

**RULE 37 CASE NO. 0243524**

**District 8-A**

---

**APPLICATION OF SHARP IMAGE ENERGY, INC., FOR AN EXCEPTION TO STATEWIDE RULE 37 TO DRILL ITS VERNON WOLF LEASE, WELL NO. 1, DOUBLE -S- (CANYON REEF), WOLF (CANYON), AND WILDCAT FIELDS, BORDEN COUNTY, TEXAS**

---

**APPEARANCES:**

**FOR APPLICANT:**

Ana Maria Marsland-Griffith  
William C. Collins  
J. Louis Moseley  
David White

**APPLICANT:**

Sharp Image Energy, Inc.

**FOR PROTESTANT:**

F. D. Schoch

**PROTESTANT:**

Platinum Exploration, Inc.

**PROPOSAL FOR DECISION**

**PROCEDURAL HISTORY**

**DATE OF APPLICATION:**

July 6, 2005

**DATE OF NOTICE OF HEARING:**

August 2, 2005

**DATE OF HEARING:**

September 7, 2005

**HEARD BY:**

James M. Doherty, Hearings  
Examiner

Donna Chandler, Technical Examiner

**DATE TRANSCRIPT RECEIVED:**

October 17, 2005

**DATE PFD CIRCULATED:**

November 8, 2005

**STATEMENT OF THE CASE**

Sharp Image Energy, Inc. (“Sharp Image”) requests an exception to Statewide Rule 37 to drill Well No. 1 (“proposed well”) on its Vernon Wolf Lease (“subject tract”) in the Wolf (Canyon) Field, Borden County, Texas. Although the Sharp Image Form W-1 (Application for Permit to Drill, Recomplete, or Re-Enter) also sought to permit the proposed well in the Double -S- (Canyon Reef) and Wildcat Fields, applicant stated at the hearing that it sought to permit the proposed well only in the Wolf (Canyon) Field. A plat showing the proposed well location is attached to this proposal for decision as Appendix 1. The Wolf (Canyon) Field is subject to statewide rules providing for 467’ lease line and 1,200’ between well spacing. A Rule 37 exception for the proposed well location is needed because the location is 96’ from the south line and 386’ from the east line of the 80-acre Vernon Wolf Lease.

The application is protested by Platinum Exploration, Inc. (“Platinum”), the operator of offsetting tracts to the south and east of the Sharp Image Vernon Wolf Lease. Platinum is the operator of the Shafer No. 1 well (“Shafer well”) to the south of the subject tract and the Platinum Vernon Wolf No. 1 well (“Wolf well”) to the east of the subject tract.<sup>1</sup>

**POSITIONS OF THE PARTIES**

Sharp Image contends that the proposed well location is necessary to prevent waste and to protect correlative rights. Platinum contends that the subject reservoir can be drained efficiently by its two existing wells, and its correlative rights will be harmed by drainage caused by a well so close to its tracts.

**DISCUSSION OF THE EVIDENCE**

**(a) Sharp Image**

The proposed well will be a first well on Sharp Image’s 80-acre Vernon Wolf lease. This proposed well is a Canyon pinnacle reef prospect. The Canyon reef oil pay is in the area of Borden and surrounding counties. Sharp Image has been shooting three-D seismic surveys in the area for the last 15 years. In the last 5-6 years, it has drilled about 75 wells based on its seismic surveys, and has completed about 75% of these wells. Sharp Image’s objective has been to map individual Canyon pinnacle reefs and to locate wells on the apex of the structure.

A seismic-based structure map on the Canyon Lime horizon in the area of Sharp Image’s Vernon Wolf lease shows that the proposed well location is at or near the highest structural position, about 4,840’ subsea, on a Canyon pinnacle reef underlying the lease. The same structure map shows

---

<sup>1</sup> The plat attached as Appendix 1 shows these wells to be operated by Hal J. Rasmussen, but Platinum is the current operator of the wells.

that a regular location on the Vernon Wolf lease 467' FSL and 467' FEL would encounter the Canyon at a much lower structural position, about 4,960' subsea. The structure map also shows that the Platinum Shafer well to the south encounters the Canyon at around 4,947' subsea. The Canyon pinnacle reef feature underlying Sharp Image's lease encompasses about 40 acres.

A type log for the Platinum Shafer well shows that the well was perforated a total of 13' into the Canyon reef. Based on seismic surveys, Sharp Image's geophysicist believes that the Shafer well is the only well that has penetrated the particular Canyon pinnacle reef feature that is the target of Sharp Image's proposed well. The Platinum Wolf well, which is 1,100' to the east of Sharp Image's proposed well location, is believed by Sharp Image's geophysicist to be located on an entirely separate reef feature. Sharp Image's structure map based on seismic shows that structure falls off steeply both east and west of Sharp Image's proposed well location.

Sharp Image's geophysicist believes that the drive mechanism in the subject reservoir is a water drive, as is typical for Canyon pinnacle reefs. An initial potential test for the Shafer well when drilled in 1988 showed that the well had an initial potential of 50 BOPD and 35 barrels of water per day, which is indicative of a water drive mechanism. The top of the Canyon in the Shafer well is at 4,947' subsea, and all its perforations are at or below that depth. Sharp Image's geophysicist believes, therefore, that the target pinnacle reef feature above 4,947' subsea has not been drained. Sharp Image's geophysicist believes that the oil-water contact was at about 4,947' subsea at the time the Shafer well was drilled, and since this well has been producing since 1988, the oil-water contact has probably moved up since that time. According to Sharp Image's geophysicist, a well drilled at a regular location on Sharp Image's Vernon Wolf lease, which would encounter the Canyon at about 4,960' subsea, would be below the oil-water contact.

North-south and east-west two dimensional seismic lines pulled from Sharp Image's three-D data set show that Sharp Image's proposed location is near the apex of the target Canyon pinnacle reef feature. The Platinum Shafer well is shown to be located on the south flank of this feature, and a regular location on Sharp Image's Vernon Wolf lease would be on the north flank of the feature. The north-south and east-west seismic lines presented by Sharp Image demonstrate the steep flanks of the target pinnacle reef feature and that the proposed location is at the crest of the feature.

Sharp Image's geophysicist has the opinions that: (1) there is no regular location on Sharp Image's Vernon Wolf lease from which the target Canyon pinnacle reef feature could be encountered above the oil-water contact so that hydrocarbons could be recovered; (2) if the proposed well location were moved somewhere down structure, the well could not recover reserves at the top of the structure; and (3) a well located at the top of the structure is needed in order to prevent waste.

Planimetry of acreage in the target pinnacle reef feature under the Sharp Image Vernon Wolf lease enabled a consulting petroleum engineer retained by Sharp Image to volumetrically calculate reserves in the feature above the oil-water contact at 4,947' subsea. Original oil in place under Sharp Image's lease is estimated by this engineer to be 176,000 stock tank barrels. Sharp Image's engineer thus estimates that based on a 50% recovery factor there are about 88,000 stock tank barrels of oil under the Sharp Image lease that could not be recovered by a well drilled at a regular location on the lease.

Production data through the end of 2004 for the Platinum Shafer well presented by Sharp Image's petroleum engineer indicates that the well is making about four BOPD and more than four times that amount of water. As of June 1, 2005, cumulative production for this well was about 37,000 BO and about 41,493 MCF of gas. Sharp Image's petroleum engineer estimated ultimate oil recovery for the well of about 52,000 BO. Gas production from the Shafer well has experienced generally the same decline as oil production. The gas-oil ratio for the well has not increased significantly since the well was drilled, which Sharp Image's petroleum engineer believes is indicative of a water drive reservoir.

Sharp Image's petroleum engineer believes that no well drilled at a regular location on either the Sharp Image lease or the offsetting Platinum tracts can recover attic reserves in the Wolf (Canyon) structure, and that if Sharp Image's proposed location is not drilled, about 88,000 BO under the Sharp Image lease alone will go unrecovered.

### **(b) Platinum**

Platinum's engineer presented a structure map prepared by a Platinum geologist based on logs for the Platinum Shafer and Wolf wells. This structure map does not show the same pinnacle reef feature under the Sharp Image lease as is shown by Sharp Image's seismic-based structure map. For example, the Platinum structure map shows that structure increases in the southeast portion of Sharp Image's lease, inconsistent with the decreasing structure shown by seismic surveys.

According to Platinum's engineer, Platinum's Wolf well initiated production in 1981 and produced routinely until about 1990 when production declined, not long after the Platinum Shafer well started producing in 1988. This leads Platinum to conclude that the Shafer and Wolf wells are in the same feature and competing for the same reserves.<sup>2</sup> Based on the production of 138,000 BO from the Wolf well, Platinum's engineer believes that the feature targeted by Sharp Image is larger than represented by Sharp Image's seismic-based structure map.

Platinum contends that the Canyon pinnacle reef feature targeted by Sharp Image is being drained adequately by Platinum's Shafer and Wolf wells, and the oil that would be produced by Sharp Image's proposed well can be recovered by Platinum's wells. Platinum's engineer stated that Platinum's wells have relatively low fluid levels, and when a well draws down reservoir pressure below bubble point pressure, a gas cap forms which provides a more efficient displacement mechanism for oil than a water drive.

Platinum's engineer disagreed with the placement of the oil-water contact made by Sharp Image's experts. According to Sharp Image, the Shafer well is perforated just above the oil-water contact, yet this well has produced about 37,000 BO to date, and is still producing 3-5 BOPD. Platinum's engineer does not believe that a well as close to the oil-water contact as projected by

---

<sup>2</sup> However, Platinum's engineer conceded that the operator of the Wolf well at the time of the production decline exhibited by the production curve for the well had experienced mechanical problems with the well, and that the well returned to its former production levels about the time Platinum became the operator, possibly because Platinum was a more aggressive operator.

Sharp Image would have recovered 37,000 BO.

Platinum believes that the proposed location of Sharp Image's well less than 100' from Platinum's lease line is too close and raises a correlative rights issue.

### **EXAMINERS' OPINION**

If a substantial amount of oil will be produced by the proposed Rule 37 well that otherwise would ultimately be lost, a permit to drill the well may be justified under Rule 37 to prevent waste. *Hawkins v. Texas Co.*, 209 S.W.2d 338, 343 (Tex. 1948). An applicant seeking an exception to Rule 37 based on waste must show that: (1) unusual conditions, different from conditions in adjacent parts of the field, exist under the tract for which the exception is sought; (2) as a result of these unusual conditions, oil will be recovered by the well for which the exception is sought that would not be recovered by any existing well or by an additional well drilled at a regular location; and (3) the amount of otherwise unrecoverable oil is substantial.

In addition, if the well location proposed by Sharp Image is necessary to prevent confiscation, Sharp Image is entitled to a Rule 37 exception for the well. An owner of oil and gas is entitled to an opportunity to recover the reserves underlying his tract, and any denial of that opportunity amounts to confiscation. *Atlantic Refining Co. v. Railroad Commission*, 346 S.W.2d 801 (Tex. 1961); *Imperial American Resources Fund, Inc. v. Railroad Commission*, 557 S.W.2d 280 (Tex. 1977). When the subject tract is capable of supporting a regular location, the applicant for a Rule 37 exception based on confiscation must prove that the proposed irregular location is necessary because of surface or subsurface conditions and that the proposed location is reasonable. To do this, the applicant must show that it is not feasible to recover his fair share of the oil and gas under his tract from regular locations.

Sharp Image has proved that the requested Rule 37 exception is necessary to prevent waste. An "unusual" condition exists beneath Sharp Image's Vernon Wolf lease in the form of a pinnacle reef structure in a water drive reservoir which requires drilling of a well high on structure to maximize recovery. Sharp Image's seismic-based structure map shows that as a result of these unusual conditions, no existing well or any additional well drilled at a regular location can recover the oil that will be recovered by the proposed well.

The examiners believe that Sharp Image's structure map, which is based on seismic surveys, is more reliable than Platinum's structure map, prepared by a geologist who did not testify, based on what appears to be very limited well control. The geological interpretation represented by Platinum's structure map is contrary to the Canyon pinnacle reef feature seen in Sharp Image's seismic surveys. Sharp Image's seismic-based structure map shows that the only existing well that penetrates the target Canyon pinnacle reef feature is Platinum's Shafer well, and this well encounters the top of the Canyon at a subsea depth which is over 100' low to the location of Sharp Image's proposed well at the crest of the pinnacle reef structure. The fact that the initial potential of the Shafer well was 50 BOPD and 35 barrels of water per day and the fact that the gas-oil ratio for the Shafer well has not increased significantly since the well started to produce in 1988 tend to confirm the opinion of Sharp Image's experts that the subject reservoir has a water drive mechanism. The

examiners have concluded that it is very unlikely that the Platinum Shafer well can recover the oil in the target pinnacle reef feature above 4,947' subsea which is the top of the Canyon in the Shafer well.

The Sharp Image structure map also establishes that there are no regular locations on the Sharp Image lease, or elsewhere, from which a well could recover the reserves that will be recovered by the proposed well. A well at a regular location on the Sharp Image lease 467' FSL and 467' FEL would be about 120' low to the proposed well, could not recover reserves in the targeted pinnacle reef feature above about 4,960' subsea, and most likely would encounter the Canyon below the current oil-water contact. Sharp Image's structure map also shows that regular locations off the Sharp Image lease would be significantly low to the location of the proposed well.

The amount of oil beneath Sharp Image's lease that will be recovered by the proposed well and that will go unrecovered by any existing well or any additional wells drilled at regular locations is substantial, amounting to approximately 88,000 stock tank barrels.

Sharp Image has also proved that granting the requested Rule 37 exception is necessary to prevent confiscation. Volumetrically calculated oil in place beneath the Sharp Image lease, in the targeted Canyon pinnacle reef feature above Sharp Image's estimated oil-water contact at 4,947' subsea, amounts to 176,000 stock tank barrels. Because the top of the Canyon in the Platinum Shafer well is at 4,947' subsea, it is unlikely that any of this oil has been drained by any existing well. Sharp Image has proved that this oil cannot be recovered by a well at a regular location on the Sharp Image lease, because a well at a regular location 467' FSL and 467' FEL would encounter the Canyon at about 4,960' subsea and most likely be in the water. The location of Sharp Image's proposed well is reasonable in that it is at the crest of the Canyon pinnacle reef feature beneath Sharp Image's lease and is the location required to maximize recovery of oil that otherwise ultimately would be lost.

Based on the record in this case, the examiners recommend adoption of the following Findings of Fact and Conclusions of Law.

### **FINDINGS OF FACT**

1. At least ten (10) days notice was sent to all affected persons, who, for tracts closer to the proposed well than the greater of one-half ( $\frac{1}{2}$ ) of the prescribed minimum between well spacing distance or the minimum lease line spacing distance, included the designated operator, all lessees of record for tracts that have no designated operator, and all owners of record of unleased mineral interests.
2. Sharp Image Energy, Inc. ("Sharp Image") seeks an exception to Statewide Rule 37 to drill its Vernon Wolf Lease ("subject tract"), Well No. 1 ("proposed well"), in the Wolf (Canyon) Field, Borden County, Texas. Although the Form W-1 application also sought to permit the proposed well in the Wildcat and Double -S- (Canyon Reef) Fields, Sharp Image stated at the hearing that it sought a permit for the Wolf (Canyon) Field only.

3. The Wolf (Canyon) Field is subject to statewide rules providing for 467' lease line and 1,200' between well spacing.
4. Sharp Image proposes to drill Well No. 1 at a location 96' from the south line and 386' from the east line of the 80-acre Vernon Wolf lease.
5. The Sharp Image application is protested by Platinum Exploration, Inc. ("Platinum"), which is the operator of acreage to the south and east of the Sharp Image Vernon Wolf lease. Platinum is the current operator of the Shafer No. 1 well ("Shafer well") to the south of the subject tract and the Platinum Vernon Wolf No. 1 well ("Wolf well") to the east of the subject tract.
6. The proposed well location is at or near the highest structural position on a Canyon pinnacle reef feature underlying Sharp Image's Vernon Wolf lease. A well drilled at this location would encounter the Canyon at a subsea depth of about 4,840'.
7. The subject reservoir has a water drive mechanism. Wells drilled at the highest structural position in the Canyon pinnacle reef feature underlying Sharp Image's lease will achieve the maximum recovery of hydrocarbon reserves.
8. The Canyon pinnacle reef feature in a water drive reservoir requiring that wells be drilled high on structure to maximize recovery is an unusual subsurface condition beneath the Sharp Image lease.
9. A well drilled at a regular location on Sharp Image's lease 467' from the south line and 467' from the east line would encounter the Canyon at a subsea depth of about 4,960', most likely below the current oil-water contact. Such a regularly located well would not recover any of the hydrocarbons in the Canyon pinnacle reef feature beneath Sharp Image's lease.
10. The Platinum Shafer well is the only existing well that has penetrated the Canyon pinnacle reef feature targeted by Sharp Image's proposed well.
11. Platinum's Shafer well cannot recover the hydrocarbons in the Canyon pinnacle reef feature beneath Sharp Image's lease above a subsea depth of 4,947'.
  - a. When the Shafer well was drilled in 1988, it had an initial potential of 50 BOPD and 35 barrels of water per day.
  - b. The top of the Canyon in the Shafer well is at a subsea depth of 4,947', at or near the oil-water contact at the time the well was drilled.
  - c. The Shafer well is more than 100' low on structure to the location of Sharp Image's proposed well.

- d. Currently, the Shafer well is making about four BOPD and about four times that much water per day.
12. The Platinum Wolf well is in a feature separate from the reef feature targeted by Sharp Image's proposed well, and cannot recover any of the hydrocarbons that will be recovered by the proposed well.
13. No additional wells drilled at regular locations on acreage surrounding Sharp Image's lease can recover the hydrocarbons in the Canyon pinnacle reef feature beneath the Sharp Image lease. The targeted Canyon pinnacle reef feature falls off steeply in all directions from the location of Sharp Image's proposed well, and any regularly located well on surrounding acreage would not be in a structural position to recover the hydrocarbons that will be recovered by the proposed well.
14. Original oil in place beneath the Sharp Image lease in the Canyon pinnacle reef feature above the estimated oil-water contact at a subsea depth of 4,947' is about 176,000 stock tank barrels of oil, none of which has been drained by any well.
15. The well proposed by Sharp Image likely can recover 50% of the oil in place beneath the Sharp Image lease, or about 88,000 stock tank barrels of oil. This is a substantial volume of oil that cannot be recovered by any existing well or by any additional wells drilled at regular locations.
16. The location of Sharp Image's proposed well is reasonable in that the location is at the crest of a Canyon pinnacle reef feature beneath the Sharp Image lease and is necessary to maximize recovery of oil from the Wolf (Canyon) water drive reservoir. A less irregular location would be lower structurally and could not recover reserves at the top of the structure beneath the Sharp Image lease.

#### **CONCLUSIONS OF LAW**

1. Proper notice of hearing was timely issued by the Railroad Commission to appropriate persons legally entitled to notice.
2. All things necessary to the Commission attaining jurisdiction over the subject matter and the parties in this hearing have been performed.
3. The granting of an exception to Statewide Rule 37 to Sharp Image Energy, Inc., to drill its Vernon Wolf Lease, Well No. 1 in the Wolf (Canyon) Field, Borden County, Texas, is necessary to prevent waste of hydrocarbons.
4. The granting of an exception to Statewide Rule 37 to Sharp Image Energy, Inc., to drill its Vernon Wolf Lease, Well No. 1 in the Wolf (Canyon) Field, Borden County, Texas, is necessary to prevent confiscation and protect correlative rights.



**RECOMMENDATION**

The examiners recommend that the application of Sharp Image Energy, Inc., for an exception to Statewide Rule 37 to drill its Vernon Wolf Lease, Well No. 1 in the Wolf (Canyon) Field, Borden County, Texas, be granted.

Respectfully submitted,

James M. Doherty  
Hearings Examiner

Donna Chandler  
Technical Examiner