1. Road and pipeline crossings must be aligned perpendicular or near perpendicular to watercourses. Permanent facilities will be prohibited within 500 feet (152 m) of the Colville and Ugnuvarik rivers. Facilities will be prohibited within 100 feet (30 m) of all other streams and fish-bearing lakes unless the Director, Division of Minerals and Energy Management, after consultation with the Department of Fish and Game, determines that such facilities placement will not disturb critical wildlife habitats or that such a requirement is not feasible or prudent. The Department of Fish and Game will identify potential fish-bearing lakes within 30 days of the date a request for approval of a plan of operations is received. The Department of Fish and Game will confirm the presence or absence of fish at the earliest opportunity when ice conditions permit. If fish are not present in lakes, the 100 foot setback provision may be waived.
2. Measures will be required to minimize the impact of industrial development on key wetlands, waterfowl and shorebirds. Key wetlands include deep ponded grass ponds and lakes (Class IV) and basin - complex wetlands (Class VI), and coastal wetlands (Class VIII). Measures will include restricting certain facility siting to the least environmentally sensitive portions of these wetlands. Specific measures include the requirements that:
  - a. Lessees identify on a map or aerial photograph the largest surface area within which it is anticipated that a facility is to be sited, or an activity is to occur. The map or photograph must accompany the plan of operations submitted to DMEN. DMEN and the Department of Fish and Game will identify the least environmentally sensitive area(s) within the industry-identified area of interest. The industry-identified surface area must be large enough to contain the proposed facility and to accommodate planned expansion.

- b. Drill pads, roads, pipelines and other facilities must be sited outside of productive Class IV, VI and VIII wetlands, unless the Director, DMEH, after consultation with the Department of Fish and Game, determines that there are no feasible alternatives.
    - c. Where facilities must be sited within Class IV, VI and VIII wetlands, such facilities will be sited, designed and constructed in a manner that will maintain natural hydrological patterns and prevent oil contamination.
    - d. Draining or dewatering Class IV, VI and VIII wetlands is prohibited.
  3. Impermeable lining and diking will be required for sewage ponds and onshore oil storage facilities (with a storage capacity greater than 660 gallons). Buffer zones of not less than 100 feet and up to 1,500 feet will be required to separate oil storage facilities (with a capacity greater than 660 gallons) and sewage ponds from freshwater supplies, streams, lakes, and Class IV and VI wetlands unless the Director, DMEH, after consultation with the Department of Environmental Conservation, determines that such a requirement is not feasible or prudent. Sumps and reserve pits must be impermeable and otherwise fully contained through diking or other means.
  4. All lease activities and structures must be designed to maintain normal water flow or drainage patterns and to allow free movement and safe passage of fish and mammals, unless the Director, DMEH, after consultation with the Department of Fish and Game, determines that such a design is not feasible or prudent.
  5. Exploration activities must be supported only by ice and winter roads and trails, existing road systems, and air service. On-tundra travel may be permitted if the Director, Division of Land and Water Management and the Director, DMEH, determine that travel can be accomplished without disturbing the vegetative mat or an emergency condition exists.
  6. Facilities and surface transportation routes must be consolidated to the extent feasible and prudent.
  7. No restriction of public access to, or use of, the leased area will be permitted as a consequence of oil and gas activities except in the immediate vicinity of drill sites, buildings and other related structures. Such areas where access is to be restricted must be identified in the plan of operations. No lease facilities or operations may be located where they would block public access to or along navigable and public waters as defined in AS 38.05.365(22) and (23). If lease facilities are proposed to be located in the vicinity of these public waters, an easement will be reserved under AS 38.05.127 and 11 AAC 53.330 to ensure the right of public access.
  8. The lessee must include in any exploration and/or development plans a proposed environmental training program for all personnel involved in exploration or development activities (including personnel of the lessee's contractors and subcontractors) for review and approval by

the Director, DMEM. The program must be designed to inform each person working on the project of specific types of environmental, social, and cultural concerns which relate to the individual's job. The program must be formulated and implemented by qualified instructors experienced in each pertinent field of study and must employ effective methods to ensure that personnel understand and use techniques necessary to preserve archeological, geological, and biological resources. The program must also be designed to increase the sensitivity and understanding of personnel to community values, customs, and life styles in areas in which such personnel will be operating.

The lessee must also submit for review and approval a continuing technical environmental briefing program for supervisory and managerial personnel of the lessee and its agents, contractors, and subcontractors.

9. The lessee is encouraged to hire Alaska residents to the extent that they are available and qualified, to perform work done in Alaska in connection with this lease. As indicated in paragraph 31 of the lease form, the lessee must submit annually to the Director, Division of Minerals and Energy Management, for transmission to the Department of Labor, a report that details the specific measures the lessee and its contractors and subcontractors have taken or are planning to take to recruit qualified Alaska residents for available jobs, and describes on-the-job training opportunities. The report must also include statistical data concerning the number of resident personnel hired within the past year for Alaska operations.
10. Solid waste disposal on natural or artificial islands and into marine waters, rivers, streams, natural lakes and Class IV and VI wetlands is prohibited. Before the lessees dispose of solid waste in other areas, the disposal must be approved through permits by the Commissioner, Department of Environmental Conservation.
11. Discharge of produced water, drilling muds, and cuttings:
  - a. Disposal of produced water to freshwater bodies, including Class IV and VI wetlands, is prohibited. Disposal of produced waters in upland areas, including Class IV and VI wetlands, will be by subsurface disposal techniques, except that the Commissioner of the Department of Environmental Conservation may permit alternate disposal methods if he determines that subsurface disposal techniques are not feasible or prudent.
  - b. Discharge of drilling muds and cuttings to lakes, streams, rivers, and Class IV and VI wetlands is prohibited. Uplands disposal of contaminated muds and cuttings may be made into approved sumps and reserve pits which are impermeable and otherwise fully contained through diking or other means.

- c. Discharge of produced waters into open or ice-covered marine waters of less than 10 meters in depth is prohibited. All submerged Sale 39 tracts, except seaward portions of Tracts 3, 4, 8, 9, 13, 14, 19, 20, 25, 27, 28, and 33 are within the 10-meter isobath. The Commissioner of the Department of Environmental Conservation may approve discharges into waters greater than 10 meters in depth based on a case-by-case review of environmental factors and consistency with the conditions of a development production phase general NPDES permit for the sale area.
  - d. Disposal of oil-based or oil-contaminated drilling muds and cuttings to offshore waters and on sea ice is prohibited.
  - e. During winter exploratory drilling, drilling muds and cuttings free of hydrocarbon contamination may be disposed of on the sea ice surface in areas free of cracking or major stress fractures. During periods of reduced ice thickness or instability, uncontaminated drilling muds and cuttings may be discharged under sea ice if ice surface disposal methods, such as direct disposal by pumping, artificial thickening of sea ice or use of light or routine drilling effluent handling equipment, are impractical. Each part of drilling fluid discharged under sea ice must be prediluted with nine parts seawater.
  - f. During summer exploratory drilling, drilling muds and cuttings free of hydrocarbon contamination may be discharged to open water. The discharge shall be diluted at a ratio of at least nine parts seawater to one part drilling fluid. Drilling muds and cuttings generated from winter drilling may not be stockpiled at the drill site for open water disposal except when above ice disposal is determined impractical due to broken ice conditions. The disposal of drilling muds within the two-meter isobath and the entirety of Simpson Lagoon is prohibited unless the lessee can demonstrate to the satisfaction of the Commissioner of the Department of Environmental Conservation that effluents can be adequately dispersed.
  - g. Disposal of drilling muds and cuttings during development and production will be subject to the conditions of NPDES permits issued by the Environmental Protection Agency and those State of Alaska Coastal Management Program consistency requirements incorporated in or accompanying the NPDES permit.
12. Exploration facilities, with the exception of drill pads, will be temporary and must not be constructed of gravel. However, use of existing abandoned gravel structures may be permitted on an individual basis by the Director, DMEH, after consultation with the Director of the Division of Land and Water Management and the Department of Fish and Game. Approval for use of abandoned structures will depend on the extent and method of restoration needed to return these structures to a usable condition.

13. In meeting gravel needs for exploration, development, and production, gravel from nearby abandoned drill pads and existing material sites must be used first unless the Director, Division of Land and Water Management, after consultation with the Director, DMEM, and the Department of Fish and Game, determines that the reuse of such sources is not feasible and prudent.
14. Gravel mining sites required for exploration activities must not be located within an active floodplain of watercourses, unless the Director, Division of Land and Water Management, after consultation with the Department of Fish and Game, determines that a floodplain source will cause the least adverse environmental impact. Mining site development and rehabilitation within floodplains must follow the procedures outlined in Gravel Removal Guidelines For Arctic and Subarctic Floodplains, 1980, U.S. Fish and Wildlife Service-Woodward Clyde Consultants. Under AS 16, Department of Fish and Game approval is required if the mining site is located within an anadromous stream or could block fish passage.
15. Borrow extraction from barrier islands is prohibited. Borrow extraction from lagoons and nearshore areas is prohibited unless the Director, Division of Land and Water Management finds, in consultation with the Department of Fish and Game and the Department of Environmental Conservation, that, on the basis of scientific evidence, borrow extraction in these areas will not adversely affect the environment or that no alternative feasible and prudent source exist.
16. Gravel mining sites required for development activities will be restricted to the minimum number of upland or approved offshore sites needed to develop the field efficiently and with minimal environmental damage. Where feasible, upland gravel sites will be designed and constructed to function as reservoirs for winter water supplies. Gravel mining will not be allowed from active floodplains during development and production activities, unless the Director, Division of Land and Water Management, after consultation with the Department of Fish and Game, determines that there is no other feasible and prudent alternative.
17. Pipelines will be located so as to facilitate the containment and clean up of spilled hydrocarbons. Where feasible, pipelines will be located on the upslope side of roadways and construction pads unless the Director, Division of Land and Water Management, determines that an alternative site is an acceptable environmental alternative.
18. All garbage and refuse will be incinerated. Residue and nonburnables will be disposed of at an approved upland site. No new solid fill disposal sites, except possibly for the disposal of drilling muds and cuttings, will be approved during the exploratory phase.
19. Except for those on approved exploratory drill sites, stationary fuel storage facilities shall not be placed, nor vehicle refueling occur, within the active floodplains. Exceptions may be allowed during the permitting process under AS 16.06.870 for the refueling of slow-moving construction equipment, such as graders, tractor pulled scrapers and front end loaders, within floodplains.

20. Prior to the construction or placement of any onshore structure, road, or facility resulting from exploration, development, or production activities, the lessee must conduct an inventory of archeological and historical sites within the area affected by a proposed activity. Such inventory must consider literature provided by the North Slope Borough and local residents, documentation of oral history regarding historic and prehistoric uses of such sites, evidence of consultation with the Alaska Heritage Resources Survey and the National Register of Historic Places, and site surveys. The inventory must also include a detailed analysis of the potential effects estimated to result from the proposed activity. The inventory must be submitted to the Director, DMEM, for distribution to the Director of the Division of Parks and the Mayor of North Slope Borough for purposes of review and comment. In the event that an archeological or historical site or area may be adversely affected by an activity, the Director, DMEM, after consultation with the Director of the Division of Parks and the North Slope Borough, will direct the lessee as to what course of action will be necessary to mitigate the adverse effect.
21. Upon abandonment of drilling sites, roads, buildings, airstrips or other facilities, such facilities will be removed and the site rehabilitated, unless the Director, DMEM, after consultation with the departments of Fish and Game and Environmental Conservation, determines that such removal and rehabilitation is not in the state's interest.
22. The following measures will be imposed by the Department of Fish and Game under Title 16 of the Alaska Statutes to protect anadromous streams:
  - a. Alteration of river banks is prohibited unless approved by the Department of Fish and Game.
  - b. Except for approved stream crossings, equipment must not be operated within willow stands (Salix spp.).
  - c. The operation of equipment, excluding boats, in open water areas of rivers and streams will be prohibited unless approved by the Department of Fish and Game.
  - d. Bridges must be used as watercourse crossings whenever feasible. Culverts may be used only when bridges are shown not to be feasible or prudent. The siting, design, and construction of both bridges and culverts must be approved by the Department of Fish and Game prior to the placement of either of these structures.
  - e. Removal of freshwater or snow cover from fish bearing rivers, streams, and natural lakes will be prohibited from freeze up until spring breakup. Compaction of snow cover overlying fish-bearing waterbodies will be prohibited except for perpendicular crossings approved by the Department of Fish and Game. If ice thickness is not sufficient to facilitate a crossing, ice and/or snow bridges will be required.

- f. Water intake pipes utilized for summer water removal from the river must be surrounded by a screened enclosure to prevent fish entrainment and impingement. Pipes and screening must be designed and constructed so that the maximum water velocity at the surface of the screen enclosure is no greater than 0.1 foot per second. Screen mesh size shall not exceed 0.04 inch unless another size has been approved by the Department of Fish and Game.
- g. To protect fish and other aquatic fauna, explosives must not be detonated within, beneath, or in close proximity to fish-bearing waters unless prior drilling indicates that the waterbody, including its substrate, is solidly frozen. The minimum acceptable offset from fish-bearing waters for various size charges is:

1-2 pound charge	--	80 feet
5 pound charge	--	120 feet
10 pound charge	--	170 feet
25 pound charge	--	270 feet
100 pound charge	--	530 feet

Lessees are advised that documented anadromous rivers in and adjacent to the lease sale area include: the Colville, Ungnuvarik, and Kuparuk rivers.

- 23. The lessee will be responsible for ensuring that an adequate supply of water is available for winter use through development of such means as storage reservoirs and snow melting. Water appropriations shall be authorized pursuant to AS 46.15.
- 24. The following measures will be required to minimize impacts on the Central Arctic Caribou Herd.
  - a. The movement of equipment and personnel to and from Sale 39 tracts through the Kuparuk calving ground of the Central Arctic Herd depicted in Figure 3 may be restricted between May 15 and June 25. All authorized movement of equipment and personnel must be on established roads and must be consolidated and scheduled to reduce disturbance to caribou. The necessity and conditions for limiting equipment and personnel movement will be identified on a case-by-case basis during review of plans of operations by the Director, Division of Minerals and Energy Management, in consultation with Alaska Department of Fish and Game.
  - b. Pipelines should be consolidated to the extent feasible and must be constructed to allow safe passage of caribou. Adequate elevation, ramping, or burial of pipelines will be required in areas identified by the Department of Fish and Game as important caribou movement zones.

25. Routes of travel must avoid preferred polar bear denning habitat unless human safety dictates otherwise. Polar bears den on Pingok and Cottle islands and within 25 miles of the coastline in deeply drifted areas (6 ft. or greater) adjacent to the cutbanks of drainages. The use of explosives will be prohibited within 1/4 mile of cutbanks identified by the Department of Fish and Game. The Department of Fish and Game will make maps identifying documented high density polar bear denning habitat available to the Director and lessees within 45 days of the date a request for approval of a plan of operations is received.
26. The following provisions will govern aircraft operations in and near the sale area.
  - a. From May 15 through September 30, aircraft must fly at altitudes of greater than 1,500 feet (457 m) or at a lateral distance of one mile around barrier islands, lagoons, river deltas, and wetlands within one mile of the Beaufort Sea coast (excluding take-offs and landings).
  - b. From May 15 through June 20, aircraft overflights within 30 miles (24 km) of the coast between the Colville and Kuparuk rivers must avoid caribou by an altitude of at least 1,500 feet (457 m) or a lateral distance of one mile (1.6 km) (excluding take-offs and landings).
  - c. Human safety will take precedence over aircraft restrictions.
27. Surface use will be restricted, as necessary, to prevent unreasonable conflicts with local subsistence harvests.
28. Bidders are advised that the North Slope Borough (NSB) Assembly has adopted a Comprehensive Plan and Land Management Regulations under Title 29 of the Alaska Statutes. The regulations require NSB approval for certain activities necessary for exploration and development of the lease. The state may not in all instances accept this assertion of jurisdiction.
29. During the conduct of all activities related to this lease, the lessee will be subject to the provisions of all valid coastal zone plans and ordinances. DHEM will require, as a condition for consistency approval of lease operations, such modification or stipulations as may be necessary to ensure consistency with the Coastal Management Act, and with sound planning and management of coastal zone resources.
30. Plans of operations for lease activities and specific permit applications which are subject to approval by the U.S. Corps of Engineers or which require a Certificate of Reasonable Assurance from the Department of Environmental Conservation must be submitted simultaneously for state agency review and approval, at least 60 days prior to the proposed conduct of such activities.

31. If only the subsurface estate is owned by the state, or if the surface is owned by the state but subject to third party interests, including any native allotments, the lessee must not enter upon such land until the lessee makes a good faith effort to agree with the surface interest holder on settlement of damages that may be caused by lease activities. If an agreement cannot be reached, Director, DMEM, has the authority to approve the activity, provided adequate provisions have been made with the state to pay for any damages the surface interest holder may suffer.
32. The proposed activities under a plan of operations must not unreasonably diminish the use and enjoyment of lands encompassed within a native allotment. Before entering a pending or approved native allotment, lessees must contact the Bureau of Indian Affairs and the Bureau of Land Management and obtain approval to enter, if required. Lessees must also comply with applicable federal law on native allotments.
33. In conducting offshore geophysical surveys, neither lessees nor their agents will use explosives in open water areas. Offshore geophysical surveys will be restricted as necessary during the spring to comply with the provisions of the Marine Mammal Protection Act. Offshore geophysical surveys will be restricted as necessary during the fall to comply with the provisions of the Endangered Species Act as they relate to the bowhead whale. In determining these restrictions, the Director, DMEM, will at a minimum consult the North Slope Borough, the Alaska Eskimo Whaling Commission, the Beaufort Sea Biological Task Force, and affected permittees.
34. Continuous fill causeways are prohibited. Noncontinuous fill causeways may be permitted when the Director, DMEM, after consultation with the Department of Fish and Game and the Department of Environmental Conservation, determines that a causeway is necessary for field development and that no other feasible and prudent alternative exists.
35. An Oil Discharge Contingency Plan will be required for offshore operations under AS 46.04.030 and 18 AAC 75.
36. Oil and gas transportation pipelines will be encouraged if the Director, DMEM, determines that the laying of such pipelines is technically feasible and environmentally preferable to transport via oil tanker. Pipelines, including flow and gathering lines, must be designed and constructed to provide adequate protection from water currents, storm and ice scouring, sub-freezing conditions, and other hazards as determined on a case-by-case basis. Following the installation of a pipeline of sufficient capacity, no crude oil will be transported by surface vessel from offshore production sites, except in an emergency. The Director, DMEM, will evaluate the emergency and determine an appropriate response to the condition. If the use of a pipeline is not feasible and preferable and surface transportation must be employed, all vessels used for carrying hydrocarbons to shore will conform with all standards established for such vessels, pursuant to the Ports and Waterways Safety Act of 1972 (46 U.S.C. 391(a)) and the Port and Tanker Safety Act of 1978 (33 U.S.C. 1221).

37. Many of the environmental concerns associated with the offshore tracts within the area of the Joint Federal-State Beaufort Sea Sale (Sale 30) apply to the offshore tracts in the Sale 39 area. Consequently, in the enforcement of Stipulation No. 3 and Terms of Sale Nos. 8, 15, 33, and 36 of Sale 39, the Director, DMEM, will continue to receive recommendations from a biological task force composed of designated representatives of the following state agencies: Department of Fish and Game, Department of Environmental Conservation, and Department of Natural Resources. In addition, the office of the Governor and representatives of interested federal agencies, including the Bureau of Land Management, U.S. Fish and Wildlife Service, Minerals Management Service, the National Marine Fisheries Service, and the Environmental Protection Agency will be afforded the opportunity to continue their participation in these consultations.
38. The movement of equipment and personnel to and from Sale 39 tracts through the whistling swan staging area in T13N, R8E, Umiac Meridian 3 will be restricted as necessary between July 15 and September 1. The necessity and conditions for limiting equipment and personnel movement will be identified on a case-by-case basis during review of plans of operations by the Director, DMEM, in consultation with the Department of Fish and Game.
39. For the purpose of administering the seasonal drilling restriction, Stipulation 3, the boundary between the areas classified as "on or inside" and "outside" the barrier islands will be a line connecting the following salient points:

<u>Salient Pt. No.</u>	<u>Latitude</u>	<u>Longitude</u>
16045-5	70°14'19.00" N=7792349.21	146°38'12.00" E=513710.74
16062-44	70°28'35.30" N=7819850.41	148°49'06.40" E=432180.64
BPT-001	70°33'13.40" N=7830108.992	149°56'53.50" E=390487.531
BPT-002	70°33'14.20" N=7830127.595	149°56'41.20" E=390615.559
BPT-003	70°33'31.60" N=7830628.325	149°55'25.40" E=391423.076
BPT-007	70°33'50.00" N=7831057.169	149°50'38.20" E=394410.503
BPT-008	70°34'13.50" N=7831597.007	149°44'02.10" E=398525.888

<u>Salient Pt. No.</u>	<u>Latitude</u>	<u>Longitude</u>
BPT-014	70°34'02.30" N=7831066.516	149°37'17.70" E=402678.052
BPT-015	70°33'54.10" N=7830766.831	149°35'34.10" E=403734.968
BPT-024	70°33'00.90" N=7828848.509	149°24'55.90" E=410248.229
BPT-025	70°32'41.80" N=7828200.199	149°22'35.90" E=411669.399
BPT-031	70°31'43.80" N=7826214.688	149°14'32.40" E=416592.684
BPT-032	70°31'30.50" N=7825744.507	149°11'57.80" E=418174.547
40-X	70°29'24" N=7821637.360	149°03'12" E=423474.097
41-X	70°29'27" N=7821728.505	149°03'07" E=423528.980
BPT-048	70°28'49.60" N=7820332.598	148°51'12.20" E=430891.228
HDE-027	70°33'21.90" N=7830116.402	150°11'50.00" E=604102.175
HBE-031	70°33'08.10" N=7829784.852	150°08'31.20" E=606172.061
Western Termination	70°35'50.80" N=7834584.60	144°16'50.23" E=600800.00



# ALASKA

## REVIEW OF SOCIAL AND ECONOMIC CONDITIONS

UNIVERSITY OF ALASKA INSTITUTE OF SOCIAL AND ECONOMIC RESEARCH DEC. 1982, Vol. XIX, No. 4

### Reflections on the End of the OPEC Era

*This paper is intended to put the OPEC oil price rises of the 1970s and the more recent oil price decline into historical perspective. Alaskans can then weigh the chance that energy prices will resume their upward climb giving new momentum to economic growth in the state, against the prospect that the OPEC era is indeed over—meaning that Alaska, along with other energy exporting regions, must accept a radical and mostly downward adjustment in its development expectations.*

#### Oil Prices and Alaska's Economy

Alaska's labor force, population, and personal income have been increasing faster than those of any other state for almost a decade. Very little of this growth would have happened without the two great surges in world oil prices that most people identify with the rise of OPEC—the Organization of Petroleum Exporting Countries.

The fivefold price increase for Middle Eastern crude oil in 1973-74 and the resulting threefold increase in the market value of U.S. domestic crude oil made it economically feasible to develop the Prudhoe Bay field and complete the Trans-Alaska oil pipeline (TAPS). Even if real oil prices had remained at their 1975-78 levels, Prudhoe Bay oil royalties and taxes would have made Alaska the richest state government *per capita* throughout the 1980s, and the spending and respending of these revenues in Alaska would have combined with continuing private investment in energy resources to put Alaska among the faster-growing states in income and employment.

World oil prices took off once more in 1979-80, however. Real prices at the Persian Gulf "only" tripled this time, but the stability of transportation charges between the North Slope and Lower-48 refineries caused the price of Prudhoe Bay oil—and consequently Alaska's royalty and severance-tax collections—to grow almost five-fold. At their peak in 1981, oil revenues were flowing into the state treas-

ury at an annual rate of more than \$10,000 per capita. The effect of this bonanza on state spending for government operations, transfer payments, loan programs, and public works was as awesome as it was predictable. In 1980 the legislature abolished personal income taxes, and in 1982 it voted to distribute a "Permanent Fund dividend" check of \$1,000 to each resident.

By the second quarter of 1981, when crude-oil prices began their present downward trend, most private and governmental planning in the state had come to reflect the assumption that oil prices, and with them the prices of other fossil fuels, would keep rising without limit. Disagreement about the long-term oil price outlook was largely confined to the question of whether price increases would average 2, 3, or 5 percent in excess of general inflation.

The prospect of ever-rising oil prices implied that Prudhoe Bay would generate more and more revenue for the state, and that the spending and respending of that revenue would provide more and more public- and private-sector jobs. It also promised to sustain a high level of exploration activity on state lands and the federal outer continental shelf (OCS) and, most likely, a series of major new discoveries. Rising oil prices convinced sponsors of the proposed Alaska gas pipeline that they could just about ignore the difficulty of marketing North Slope gas as a constraint on the project's economic feasibility.

An ever-increasing real price of oil on world markets also seemed to assure Alaska a petrochem-

This report was adapted from the appendix of a larger study entitled "Alaska Energy Planning Studies," performed by Arlon R. Tussing and Gregg K. Erickson for the Division of Policy Development and Planning, Office of the Governor, October 1982.

## ALASKA REVIEW OF SOCIAL AND ECONOMIC CONDITIONS

VOL. XIX, No. 4, December 1982

Published by

Institute of Social and Economic Research  
University of Alaska  
Anchorage • Fairbanks • Juneau

Jay Barton—President, University of Alaska  
E. Lee Gorsuch—Director, Institute of Social and Economic Research

Institute Editor: Ronald Crowe  
Editorial Assistant: K. Lee Crowe  
907-278-4621

Main Institute Office:  
707 "A" St., Suite 206  
Anchorage, Alaska 99501

## FEATURE

Arlon R. Tussing

Reflections on the End of the OPEC Era

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icals boom based on the growing cost advantage North Slope natural-gas liquids (NGLs) would have over oil-based petrochemical feedstocks used elsewhere; it also seemed to guarantee development of Alaska's coal for export. Higher and higher prices for oil meant, moreover, that natural gas and coal would be too valuable to use for generating electric power in Alaska; this outlook has been the main rationale for planning a multi-billion dollar hydroelectric generating plant on the Susitna River and has led many legislators to believe that the state would be able to finance the Susitna project with a direct appropriation from the General Fund.

The price of oil is thus the biggest single outside influence on Alaska's economy, and in 1982, uncertainty about the oil-price outlook has become the biggest single source of uncertainty about the state's economic future. The possibility that the oil-price boom may be over has profound consequences which thus far have been easier to ignore in Alaska than in other energy-exporting areas.

Since the upward movement of oil prices ended in 1981, economic distress has already overtaken many of the top oil-exporting countries. By the end of 1982, all but two OPEC nations are likely to be in a deficit fiscal and foreign-exchange position. In less than a year, a record boom has given way to a

grave depression in the deep-gas areas of Oklahoma, among oilfield-service contractors, and for the financial institutions that specialized in backing them. All but a handful of synthetic-fuels projects have now been abandoned, and the future of those remaining is doubtful.<sup>1</sup>

Several forces have joined to perpetuate a petroleum-driven boom in Alaska that has lasted longer than in other petroleum-exporting regions. Most crucial has been the fact that actual spending of state money appropriated in 1980 and 1981 has continued to increase month by month well into 1982. Another factor has been the momentum of North Slope oil exploration and development programs, some of which would be economical at any world oil-price level higher than (say) \$10 per barrel. A third element in the present boom is a host of Anchorage commercial building projects for which the key decisions and commitments were made before 1981. Finally, the continuing increase in the amount of state money actually flowing into the economy has combined with the flow of oil-industry investments to perpetuate a mood of high optimism among private investors in Alaska's non-energy industries, particularly residential and commercial real-estate development.

Nevertheless, in 1982, the beginnings of a

downward slide in world oil prices has already drastically altered the state government's official view of the future. From June 1980 through January 1982, the Alaska Department of Revenue's quarterly *Petroleum Production Revenue Forecast* had been predicting that nominal-dollar ("inflated") oil revenues would increase over the 4 years beginning on each forecast date at a compound annual rate between 12.2 and 25.8 percent. In its March 1982 *Forecast*, the department's 3-year estimate of the expected annual change in state revenues fell abruptly to a negative 0.8 percent.<sup>2</sup>

Specifically, the "most likely" projection in the March *Forecast* was that the weighted average well-head value for Alaska North Slope (ANS) crude oil in fiscal year (FY) 1983 would be 29 percent lower than in FY-1982, and that world prices would then resume their nominal-dollar increase at a compound annual rate of about 7 percent. The department did not expect prices to regain FY-1982 levels until the beginning of FY-1987. With respect to constant-dollar ("real") oil prices, the March *Forecast* boldly reported "a consensus that oil prices will continue to fall,"<sup>3</sup> and projected declining real oil prices through 1998.<sup>4</sup> Table 1 above compares the state's June 1981 and 1982 forecasts.

#### The 1981 Turning Point

At the end of 1981, oil prices were suffering their greatest decline in half a century, but industry executives and forecasters—even outside Alaska—cautioned that the attendant "glut" was a temporary phenomenon.<sup>5</sup> Despite many signals to the contrary, that opinion has persisted well into 1982, with Occidental's Chairman Armand Hammer and others predicting \$100-per-barrel oil in 10 years.<sup>6</sup> The scarcity mentality that fed the price leaps of 1974 and 1979, plus a belief that unpredictable Middle Easterners control the world oil market through OPEC, gave such assumptions nearly axiomatic status during the past decade. But the exporting nations' boast that "oil in the ground is a better investment than money in the bank" is turning out to be so much wishful thinking.

The truth is that neither an end to the recession, nor OPEC's attempts at production quotas, nor continued wars in the Middle East will long be able to shore up a sagging crude-oil market. It is, indeed, because oil prices climbed so rapidly and so high in the 1970s that they are now almost certain to fall and keep falling—perhaps as steeply and as far as they rose. Today's prices are still higher than markets can tolerate, and the forces that led to the enormous price hikes of the past decade work just as effectively

**Table 1**  
**Petroleum-Revenue Projections by the Alaska Department of Revenue**  
**June 1982 vs. June 1981**  
**(1982 constant dollars)**

Fiscal Year	Oil and Gas Revenue (\$ millions) <sup>a</sup>		
	June 1981 Forecast "Expected Value"	June 1982 Forecast "Expected Value"	"30-percent" Series
1983	4,030	2,654	2,399
1984	4,137	2,657	2,250
1985	4,271	2,623	2,177
1986	4,448	2,953	2,411
1987	4,713	3,305	2,644
1988	4,851	3,196	2,507
1989	4,983	3,365	2,595
1990	4,742	3,095	2,246
1991	4,544	2,714	1,862
1992	4,382	2,477	1,668
1993	3,979	2,285	1,427
1994	3,637	2,149	1,265
1995	3,144	1,826	1,059
1996	2,701	1,622	936
1997	2,289	1,608	908

<sup>a</sup>Includes royalties, production taxes, and corporate income taxes on petroleum products.

Source: Alaska Department of Revenue, *Petroleum Production Revenue Forecast, Quarterly Report, June 1981*, p. 13; Personal Communication, Charles Logsdon to Gregg K. Erickson, June 1982, p. 18.

in reverse

While real (constant-dollar) crude-oil prices are unlikely to rise again to their 1980-81 levels any time in this century, forecasting prices for any specific future year is a nearly hopeless task. The fall in crude-oil prices that began last year will someday give way to another increase, and so on. As Table 2 and Figure 1 show us, crude oil markets are inherently cyclical and, except during a unique period of almost four decades when the State of Texas dominated both U.S. and world crude oil markets, oil price fluctuations have been large and frequent. *History shows us no long-term oil-price trends*, but only a series of cycles of uneven duration and amplitude. The era of OPEC's opportunistic price-gouging is over, but no other entity is in sight with the power to move oil prices in any consistent direction or to stabilize them at any given level.

Table 2

U.S. Crude-Oil Prices, 1870-1981  
Current and Constant Dollars

	Crude-Oil Prices 1870-1972, Average U.S. Wellhead Prices: 1973-1981, U.S. Refiner-Acquisition Cost of Imported Crude Oil (Current Dollars per Barrel)		Price Deflator 1870-1925, Wholesale Price Index: 1925- 1981, GNP Deflator (1972 = 100) March 1982 = 100)		Crude-Oil Prices (1972 = 100) March 1982 = 100)			Crude-Oil Prices 1870-1972, Average U.S. Wellhead Prices: 1973-1981, U.S. Refiner-Acquisition Cost of Imported Crude Oil (Current Dollars per Barrel)		Price Deflator 1870-1925, Wholesale Price Index: 1925- 1981, GNP Deflator (1972 = 100) March 1982 = 100)		Crude-Oil Prices (1972 = 100) March 1982 = 100)	
1870	3.36	26.53	129	12.67	25.97		1926	2.41	33.19	162	7.26	14.88	
							1927	1.72	32.48	158	5.30	10.86	
1871	4.34	25.54	125	16.99	34.83		1928	1.68	33.00	161	5.09	10.44	
1872	3.64	26.72	130	13.62	27.92		1929	1.78	32.87	160	5.42	11.10	
1873	1.83	26.13	127	7.00	14.36		1930	1.62	31.80	155	5.09	10.44	
1874	1.17	24.76	121	4.73	9.89								
1875	1.35	23.19	113	5.82	11.94	1931	.93	28.89	141	3.22	6.60		
1876	2.56	21.61	105	11.84	24.28	1932	1.17	25.67	125	4.58	9.34		
1877	2.42	20.83	102	22.62	23.82	1933	.92	25.14	123	3.66	7.50		
1878	1.19	17.88	087	6.66	13.64	1934	1.36	27.32	133	4.98	10.20		
1879	.86	17.68	086	4.86	9.97	1935	1.31	27.83	136	4.71	9.65		
1880	.94	13.65	096	3.78	7.81	1936	1.45	28.01	137	5.18	10.01		
						1937	1.58	29.34	143	5.39	11.04		
1881	.91	20.24	099	4.50	9.22	1938	1.46	28.66	140	5.09	10.44		
1882	.77	21.22	104	3.63	7.44	1939	1.32	28.48	139	4.63	9.50		
1883	1.09	19.85	097	5.49	11.26	1940	1.32	29.13	142	4.53	9.29		
1884	.73	18.27	089	4.54	9.31								
1885	.86	16.70	081	5.15	10.56	1941	1.48	31.34	153	4.72	9.68		
1886	.70	16.11	079	4.34	8.91	1942	1.53	34.39	168	4.45	9.12		
1887	.71	16.70	081	4.25	8.71	1943	1.54	36.18	176	4.26	8.73		
1888	.88	16.90	082	5.21	10.68	1944	1.56	37.03	181	4.21	8.64		
1889	.94	15.92	078	5.91	12.11	1945	1.58	37.92	185	4.17	8.54		
1890	.87	16.18	079	5.38	11.03	1946	1.82	43.95	214	4.14	8.49		
						1947	2.50	49.70	242	5.03	10.31		
1891	.67	15.98	078	4.19	8.59	1948	3.39	53.13	259	6.38	13.08		
1892	.56	15.33	075	3.65	7.49	1949	3.30	52.59	257	6.27	12.86		
1893	.67	15.66	076	4.28	8.77	1950	3.31	53.64	262	6.17	12.65		
1894	.80	14.68	072	5.45	11.17								
1895	1.23	14.49	071	8.49	17.41	1951	3.34	57.27	279	5.83	11.96		
1896	1.10	14.10	069	7.80	16.00	1952	3.34	58.00	283	5.76	11.81		
1897	.76	14.16	069	5.37	11.00	1953	3.55	58.88	287	6.03	12.36		
1898	.91	14.55	071	6.25	12.82	1954	3.68	59.69	291	6.17	12.64		
1899	1.29	15.07	074	8.56	17.55	1955	3.67	60.98	297	6.02	12.34		
1900	1.37	15.79	077	8.68	17.79	1956	3.71	62.90	307	5.90	12.06		
						1957	3.89	65.02	317	5.98	12.26		
1901	1.14	15.66	076	7.28	14.93	1958	4.09	68.06	322	6.19	12.69		
1902	1.09	16.18	079	6.74	13.81	1959	4.00	67.52	329	5.92	12.14		
1903	1.24	16.37	080	7.57	15.53	1960	3.87	68.67	335	5.64	11.55		
1904	1.18	16.56	081	7.12	14.60								
1905	.90	16.95	083	5.31	10.88	1961	3.87	69.29	338	5.59	11.45		
1906	.75	17.34	085	4.90	10.05	1962	3.89	70.55	344	5.51	11.30		
1907	.84	18.06	088	4.65	9.54	1963	3.88	71.59	349	5.42	11.11		
1908	.81	17.93	087	4.52	9.26	1964	3.87	72.71	355	5.32	10.91		
1909	.78	18.58	091	4.09	8.39	1965	3.89	74.32	363	5.23	10.73		
1910	.67	19.10	093	3.51	7.19	1966	3.88	76.76	374	5.05	10.36		
						1967	3.90	79.02	385	4.94	10.12		
1911	.68	18.90	092	3.60	7.37	1968	3.93	82.57	403	4.76	9.76		
1912	.65	19.68	096	3.30	6.77	1969	4.15	86.72	423	4.78	9.81		
1913	1.15	19.55	095	5.88	12.06	1970	4.29	91.36	446	4.70	9.63		
1914	.98	19.94	097	4.91	10.07								
1915	.79	20.85	102	3.79	7.77	1971	4.56	98.02	468	4.78	9.74		
1916	1.42	23.39	114	6.07	12.45	1972	4.57	100.00	488	4.87	9.37		
1917	2.07	29.04	147	7.13	14.81	1973	5.38	105.80	516	5.09	10.42		
1918	2.64	32.68	159	8.08	16.56	1974	12.52	116.02	566	10.79	22.12		
1919	2.79	37.29	182	7.48	15.34	1975	13.93	127.15	620	10.96	22.46		
1920	4.30	42.48	207	10.12	20.75	1976	13.48	122.71	569	10.99	22.52		
						1977	14.53	141.70	691	10.25	21.02		
1921	2.21	35.40	173	6.24	12.80	1978	14.87	152.08	742	9.58	19.82		
1922	2.10	32.58	159	6.45	13.23	1979	21.67	165.48	807	12.10	26.85		
1923	1.68	33.32	163	5.04	10.33	1980	33.88	177.38	865	18.11	39.17		
1924	1.81	33.28	162	5.44	11.16								
1925	2.19	33.71	164	6.80	13.37	1981	36.80	193.58	944	18.01	38.97		

### Market Control by the Texas Railroad Commission (1935-1972)<sup>7</sup>

To understand OPEC's helplessness in today's crude oil market, it is useful to review how the market operated before OPEC came to power, and how the Texas Railroad Commission (TRC) managed to exercise control for nearly 40 years.

The TRC's rule emerged in the mid-1930s from circumstances quite different from those that nurtured OPEC in the 1960s and 1970s. In the era between 1859, the year Colonel Drake first discovered oil in Pennsylvania, and the Great Depression, crude oil markets everywhere were dominated by events in the United States, where one black-gold rush after another unleashed an oversupply and sent prices plummeting.<sup>3</sup> Growing oil demand rapidly restored prices after most of these crises, as petroleum captured markets that were previously held by whale oil, gas, or coal, and as the automobile population swelled.

The Yates field in Texas, for example, was first tapped in 1926. It was the biggest field yet found, and over its first year of production, average crude oil prices in the United States fell 24 percent. Prices recovered quickly, but in 1930, the beginning of the Depression coincided with discovery of the even larger East Texas field. Oil literally ran in the creeks, and prices fell locally to 10 cents per barrel.

Much of this market chaos resulted from the common-law "rule of capture." The principle that nobody owned oil until it was brought to the surface generated frenzied competition among drillers to lift as much as oil as they could from each newly-discovered pool before their neighbors got it. The east Texas drilling rush ended in 1931 only when the governor sent the National Guard into the field to shut down production. The next year, a bitterly divided Texas legislature granted the TRC authority to limit output from individual wells in the interest of conservation and market order. Under "market-demand prorationing," refiners told the TRC how much oil they wanted to buy each month, and the Commission parceled out the "allowable" share of this demand to each well. This system assured every Texas producer a buyer for at least some of his oil, no matter how much excess producing capacity other producers held. The TRC's ability to stabilize the market was bolstered by market-demand prorationing in several other states including Louisiana, the number-two U.S. producer. Under state regulation, physical shortages and surpluses both became a thing of the past; "conservation" replaced physical waste, and the violent short-term fluctuations of crude oil prices ended.

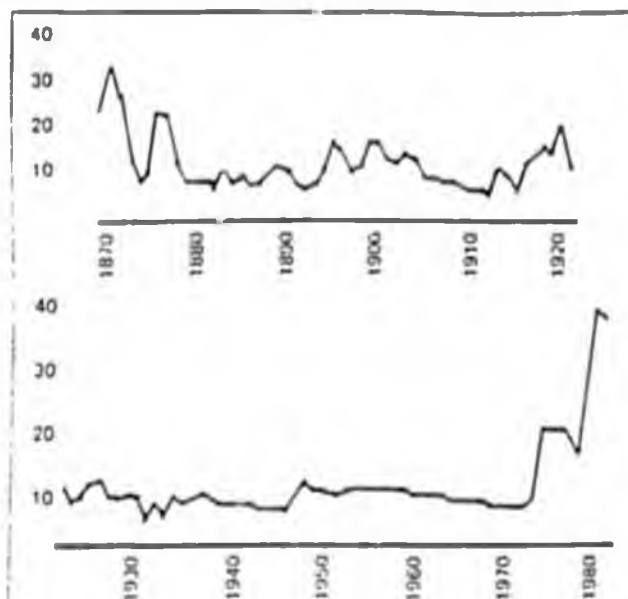


Figure 1. U.S. Crude Oil Price Trends, 1870-1981  
(March 1982 constant dollars)

Even more important were a series of federal actions backstopping TRC authority. In the 1935 Connally "hot-oil" law, Congress made it a federal crime to ship oil produced in violation of state conservation orders. After World War II, the executive branch acted to prevent uncontrolled imports of low-cost foreign crude oil from undermining the states' control of U.S. oil supplies. For a while, the handful of largely U.S.-based oil companies that controlled the oil reserves of the Middle East and the Caribbean cooperated successfully in limiting petroleum production from their foreign concessions to just about the amount demanded by their own foreign refineries.

Nevertheless, by 1948, the huge low-cost oil reserves overseas had become enough of a threat to Texas regulation that the Truman administration started assigning "voluntary" import quotas to the companies. In 1958, after independents like Hunt and Occidental developed enormous new reserves in Libya, President Eisenhower established a mandatory oil-import program (MOIP). The MOIP gave each U.S. refiner the right to import some lower-priced foreign oil, but it enabled the TRC and other state conservation authorities to continue setting the total volume of crude oil supplied to the domestic market.<sup>9</sup>

Critics of market-demand prorationing and import quotas, including the 1970 Cabinet Task Force on Oil Import Control, headed by George Shultz, saw the combination mainly as an arrange-

ment that kept U.S. prices artificially high and perpetuated wasteful excess capacity. It did, indeed, shut in much of the nation's lowest-cost oil, while creating an incentive to develop domestic fields that would not have been viable in a free market.<sup>10</sup> But precisely because it sheltered surplus producing capacity, Texas prorationing functioned as the balance wheel of the world oil market for four decades. Texas was the "price-maker"; the TRC determined the price all domestic producers received for their oil, and it was at the same time the most powerful single force in the world crude oil market. Other producers were relegated to the passive role of "price-takers" who could always sell as much or as little oil as they wished, once they accepted the price structure established by Texas.

The TRC could play the price-maker's role because it had control over sufficient spare producing capacity to supply refiners with all the Texas oil they wanted at the established price, offsetting any rise in demand prompted by boom conditions or long-term economic growth, or any drop in output by other producers at home or abroad. The Commission also had the power to enforce production cuts if necessary to prevent a surplus from appearing when oil demand waned or production outside Texas increased.

The Texas system worked nearly 40 years, through World War II, the U.S. recessions of the 1950s, and several supply disruptions caused by Middle Eastern political upheavals in the 1950s and 1960s. Oil supplies were seriously curtailed in 1952-54, for example, following Mostadeq's nationalization of the Iranian oil concessions; during the Suez crisis of 1956; and again during the 1967 Yom Kippur War. U.S. and world crude-oil prices remained relatively stable, however, as the majors produced more oil in the unaffected Persian Gulf countries, while the TRC and other state commissions increased production at home. From 1935 to 1972, roughly the period of the TRC's domination of the world market, the average annual change in real crude-oil prices in the United States was only 4 percent, plus or minus, a stark contrast to the average annual change of 21 percent between 1871 and 1935.<sup>11</sup>

One reason for the TRC's success was that it did not exploit its market power opportunistically. The 1952, 1956, and 1967 Middle Eastern conflicts offered Texas producers (and the state of Texas, a major royalty owner) a chance for huge short-run profits, as they did the big international oil companies. But each time, the TRC and the majors opted for long-term stability, forestalling the kind of consumer panic that generated the price run-ups of 1974 and 1979 after the TRC had lost control.

Once domestic production reached full capacity in 1972, the U.S. Government had no choice (politically, at least) other than to do away with import controls, leaving consumers exposed to whatever upheavals might occur in the oil-exporting countries. Meanwhile, nationalization of the major oil companies' overseas concessions, plus the growing influence of independents (including national oil companies like those of France, Italy, and Brazil), had stripped the majors of their ability to balance supply and demand outside of North America. A supply curtailment by the Arab oil producers, which would have hardly caused a ripple in oil prices 10 years or even 2 years earlier, transformed world energy markets and, for a few years at least, handed control of those markets to OPEC.

#### Panic Pricing in 1973-74 and 1979

OPEC's spectacular successes in the 1970s were due more to market psychology rather than to anyone's direct manipulation of crude oil supplies. OPEC *per se* did not engineer either of the decade's great price leaps; they came instead from *consumer panics* that spread through the spot market after the 1973-74 Arab embargo and the 1978 Iranian revolution. In both cases, OPEC merely voted, *after the panic had run its course*, to establish the prevailing spot prices as the base prices for all crude oil sales.

Crisis psychology was thus the key to the short-term oil market behavior that ratcheted prices upwards. The physical shortfall that provoked the panic of 1973-1974 was proportionally no greater than the shortfalls (or excess supplies) that the industry faced periodically because of unusual weather or the business cycle, and there was no reduction in output at all immediately before the 1979 price spiral. In neither case was the actual shortage greater than the sum of (1) the oil then being consumed by electrical-generating and manufacturing plants that had the capacity to use other fuels, (2) the standby or underutilized oil-producing capacity of U.S. and uninvolved foreign producers, and (3) the inventory cushions that industry ordinarily would have drawn down in order to prevent market turmoil.

The price leaps, rather, began both times with a handful of large-scale buyers who believed that the "shortage" was real, and who were thus willing to pay almost anything. The crisis mentality had a powerfully perverse effect on the market: instead of restraining demand, soaring spot prices gave the shortage credibility and helped propagate the panic to every class of consumer, so that demand actually increased. Much of the apparent supply deficiency

was caused by hoarding, the most memorable example of which was the fashion of topping-off gasoline tanks daily in private automobiles. This practice alone probably created demand for an additional 600 million gallons of gasoline in the United States.<sup>12</sup>

However socially irrational that hoarding may have been, it seemed quite reasonable at the time from an individual company or consumer standpoint. In 1973-74, both the Arab producers and the Western media were insisting that the embargo and production cutbacks were in fact harming the consuming countries. Congress had passed an Emergency Petroleum Allocation Act; President Nixon had declared an "energy emergency" and had begun allocating crude oil and petroleum products.

No one knew how long the apparent shortage would last or how high prices might go before it was over; hence, it made sense for anyone with a preferred position in the allocation scheme to take every drop of price-controlled gasoline or fuel oil allowed under the rules, regardless of current need, and for every other consumer to buy as much at the prevailing price as he could store. Motorists, households, and businesses all sought to build up and maintain high inventories in case things "really got bad" later, while producers, refiners, and others expected to profit from holding products for resale at higher prices in the future. All of these anticipations, of course, validated themselves: supplies did get tighter and prices continued to rise.

#### The Role of Spot Prices<sup>13</sup>

Oil producers and refiners usually try to plan their physical operations and to budget their purchase outlays and revenues well in advance. For this reason, the great bulk of the world's crude oil moves in "captive" channels from producing companies to their own refinery affiliates or on relatively long-term contracts between producers and refiners. "Spot" transactions—sales of a single tanker-load or less—usually account for only a few percent of world supply, but they are an indispensable part of the total market because they allow any company or government to dispose of a temporary oversupply or fill a temporary shortfall. A general surplus or shortage equal to only (say) 3 percent of total world demand may thus show up as a surplus or shortage amounting to 50 or 100 percent of normal spot-market demand. As a result, spot prices tend to fluctuate daily and seasonally, and to range widely above and below "posted" or contract price levels, which typically change slowly and infrequently.

Changes in crude oil spot prices occasionally

herald deep-seated market changes, but more often they are only exaggerated reflections of unexpected weather or business conditions, the buildup or draw-down of inventories, or political events. After some such contingency has caused a spot price to diverge sharply from contract prices, the spot market normally returns to a relatively narrow band of prices in the vicinity of previous contract-price levels. What was special about the OPEC-dominated markets of the 1970s is that they twice failed to respond in this normal way. After the panics of 1973-74 and 1979, spot prices did not fall back to pre-crisis levels; instead, contract prices rose—by OPEC decree—to the peak values to which the panic had carried spot prices. This feat was OPEC's great triumph which, ironically, is now begetting its downfall.

#### The Power of Saudi Arabia and OPEC

The TRC determined prices by actively manipulating the aggregate supply of crude oil; as a state agency, it had the power to enforce its orders on the many thousands of Texas producers regardless of their conflicting individual interests and viewpoints. OPEC, on the other hand, has never had any authority over the diverse and sometimes warring sovereignties that make up its membership.

Nevertheless, in the early 1970s, once the surplus capacity of Texas and Louisiana had disappeared, Saudi Arabia by itself conceivably could have taken over the TRC's balance-wheel role. Its potential authority came from a combination of the world's largest reserves of conventional crude oil and a population on the order of only 5 million. The Saudis have thus had the same mix of assets, at least theoretically, that earlier gave the TRC its power—the ability to increase or decrease output over a wide range.

Proved and indicated reserves in Saudi Arabia number in the hundreds of billions of barrels—how many hundreds, no one knows or much cares, because it has never been worthwhile to carry out the intensive exploration and development work needed to get an accurate estimate.<sup>14</sup> The known reserves are, in any event, so large and so easy to develop that it would take Saudi Arabia only a few months to double its exports from the current level of less than 6 million barrels per day. (After all, production was almost 11 million barrels per day only one year ago.) With 2 or 3 years for drilling of development wells and construction of gathering lines and terminals, exports probably could rise to something like 18 million barrels per day. Indeed, before the 1973 embargo, the big oil companies (the Aramco shareholders) that controlled the Saudi concession were