

BEFORE THE INDUSTRIAL COMMISSION
OF THE STATE OF NORTH DAKOTA

CASE NO. 6153
ORDER NO. 7123

IN THE MATTER OF A HEARING CALLED ON A
MOTION OF THE COMMISSION TO CONSIDER THE
PROPER SPACING FOR THE DEVELOPMENT OF
THE SADLER-BAKKEN POOL, DIVIDE COUNTY,
NORTH DAKOTA, REDEFINE THE LIMITS OF THE
FIELD, AND ENACT SUCH SPECIAL FIELD RULES
AS MAY BE NECESSARY. SAMEDAN OIL
CORPORATION.

ORDER OF THE COMMISSION

BY THE COMMISSION:

Pursuant to legal notice this cause came on for hearing at 9:00 a.m. on the 27th day of September, 1995, in Bismarck, North Dakota, before an examiner appointed by the Industrial Commission of North Dakota, hereinafter referred to as the "Commission."

NOW, on this 5th day of October, 1995, the Commission, a quorum being present, having considered the testimony adduced and the exhibits received at said hearing, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That geological and engineering evidence presented to the Commission relative to the matter of well spacing indicates that the Sadler-Bakken Pool, as classified and defined in this order, should be developed on a pattern of one well to 160 acres in order to drain efficiently the recoverable oil from said pool, assure rapid development, avoid the drilling of unnecessary wells, and prevent waste in a manner that will protect correlative rights.

(3) That proper 160-acre spacing in the Bakken Pool in this field will result in the efficient and economical development of the field as a whole and will operate so as to prevent waste and provide maximum ultimate recovery, will avoid the drilling of unnecessary wells, and will protect correlative rights.

(4) That the unrestricted flaring of gas produced from the Sadler-Bakken Pool could be considered waste, and in order to minimize such, production from the pool should be restricted until the wells producing therefrom are connected to a gas gathering and processing facility.

(5) That certain special field rules are necessary to prevent waste and protect against the contamination and pollution of surface lands and fresh waters.

IT IS THEREFORE ORDERED:

(1) That the Sadler Field is hereby redefined as the following described tracts of land in Divide County, North Dakota:

TOWNSHIP 161 NORTH, RANGE 95 WEST, 5TH PM
ALL OF SECTIONS 16 AND 17, THE S/2 OF SECTIONS 8 AND 9, AND
THE N/2 OF SECTIONS 20 AND 21,

together with those additional quarter sections or governmental lots corresponding thereto as may be proven productive by wells drilled on lands within one mile of the boundaries of the field as set forth above, provided further that such extensions of the field boundaries shall include only sufficient acreage to form a spacing unit for such wells, and any intervening lands.

(2) That the Sadler-Bakken Pool be, and the same is hereby defined as that accumulation of oil and gas found in the interval from below the base of the Lodgepole Formation to above the top of the Three Forks Formation within the limits of the field as set forth above.

(3) That effective this date, the proper spacing for the development of the Sadler-Bakken Pool be, and the same is hereby set at one well to 160 acres.

(4) That all wells hereafter drilled to said pool shall be located not less than 500 feet from a spacing unit boundary nor closer than 1650 feet to a well permitted to or producing from the pool. Wells presently permitted to or producing from the pool that do not conform to this spacing pattern shall be considered exceptions.

(5) That spacing units for the Sadler-Bakken Pool shall consist of a governmental quarter section, or lots corresponding thereto, as determined by governmental survey.

(6) That no well shall be drilled hereafter in the Sadler-Bakken Pool except in conformity with the regulations above without special order of the Commission after due notice and hearing.

(7) That the following rules concerning the casing, tubing and equipping of wells shall apply to the subsequent drilling and operation of wells in the Sadler-Bakken Pool:

- (a) The surface casing shall consist of new or reconditioned pipe that has been previously tested to 1000 pounds per square inch. The casing shall be set and cemented at a point not less than 50 feet below the base of the Fox Hills Formation. Sufficient cement shall be used to fill the annular space outside the pipe to the surface of the ground or the bottom of the cellar, and sufficient scratchers and centralizers shall be used to assure a good cement job. Cement shall be allowed to stand a minimum of 12 hours before drilling the plug or initiating tests;
- (b) The producing or oil string shall consist of new or reconditioned pipe that has been previously tested to 2000 pounds per square inch. Casing shall be set and cemented at a point not higher than the top of the producing formation, or at a point approved by the Director. Sufficient cement shall be used and applied in such manner as to adequately protect and isolate all formations containing oil and/or gas, protect the pipe through salt sections encountered, and to isolate the Dakota-Lakota Series. The cement shall be allowed to stand a minimum of 24 hours before drilling the plug or initiating tests. After cementing, the casing shall be tested by application of pump pressure of at least 2000 pounds per square inch. If, at the end of 30 minutes this pressure shall have dropped 150 pounds per square inch or more, the casing shall be repaired. Thereafter, the casing shall again be tested in the same manner. Further work shall not proceed until a satisfactory test has been obtained;
- (c) All well-head fittings and connections shall have a working pressure in excess of that to which they are expected to be subjected; and,

- (d) All wells shall be equipped with tubing; all tubing shall be of sufficient internal diameter to allow the passage of a bottom hole pressure gauge for the purpose of obtaining bottom hole pressure measurements.

(8) That the gas-oil ratio of each well shall be measured during the months of May and November, and the reservoir pressure of flowing wells shall be measured in the months of May and November, and in pumping wells when the rods are pulled but at least once annually and reported to the Director within 15 days following the end of the month in which they are determined. Pressure measurements shall be made at or adjusted to a subsea datum of 6280 feet after the well has been shut in for 48 hours. All gas-oil ratio and reservoir pressure determinations shall be made under the supervision of and by methods approved by the Director. The Director is authorized to waive these requirements if the necessity therefor can be demonstrated to his satisfaction.

(9) That no salt water, drilling mud, crude oil, or waste oil shall be stored in pits in this field, except in an emergency, and approved by the Director.

(10) That multiple completion of wells for the purpose of producing oil and/or gas from the various pools encountered in the Sadler Field, is hereby authorized, subject to the following requirements:

- (a) Administrative approval may be given by the Director upon the filing of an application in which the applicant states that the requirements described in (b) through (e) below and other applicable rules and orders of the Commission will be complied with;
- (b) An approved production packer shall be set between each of the producing horizons in a manner which will effectively isolate each during the production process;
- (c) Production from each producing horizon shall be through separate continuous strings of tubing installed in such a manner with respect to the production packers as will prevent commingling of production in the well bore;
- (d) An approved wellhead of a type which allows independent suspension and packing of the tubing shall be used; and,
- (e) All tubing shall be of sufficient internal diameter to allow the passage of a bottom hole pressure gauge for the purpose of obtaining bottom hole pressure measurements.

(11) That all wells in the Sadler-Bakken Pool shall be allowed to produce at an unrestricted rate for a period of 30 days commencing on the first day oil is produced through well-head equipment into tanks from the ultimate producing interval after casing has been run; thereafter, oil production from such wells shall not exceed an average of 100 barrels of oil per day; if and when such wells are connected to a gas gathering and processing facility the foregoing restrictions shall be removed, and the wells shall be allowed to produce at a maximum efficient rate.

(12) That if the flaring of gas produced with crude oil from the Sadler-Bakken Pool causes, or threatens to cause, degradation of ambient air quality, production from the pool shall be further restricted.

(13) That this order shall cover all of the Sadler-Bakken Pool common source of supply of crude oil and/or natural gas as herein defined, and shall continue in full force and effect until further order of the Commission or until the last well in the pool has been plugged and abandoned.

Dated this 5th day of October, 1995.

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA

/s/ Edward T. Schafer, Governor

/s/ Heidi Heitkamp, Attorney General

/s/ Sarah Vogel, Commissioner of Agriculture