

STATE OF ALASKA  
ALASKA OIL AND GAS CONSERVATION COMMISSION  
3001 Porcupine Drive  
Anchorage, Alaska 99501-3192

Re: THE REQUEST OF STANDARD ) Area Injection Order No. 3  
ALASKA PRODUCTION COMPANY )  
for an Area Injection Order ) Western Operating Area  
for that portion of the ) including the K Pad Area  
Prudhoe Bay Unit commonly )  
known as the Western )  
Operating Area ) Prudhoe Bay Unit  
including the contiguous ) Prudhoe Bay Field  
K Pad Area. )  
  
July 11, 1986

IT APPEARING THAT:

1. Standard Alaska Production Company (SAPC) requested the Alaska Oil and Gas Conservation Commission to issue an Area Injection Order permitting the underground injection of fluids within the Western Operating Area and K Pad Area of the Prudhoe Bay Unit for the purposes of enhanced recovery and the disposal of non-hazardous oil field waste fluids.
2. Notice of an opportunity for a public hearing on June 25, 1986, was published in the Anchorage Times on May 22, 1986.
3. Neither a protest nor a request for a public hearing was timely filed. Accordingly, the Commission will, in its discretion, issue an order without a public hearing.

FINDINGS:

1. An order permitting the underground injection of non-hazardous fluids on an area basis, rather than for each injection well individually, provides for efficiencies in the administration and surveillance of underground fluid injection operations. 20 AAC 25.460 provides the Commission with the authority to issue an order governing underground injection operations on an area basis.
2. The Western Operating Area and the contiguous K Pad Area constitute a compact "project area" for the operation of a portion of the Prudhoe Bay Unit and can readily be described by governmental subdivisions. The Project Area is operated by a single operator.

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3. The Project Area encompasses approximately the western one-half of the Prudhoe Oil Pool. The Project Area includes all existing injection wells and injection well sites planned for enhanced recovery from this portion of the Prudhoe Oil Pool. The Project Area includes all existing injection wells and injection well sites planned for disposal by injection into Cretaceous and Tertiary strata of oil field waste fluids developed from the operation of this portion of the Prudhoe Bay Unit.
4. Those portions of aquifers described by a 1/4 mile area beyond and lying directly below the Project Area are exempted for Class II injection activities by Aquifer Exemption Order No. 1.
5. Less stringent requirements for well construction, operation, monitoring and reporting of injection operations may be more appropriate than would be required when injection occurs into, through or above portions of aquifers not exempted.
6. The vertical limits of injection strata and the confining formations may be defined in the ARCO Alaska Inc. (Atlantic Richfield-Humble) Prudhoe Bay, State Well No. 1 and the SAPC Prudhoe Bay Unit Well No. C-11.
7. The strata into which fluids are to be injected will accept fluids at injection pressures which are less than the fracture pressure of the injection strata and their confining formations.
8. Statewide regulations and conservation orders govern field operations except as modified by this order.
9. To ensure that fluids injected are confined to injection strata, the mechanical integrity of an injection well should be demonstrated periodically and monitored routinely for disclosure of possible abnormalities in operating conditions.
10. Injection wells existing on the date of this order were constructed and completed in accordance with regulations which conform to the requirement of 20 AAC 25.412.

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NOW, THEREFORE, IT IS ORDERED THAT the rules hereinafter set forth govern Class II underground injection operations in the following described area referred to in this order as the affected area:

UMIAT MERIDIAN

T12N	R10E	Sections 13 and 24
T12N	R11E	Sections 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35 and 36.
T12N	R12E	Sections 7, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 and 36.
T12N	R13E	Sections 19, 20, 21, 22, 23, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 and 36.
T12N	R14E	Sections 27, 28, 29, 31, 32, 33, and 34.
T11N	R11E	Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 24, and 25.
T11N	R12E	Entire Township
T11N	R13E	Entire Township
T11N	R14E	Sections 3, 4, 5, 6, 7, 8, 17, 18, 19, 20, 29, 30, 31 and 32.
T10N	R12E	Sections 1, 2, 3, 4, 10, 11 and 12.
T10N	R13E	Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 and 24.
T10N	R14E	Sections 5, 6, 7, 8, 17, 18, 19 and 20.

Rule 1 Authorized Injection Strata for Enhanced Recovery

Within the affected area, non-hazardous fluids may be injected for purposes of pressure maintenance and enhanced oil recovery into strata defined as those strata which correlate with the strata found in ARCO Alaska Inc. (Atlantic Richfield-Humble) Prudhoe Bay State Well No. 1 between the measured depths of 8110 feet and 8680 feet.

### Rule 2 Authorized Injection Strata for Disposal

Within the affected area, non-hazardous oil field fluids may be injected for the purpose of fluid disposal into strata defined as those strata which correlate with the strata found in SAPC's Prudhoe Bay Unit Well No. C-11 between the measured depths of 3990 feet and 6293 feet.

### Rule 3 Fluid Injection Wells

The underground injection of fluids must be: 1) through a new well that has been permitted for drilling as a service well for injection in conformance with 20 AAC 25.005; 2) through an existing well that has been approved for conversion to a service well for injection in conformance with 20 AAC 25.280; or 3) through a well that existed as a service well for injection purposes on the date of this order. Pumping of excess non-hazardous fluids that are developed solely from well operations, or necessary to control the fluid level of reserve pits, into surface/production casing annuli is exempted from the above requirements.

### Rule 4 Monitoring The Tubing/Casing Annulus Pressures

The tubing/casing annulus pressure of each injection well must be checked weekly as a routine duty to ensure there is no leakage and that it does not exceed a pressure that will subject the casing to a hoop stress greater than 70% of the casing's minimum yield strength.

### Rule 5 Reporting the Tubing/Casing Annulus Pressure Variations

Tubing/casing annulus pressure variations between consecutive observations need not be reported to the Commission.

### Rule 6 Demonstration of Tubing/Casing Annulus Mechanical Integrity

A schedule must be developed and coordinated with the Commission which ensures that the tubing/casing annulus for each injection well is pressure tested prior to initiating injection and at least once every four years thereafter. A test surface pressure of 1500 psi or 0.25 psi/ft multiplied by the vertical depth of the packer, whichever is greater, must be held for 30 minutes with no more than a 10 percent decline. The Commission must be notified at least 24 hours in advance to enable a representative to witness pressure tests.

Rule 7 Well Integrity Failure

Whenever operating pressure observances or pressure tests indicate pressure communication or leakage of any casing, tubing or packer, the operator must immediately cease injection, notify the Commission, and obtain approval for corrective action.

Rule 8 Plugging and Abandonment of Fluid Injection Wells

An injection well located within the affected area must not be plugged or abandoned unless approved by the Commission in accordance with 20 AAC 25.105.

Rule 9 Administrative Relief

Upon request, the Commission may administratively amend any rule stated above as long as the operator demonstrates to the Commission's satisfaction that sound engineering practices are maintained and the amendment will not result in an increased risk of fluid movement into an underground source of drinking water.

DONE at Anchorage, Alaska and dated July 11, 1986.



C. V. Chatterton, Chairman  
Alaska Oil and Gas Conservation Commission

Lonnie C. Smith, Commissioner  
Alaska Oil and Gas Conservation Commission

William W. Barnwell Commissioner  
Alaska Oil and Gas Conservation Commission