

September 28, 2007

Rule 37 Case No. 86316

**APPLICATION OF EARTH SCIENCE EXPLORATION, INC. TO CONSIDER AN EXCEPTION TO STATEWIDE
RULE 37 FOR THE JACKSON LEASE, WELL NO. 1A, CATTAIL HOLLOW (CONGL.), SMYRNA (ATOKA)
AND WILDCAT FIELDS, MONTAGUE COUNTY, TEXAS.**

APPEARANCES:

FOR APPLICANT:

Don Rhodes, Consultant
Michael James Murphy

APPLICANT:

Earth Science Exploration, Inc.
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FOR PROTESTANTS:

Darryl Moser (for Suella Crim Jones)
Tanya S. Moser
Elaine Carole Crim Fadal

PROTESTANT:

Offset Mineral Owner
“
“

PROPOSAL FOR DECISION

PROCEDURAL HISTORY

APPLICATION FILED:

November 15, 2006

NOTICE OF HEARING:

March 6, 2007

HEARD BY:

Marshall Enquist - Hearings Examiner
Donna Chandler - Technical Examiner

HEARING DATE :

April 20, 2007

HEARING CLOSED:

May 1, 2007

TRANSCRIPT RECEIVED:

May 7, 2007

PFD CIRCULATION DATE:

September 28, 2007

STATEMENT OF THE CASE

Earth Science Exploration, Inc. (“Earth Science” or “Applicant”), seeks an exception to Statewide Rule 37 to re-enter Well No. 1A on the Jackson Lease in Montague County. The subject fields have minimum lease line spacing requirements of 467 feet to the nearest lease line and 1200 feet minimum spacing between wells on 40 acres. The proposed location of the subject well is 269 feet east of, and irregular to, the southwest leaseline and 269 feet west of, and irregular to, the northeast leaseline. The Jackson Lease is L-shaped, with the bulk of its 77 acres in the lower, horizontal portion of the “L”. (See attached Exhibit A, which is a copy of an older plat showing the Jackson 1A as the Bridwell No. 1). The existing well for which a re-entry is proposed, is in the upper, narrow portion of the Jackson Lease, near the top of what would be the upright in the “L”. At this point, the lease is only approximately 540 feet in width.

The application is protested by members of the Crim family, who are the offset mineral interest owners on either side of the proposed re-entry location on the Jackson Lease. The protestants argue that the exception location requested should not be approved because it will cause drainage of their minerals. The hearing was left open for both sides to present late-filed exhibits and was closed on receipt of the last exhibit on May 1, 2007.

SUMMARY OF EARTH SCIENCE’S POSITION AND EVIDENCE

Well No. 1A on the Jackson Lease was completed in the Smyrna (Atoka) Field in 1981 by Bridwell Oil Company as a Rule 37 location. The relevant portion of the Jackson Lease is long and narrow, with no regular location, but Bridwell Oil Company had the adjacent lands under lease and was able to waive as their own offset. The well was plugged in 2002. Earth Science has reviewed the old well logs and believes there is a productive unnamed conglomerate sand, a wildcat, on the log between 6150 feet and 6160 feet. A review of the available logs for the correlative interval in surrounding wells either do not show the presence of this Conglomerate Sand, or show a thin, very ratty edge of this sand which would almost certainly be non-productive. This indicates that the sand body seen in the log of Well No. 1A on the Jackson lease is of limited extent. Earth Science determined that re-entry of the old well was the only economically feasible method of accessing the wildcat.

Earth Science gave notice of its application to affected mineral interest owners by searching the county Tax Appraisal records and old division orders. Notice by publication was required and Earth Science submitted a Publisher’s Affidavit demonstrating notice was published in a newspaper of general circulation in the county, the Bowie News, on November 30, December 7, 14 and 21 in 2006.

Bridwell Oil Company previously drilled three wells in the area which can be used to create a cross-section. The Jackson 1A shows 10 feet of sand between 6150 and 6160 on its log. The Bridwell 1A, to the northeast of the Jackson 1A and 467 feet from the Jackson leaseline, does show this sand in its log, but it is pinching out, of poor quality and very likely non-productive. The Bridwell 1B, to the southwest of the Jackson 1A and 660 feet from the Jackson leaseline, does not show this sand at all in the log. Earth Science interprets this as evidence that this sand body pinches out to the northeast and southwest and is highly localized. The logs of the other adjacent wells show limestone at this level, and

Earth Science believes that the presence of sand in the same correlative interval in the Jackson 1A indicates a sand-filled channel cut. Records indicate Bridwell tested this interval and found a bottomhole pressure of 2100 psi, but did not choose to produce it.

Earth Science estimates a recovery of 100 million cubic feet of gas from the sand interval, which, assuming \$6 per MCF, would result in a net recovery worth \$350,000 to \$400,000. A re-entry would cost \$150,000 whereas a new well would cost roughly \$400,000. Earth Science believes re-entry of the Jackson 1A is an economically viable means of recovering the reserves in the sand interval. Drilling a new well, at another location, would probably not be economically viable and would also run the risk of missing this narrow channel sand. Earth Science states that if it is not allowed to produce this isolated sand body, waste will occur.

Earth Science admits that its recovery figures are based on a subjective estimate of the recoverable reserves in the target sand body. The target sand body is probably tight and it will be necessary to frac the sand to produce it. The bottomhole pressure encountered by Bridwell of 2100 psi factors into the estimate, as does Earth Science's general experience in producing wells in the area. Earth Science characterizes this sand body as a "stranger", that is, atypical of the area, making it difficult to calculate potential reserves with any precision.

The Cattail Hollow (Conglomerate) Field lies approximately 50 feet below the target wildcat sand and Earth Science views that field as a possible "bailout" interval in case the estimated reserves for the wildcat sand do not prove out. If the target wildcat sand does make production, Earth Science will file for a new field designation for the well.

PROTESTANT'S POSITION AND EVIDENCE

Darryl Moser presented evidence on behalf of the Crim family (hereinafter "Crim" or "Crims"), who are the offset mineral owners to the northeast and southwest of the Jackson Well No. 1A. Crim noted that Earth Science initially sent them a request for a Rule 37 waiver which the family did not wish to sign. Earth Science then offered to lease from the Crims the limited amount of acreage necessary to provide the Jackson Well No. 1A a regular location. The Crims rejected this offer and countered by offering to lease their entire tracts on either side of the Jackson Lease to Earth Science. Earth Science did not want to lease all the Crim acreage, which is substantial, in order to produce what it considers a highly localized sand body.

The Crims do not oppose production of gas by Earth Science, but they note that Earth Science cannot prove the limits of the wildcat field and that the Crim family may suffer uncompensated drainage if the boundaries of the wildcat extend onto their property before pinching out. They also note that the Bridwell 1A and 1B were both still capable of some production in the Smyrna (Atoka) Field at the time they were plugged and that Earth Science is proposing to re-complete the Smyrna (Atoka) as well, further draining reserves from under their land.

In addition, the Crims do not believe the Jackson 1A is located exactly in the center of the Jackson tract as shown by the plats submitted by Earth Science. The Crims, as a late-filed exhibit, submitted satellite images that appear to show that the location of the Jackson Well No. 1A is biased to the southwestern lease line of the Jackson Lease.

EXAMINERS' OPINION

To establish entitlement to an exception to Statewide Rule 37 to prevent waste, an applicant must demonstrate that: (1) unusual conditions, different from conditions in adjacent parts of the field, exist on the tract for which the exception is sought; and (2) as a result of these conditions, a substantial volume of hydrocarbons will be recovered by the well for which a permit is sought that would not be recovered by any existing well or by additional wells drilled at regular locations.

Earth Science has presented persuasive evidence that there is a channel fill sand of limited extent beneath the Jackson Lease. This is the wildcat zone that Earth Science has applied for. Although limited in nature, Earth Science has presented some evidence, such as a bottomhole pressure of 2100 psi in the wildcat zone, and an estimate based on years of experience in the area, that the channel sand may contain as much as 100 million cubic feet of gas. There is evidence that this gas can not be recovered by any existing well or by another well drilled at a regular location, other than the applied-for re-entry of the Jackson Well No. 1A. Additional wells drilled at regular locations, such as in the lower portion of the 77 acre Jackson Lease, would likely miss the channel fill altogether. Therefore, a substantial volume of hydrocarbons would be wasted if Earth Science is not given an opportunity to re-enter and re-complete the Jackson Well No. 1A in the applied-for wildcat zone.

However, Earth Science failed to provide any evidence of remaining recoverable reserves for either the Smyrna (Atoka) or Cattail Hollow (Congl.) Fields. Earth Science did state that it considered the Cattail Hollow (Congl.) to be a "bailout" zone in the event that the target wildcat does not contain the expected recoverable reserves, but did not quantify in any way the reserves that might exist in the Cattail Hollow. The record shows that the Smyrna (Atoka) was mentioned in passing as having produced in the Jackson and offsetting Bridwell wells in the past, but no present calculations of recoverable reserves was provided.

To establish entitlement to an exception to Rule 37 to prevent confiscation, an applicant must show that, absent the applied-for well, it will be denied a reasonable opportunity to recover its fair share of hydrocarbons currently in place under the lease, or its equivalent in kind. The applicant must satisfy a two pronged test: 1) the applicant must show that it will not be afforded a reasonable opportunity to recover its fair share of hydrocarbons currently in place by drilling a well at a regular location; and 2) the applicant must show that the proposed irregular location is reasonable.

It is the basic right of every landowner or lessee to a fair and reasonable chance to recover the oil and gas under their property as recognized by the Texas Supreme Court in *Gulf Land Co. v. Atlantic Refining Co.*, 131 S.W.2d 73, 80 (Tex. 1939). Denial of that fair chance is confiscation within the meaning of Rule 37. *Id.*

Earth Science has shown that it is entitled to a Statewide Rule 37 exception for the target wildcat field due to prevention of waste, but did not prove a waste case for the applied-for Smyrna (Atoka) and Cattail Hollow (Congl.) Fields. Neither did Earth Science prove a confiscation case for the Smyrna (Atoka) and Cattail Hollow (Congl.) Fields. Earth Science failed to present any calculations of its fair share of the recoverable reserves under its lease for these two fields, did not show that it could not recover the reserves in place under its lease with a well drilled at a regular location, and did not show that its proposed re-entry location is reasonable.

The satellite photos presented by the Crim family are overlain with lines attempting to show the relevant property lines and service roads with turn-arounds are visible which roughly indicate the position of the wells involved in this case. However, the wells themselves cannot be distinguished and the Crims have provided no evidence produced by a surveyor as to the actual location of the Jackson Well No. 1A.

The examiners believe Earth Science has proved its case based on prevention of waste as to its application to drill the wildcat zone shown in the log of the Jackson Well No. 1A between 6150 feet and 6160 feet and recommend that its application be approved as to that interval.

Based on the record in these dockets, the examiners recommend adoption of the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

1. At least 10 days notice of this hearing was given to the designated operator, all offset operators, all lessees of record for tracts that have no designated operator, and all owners of record of unleased mineral interests for each affected adjacent tract.
2. Earth Science submitted a Publisher's Affidavit demonstrating that notice of this application was published in a newspaper of general circulation in the county, the Bowie News, on November 30, and December 7, 14 and 21 in 2006.
3. Earth Science Exploration, Inc. ("Earth Science" or "Applicant"), seeks an exception to Statewide Rule 37 to re-enter its Jackson Lease, Well No. 1A, in the Smyrna (Atoka), Cattail Hollow (Congl.) and Wildcat Fields, Montague County. The Jackson Lease is an irregular "L-shaped" lease and there is no regular location in the narrow northern portion of the lease.
4. In its review of the log of the Jackson 1A, Earth Science has found a previously unproduced ten foot sand interval between 6150 feet and 6160 feet. Comparison with logs of nearby wells indicates this sand is an isolated channel fill of limited extent, an unusual condition for this area.
5. Earth Science estimates the channel fill contains 100 million cubic feet of recoverable gas.

6. Due to the configuration of the lease and the limited extent of the target sand body, a substantial volume of hydrocarbons will be recovered by the re-entry of the Jackson 1A that could not be recovered by any other well or another well drilled at a regular location.
7. Earth Science did not provide any estimate of the recoverable reserves in place under the Jackson Lease for either the Smyrna (Atoka) or Cattail Hollow (Congl.) Fields.
8. Earth Science did not show the existence of any unusual conditions under its Jackson Lease for the Smyrna (Atoka) or Cattail Hollow (Congl.) Fields.
9. Earth Science did not show that it would not be afforded a reasonable chance to recover its fair share of the recoverable reserves beneath its lease by drilling a well at a regular location.

CONCLUSIONS OF LAW

1. Proper notice of hearing was timely given to all persons legally entitled to notice.
2. All things have occurred to give the Commission jurisdiction to decide this matter.
3. Earth Science has established that it is entitled to a Rule 37 exception to prevent waste in the applied-for Wildcat Field located between 6150 and 6160 feet in the log of the Jackson Well No. 1A.
4. Earth Science has not proved it is entitled to a Rule 37 exception in the Smyrna (Atoka) or Cattail Hollow (Congl.) Fields.

RECOMMENDATION

Earth Science established that it is entitled to a Rule 37 exception in order to prevent waste in the wildcat zone between 6150 feet and 6160 feet in the Jackson Well No. 1A. The examiners therefore recommend that the subject application be **approved** as to that specific interval. Earth Science did not establish that it is entitled to a Rule 37 in the Smyrna (Atoka) or Cattail Hollow (Congl.) Fields. The examiners recommend that the subject application be **denied** as to those two fields.

Respectfully submitted,

Marshall Enquist
Hearings Examiner

Donna Chandler
Technical Examiner