

BEFORE THE BOARD OF OIL, GAS AND MINING
DEPARTMENT OF NATURAL RESOURCES AND ENERGY
in and for the STATE OF UTAH

IN THE MATTER OF THE APPLICATION)
OF AMOCO PRODUCTION COMPANY ACTING)
THROUGH ITS SUBSIDIARY AMOCO)
ROCMOUNT COMPANY FOR AN ORDER)
APPROVING THE FORMATION AND)
OPERATION AS A UNIT OF THE)
ANSCHUTZ RANCH EAST UNIT AREA,)
SUMMIT COUNTY, UTAH AND UINTA)
COUNTY, WYOMING, AND SUBJECTING)
THE INTERESTS IN THE OIL AND GAS)
IN THE PROPOSED UNIT AREA TO SUCH)
PLAN OF UNIT OPERATION)

ORDER

CAUSE NO. 183-11

Pursuant to the application of Amoco Production Company, acting through its subsidiary, Amoco Rocmount Company, this cause came on for hearing before the Board of Oil, Gas, and Mining, State of Utah, at 10:00 a.m. on Tuesday, November 30, 1982, in the State Capitol Building, Room 426, Salt Lake City, Utah. The following Board Members were present:

Herm Olsen, Chairman

John L. Bell

E. Steele McIntyre

Edward T. Beck

Margaret Bird

Robert R. Norman

Appearances were made as follows:

For the Applicant:

G. L. Paulson, Esq.
Denver, Colorado

R. B. Giles
Denver, Colorado

J. W. Calvin
Denver, Colorado

J. J. Lelek
Denver, Colorado

For The Anschutz
Corporation:

Ted P. Stockmar, Esq.
Denver, Colorado

Jan N. Steiert, Esq.
Denver, Colorado

For Champlin Petroleum
Company:

J. D. Henry, Esq.
Denver, Colorado

For Mesa Petroleum
Company:

Thomas P. Hawkins, Esq.

For BWAB, Inc.:

Charles F. Hedges, Jr., Esq.

For Mobil Rocky
Mountain, Inc.:

Norman W. Schultz
Denver, Colorado

*For Natural Gas Pipeline Company
of America:*

*Jerome Mrowca
Chicago, Ill.*

*John K. Mangum
Salt Lake City, Utah*

Applicant introduced testimony and exhibits in support of its application, and questions were addressed to Applicant's witnesses by members of the Board and its staff. Statements in support of the Application were submitted by all others present, whose appearances are noted hereinabove. There were no statements in opposition nor was any opposing testimony presented or opposing exhibits introduced.

NOW, THEREFORE, the Board having considered questions and answers, statements presented and the testimony adduced and exhibits received at said hearing and being fully advised in the premises, now makes and enters the following:

FINDINGS AND CONCLUSIONS

1. That due and regular notice of the time, place and purpose of the hearing was given to all interested parties as required by law and the Rules and Regulations of the Board.
2. That the Board has jurisdiction over the matter covered by said application and over all parties therein; and has jurisdiction to make and promulgate the Order hereinafter set forth.

3. That, after consideration of the Application and the hearing of evidence submitted, the Board finds that the material allegations of the Application are substantially true.

4. That said application is for an order approving the Unit Agreement and the Unit Operating Agreement constituting the plan of unit operation; approving the plan to inject gas for pressure maintenance in the Nugget formation; vacating the field spacing order; exempting the Unit Agreement from General Rule C-3; and removing all production limitations for the Anschutz Ranch East Field, in both Uinta county, Wyoming, and Summit County, Utah, as follows:

Township 12 North, Range 121 West, 6th P.M.

Section 2: W1/2, W1/2 E1/2
Section 3: All
Section 10: All
Section 11: W1/2, W1/2 E1/2
Section 14: W1/2, W1/2 E1/2
Section 15: All

Township 13 North, Range 121 Wet, 6th P.M.

Section 22: All
Section 23: All
Section 24: W1/2, W1/2 E1/2
Section 25: W1/2, W1/2 E1/2
Section 26: All
Section 27: All
Section 34: All
Section 35: All
Section 36: W1/2, W1/2 E1/2

Township 4 North, Range 8 East, 6th P.M.

Section 8: All
Section 9: All
Section 16: All
Section 17: All
Section 18: E1/2
Section 19: All
Section 20: All
Section 21: All
Section 28: All
Section 29: All
Section 30: All
Section 31: All
Section 32: All
Section 33: All

Township 4 North, Range 7 East, 6th P.M.

Section 24: All
Section 25: All
Section 35: E1/2
section 36: All

Township 3 North, Range 8 East, 6th P.M.

Section 4: All
Section 5: All
Section 6: All
Section 7: All
Section 8: All
Section 9: All
Section 18: All

Township 3 North, Range 7 East, 6th P.M.

Section 1: All
Section 2: All
Section 11: All
Section 12: All
Section 13: All
Section 14: All
Section 15: E1/2

5. That portion of the Unit Area being located in Utah is as follows, to wit:

Township 4 North, Range 8 East, 6th P.M.

Section 8: All
Section 9: All
Section 16: All
Section 17: All
Section 18: E1/2
Section 19: All
Section 20: All
Section 21: All
Section 28: All
Section 29: All
Section 30: All
Section 31: All
Section 32: All
Section 33: All

Township 4 North, Range 7 East, 6th P.M.

Section 24: All
Section 25: All
Section 35: E1/2
section 36: All

Township 3 North, Range 8 East, 6th P.M.

Section 4: All
Section 5: All
Section 6: All
Section 7: All
Section 8: All
Section 9: All
Section 18: All

Township 3 North, Range 7 East, 6th P.M.

Section 1: All
Section 2: All
Section 11: All
Section 12: All
Section 13: All
Section 14: All
Section 15: E1/2

6. That the geologic evidence presented demonstrated that the Unit Area identified is reasonable and appropriate, in full consideration of the present

geologic interpretation of the Nugget structure, the possibility for further expansion of the defined productive limits of the Nugget formation, and the possibility for the delineation of other productive formations above the Nugget.

7. That the formations within the Unit Area sought to be unitized are all formations from the surface to the base of the Nugget formation, together with any older formations which constitute part of any pool productive in the Nugget formation, to the extent that such geologic formations presently lie above the Absaroka Thrust Fault.

8. That the evidence introduced at the hearing established that the Nugget reservoirs within the specified Unit Area are retrograde condensate reservoirs and that the dew point pressure of the fluid in the Nugget in the West structure is believed to be about 5080 pounds per square inch, and the dew point pressure of the fluid in the Nugget in the East structure is believed to be about 5091 pounds per square inch. Initial reservoir pressure in the West Nugget structure is estimated to be 5305 psi and, in the East Nugget structure, about 5884 psi.

9. That the evidence further established that a reduction in Nugget reservoir pressure to dew point will result in the liquids entrained in the gas at formation pressure beginning to drop out or condense in the pore spaces of the reservoir rock, thereby restricting the fluid flow into the well bore and creating waste of the hydrocarbon resource.

10. That failure to protect a reservoir from a pressure reduction below dew point will result in a loss of as much as 80% of the liquids potentially recoverable from the West structure.

11. That although the hydrocarbons in the Nugget reservoirs initially occurred in the gaseous phase, the operation of the Nugget reservoirs pursuant to the proposed plan of unitization and the proposed Plans of Depletion and Operation will be conducted primarily for the recovery of condensates and that the Nugget reservoirs must be operated as if they were oil reservoirs in order to prevent waste and to maximize the ultimate recovery, on an efficient and economic basis, of the hydrocarbons in the reservoirs.

12. That the evidence demonstrated that the only practical way to produce the Nugget reservoirs beneath the Unit Area to realize optimum hydrocarbon recovery while protecting correlative rights from hydrocarbon migration between leases is to conduct Unit Operations in accordance with the Plans of Depletion and Plans of Operation submitted as exhibits herein.

13. That the initial Plan of Depletion for the West structure provides for full pressure maintenance by a 10% hydrocarbon pore volume gas injection buffer followed by nitrogen injection, and that this is designed to maintain reservoir pressure above the dew point so as to prevent irreversible loss of hydrocarbons. The initial Plan of Depletion for the East structure presently provides for primary depletion with close pressure monitoring to fully evaluate the need for pressure maintenance, and the higher reservoir pressure in the East structure gives assurance that this plan will maximize recovery while preventing waste and protecting the correlative rights of all owners in the Unit Area.

14. That the data submitted clearly indicates that the substantial expense of pressure maintenance operations will be exceeded by the value of the additional

hydrocarbons that would be recovered by such pressure maintenance procedures.

15. That the proposed plan of unitization provides for an initial allocation of production and expense based upon surface acreage but that, ultimately, all such allocations will be based upon the hydrocarbon pore volume beneath each participating area; and that such plan will, as far as can be practically determined, result in the allocation of oil and gas to each separately owned tract within the Unit Area in accordance with each such tract's just and equitable share of the oil and gas within the Unit Area.

16. That the requested Unit Area encompasses, so far as is known, the entirety of the Nugget reservoirs.

17. That all working interest owners within the Unit Area have executed the Unit Operating Agreement covering the supervision, management and allocation and payment of costs, and the plan for Unit Operations within said Unit Operating Agreement includes:

- (a) A description of the pool or pools or parts of them to be so operated, termed the Unit Area.
- (b) A statement of the nature of the operations contemplated.
- (c) An allocation to the separately-owned tracts in the Unit Area of all the oil and gas that is produced from the Unit Area and is saved, being the production that is not based in the conduct of operations on the Unit Area or not unavoidably lost. The allocation is in accord with the Unit Agreement, and the relative value of the separately-owned

tracts in the Unit Area, exclusive of physical equipment for development of oil and gas by Unit Operations and the production allocated to each tract represents the proportion that the relative value of each tract so determined bears to the relative value of all tracts in the Unit Area.

- (d) A provision for adjustment among the owners of the Unit Area (not including royalty owners) of their respective investment in wells, tanks, pumps, machinery, materials, equipment, and other things and services of value attributable to the Unit Operations.
- (e) A provision providing how the costs of Unit Operations, including capital investments, shall be determined and charged to the separately-owned tracts and how these costs shall be paid, including a provision providing when, how and by whom the unit production allocated to an owner who does not pay the share of the cost of Unit Operation charged to such owner, or the interest of such owner, may be sold and the proceeds applied to the payment of such costs. The plan further provides that the operator of the unit shall have first and prior lien for costs incurred pursuant to the plan of unitization upon each owner's oil and gas rights and his share of unitized production to

secure the payment of such owner's proportionate part of the cost of developing and operating the Unit Area.

- (f) A provision for carrying or otherwise financing any person who elects to be carried or otherwise financed, allowing a reasonable interest charge for such service payable out of such person's share of the production.
- (g) A provision for the supervision and conduct of the Unit Operations, in respect to which each person shall have a vote with a value corresponding to the percentage of the costs of Unit Operations chargeable against the interest of such person.
- (h) The time when the Unit Operations shall commence and the manner in which and the circumstances under which the Unit Operations shall terminate.

18. That the Unit Agreement and the Unit Operating Agreement have been signed by all of those persons who will be required to pay the costs of Unit Operations and that the Unit Agreement has been signed or in writing ratified or approved by those persons who own at least eighty percent (80%) of the unit production or proceeds thereof that will be credited to royalty and overriding royalty interest which are free of costs, and such signature, ratification or approval has been adequately demonstrated to the Board.

19. That this Board has created approximately 160-acre drilling and spacing units for the production of oil, gas and associated hydrocarbons from the Nugget

formation underlying lands in the Unit Area located in Summit County, Utah. The original spacing order was issued April 23, 1980, in Cause No. 183-2. This area was expanded by the Order entered April 30, 1981, in Cause No. 183-7 and was made permanent by the Order entered April 30, 1981, in Cause No. 183-6. In order to facilitate Unit Operations, these orders should be vacated and a new order entered exempting the Unit Area from the application of General Rule C-3 except to specify that no well shall be located closer than four hundred-sixty (460') to the outer boundary of the Unit Area. Such locations are to be measured at the top of the completion interval. This will allow Unit Operator to locate future injection wells and producing wells in such a manner that the optimum hydrocarbon recovery can be achieved and waste prevented. This will provide for the most economical management of the reservoirs.

20. That this Board has also issued an order which restricts production from Nugget wells in the Anschutz Ranch East Field located in the State of Utah. The initial production restrictions were established by the Order issued March 26, 1981, in Cause No. 183-5 and were subsequently restricted further by the Order issued November 19, 1981, in Cause No. 183-8. This matter was last reviewed with the Board on August 26, 1982, in Cause No. 183-10. The Plans of Depletion and Operation submitted fully describe the operations that will commence immediately after the field has been unitized. The order limiting production should be vacated effective the date of unitization.

ORDER

IT IS THEREFORE ORDERED:

To prevent waste of gas, oil and associated hydrocarbons, to avoid the potential for reduction in

ultimate liquid recovery from the Nugget reservoirs underlying the Unit Area, to protect correlative rights, to prevent the drilling of unnecessary wells and to maximize the ultimate recovery of hydrocarbons underlying the Unit Area, the Board orders and decrees as follows:

1) The operation as a unit of the Anschutz Ranch East Unit, for the lands identified in Paragraph 4 of the Findings and Conclusions, for all formations within that Unit Area from the surface to the base of the Nugget formation, together with any older formations which constitute part of any pool productive in the Nugget formation to the extent that such geologic formation presently lie above the Absaroka Thrust Fault, is authorized and approved.

2) The Unit Agreement and the Unit Operating Agreement which together constitute the plan of unitization are hereby approved and found to be in all respects in compliance with the provisions of Section 40-6-17, et seq. of the Utah Code Annotated 1953 as amended, and with the General Rules and Regulations of the Board of Oil, Gas and Mining for the state of Utah.

3) The plan of, and agreement for, the injection of gas into the Nugget reservoir for pressure maintenance of such reservoir as described herein and in the Plans of Depletion and Operation are hereby authorized and approved.

4) The prior orders of the Board establishing drilling and spacing units within the Unit Area for the production of gas and associated hydrocarbons from the Nugget reservoir, are hereby vacated and the lands within the Unit Area are hereby exempted from the application of General Rule C-3, however, it is ordered that wells drilled within the Unit Area to formations covered by the

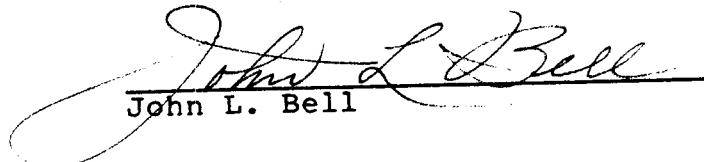
Unit Agreement shall be located no closer than four hundred-sixty feet (460') from the outer boundary of the Unit Area, as measured at the top of the completion interval.

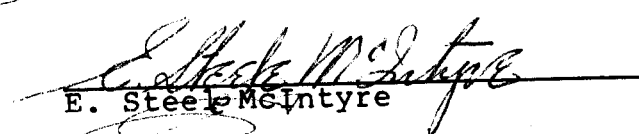
5) The prior orders of this Board limiting production from the Nugget reservoir within the Unit Area are vacated, effective on the date of unitization.

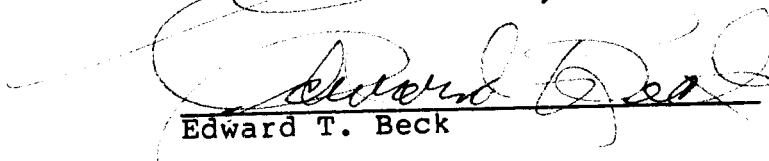
DONE AND PERFORMED this 30th day of November, 1982, and effective December 1, 1982.

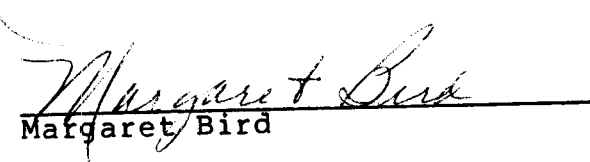
STATE OF UTAH
BOARD OF OIL, GAS, AND MINING

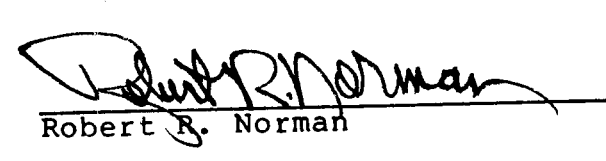

Herm Olsen, Chairman


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