

KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

TELEPHONE (505) 982-4285
TELEFAX (505) 982-2047

W. THOMAS KELLAHIN*

*NEW MEXICO BOARD OF LEGAL SPECIALIZATION
RECOGNIZED SPECIALIST IN THE AREA OF
NATURAL RESOURCES-OIL AND GAS LAW

JASON KELLAHIN (RETIRED 1991)

March 19, 2001

Mr. Michael E. Stogner
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87504

HAND DELIVERED

Re: *NMOCD Case 12587
Application of Sapient Energy Corp. for
an unorthodox well location, non-standard
proration units and special pool rules
for the West Monumnet-Tubb Gas Pool,
Lea County, New Mexico*

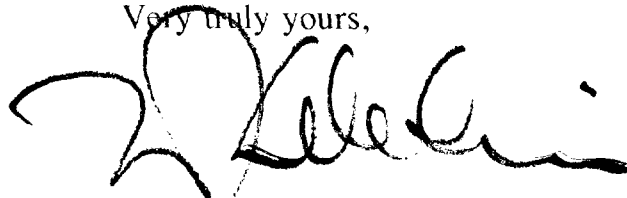
01 MAR 19 PM 4:29
OIL CONSERVATION DIV.

Dear Mr. Stogner:

On behalf of Salient Energy Corp., please find enclosed a proposed order for consideration in this case. I also have enclosed a wordperfect 5.1 diskette containing this draft order.

In addition, I have enclosed a copy of Conoco's Exhibit 5 upon which I have drawn a diagonal line dividing the NE/4 of Section 7 into two 80-acre triangles. As you can see, by Conoco's own exhibit, they show the Sapient well will only drain 50% of the NE/4 which further supports 80-acre spacing for the pool.

Very truly yours,



W. Thomas Kellahin

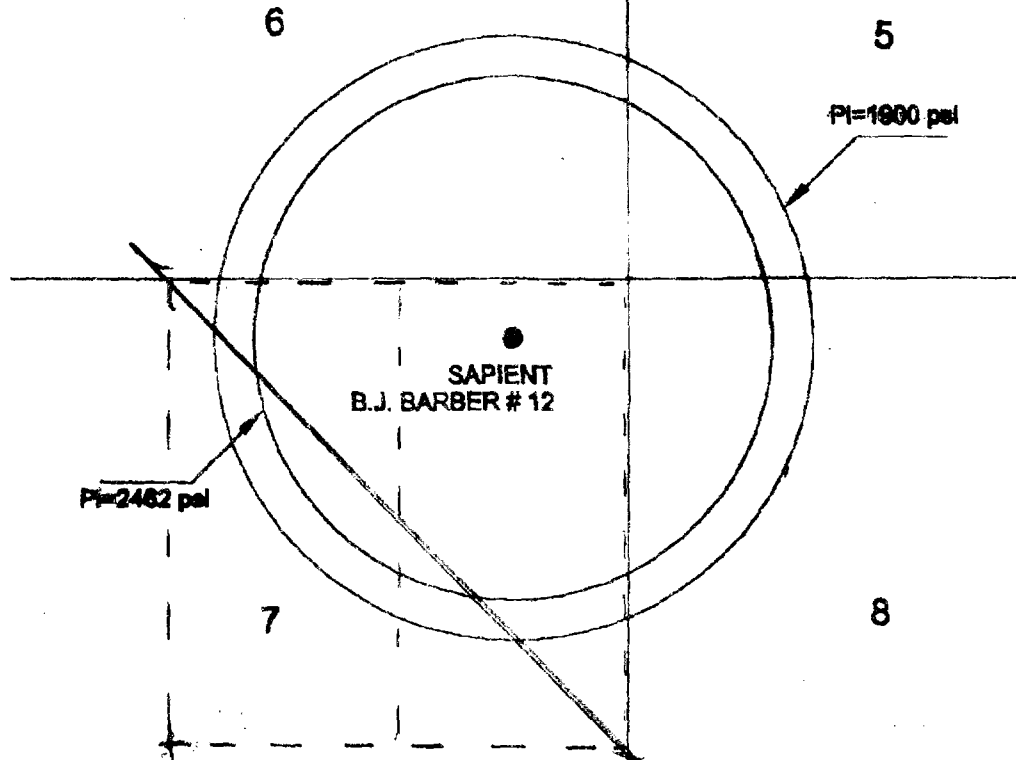
cc: William F. Carr, Esq.
Attonrey for Chevron and Conoco
Sapient Energy Corp.
Attn: Chuck Perrin

NMOCD HEARING, (3/01/2001) EXHIBIT _____

SCALE: 1" = 1000'

● GAS PROD.

T20S R37E



CONOCO

EXPLORATION PRODUCTION
AMERICA

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:**

**APPLICATION OF SAPIENT ENERGY CORP. FOR
AN UNORTHODOX WELL LOCATION, NON-STANDARD
PRORATION UNITS AND SPECIAL POOL RULES
FOR THE WEST MONUMENT-TUBB GAS POOL
LEA COUNTY, NEW MEXICO.**

CASE NO. 12587

**SAPIENT ENERGY CORP.'S
PROPOSED
ORDER OF THE DIVISION**

OIL CONSERVATION DIV.
01 MAR 19 PM 4:30

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on March 1, 2001, at Santa Fe, New Mexico before Examiner Michael E. Stogner.

NOW, on this ____ day of March, 2001, the Division Director, having considered the testimony, the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

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

INTRODUCTION

Applicant:

(2) The applicant, Sapient Energy Corp. ("Sapient") seeks approval by the Division:

(a) of an unorthodox gas well location for its Bertha J. Barber Well No 12 ("Barber 12 Well") which is located at an unorthodox gas well location 330 feet from the north line and 660 feet from the east line (Unit A) of Section 7, T20S, R37E, Lea County, New Mexico;

(b) to be dedicated to a non-standard 160-acre gas proration and spacing unit consisting of the E/2E/2 this section for production from the West Monument-Tubb Gas Pool retroactive to the date of first production (September 9, 1999);

(c) should the Division approve a non-standard 160-acre spacing and proration unit consisting of the E/2E/2 of Section 7, then the applicant seeks the approval of a second non-standard 160-acre proration and spacing unit consisting of the W/2E/2 of this section;

(e) in the alternative, applicant requests that the Division adopt special rules and regulations for the West Monument-Tubb Gas Pool, including a provision for standard 80-acre spacing units.

Opposition:

(3) Chevron USA Production Company ("Chevron") is the north offsetting operator with 100 % of the Tubb gas rights in the SE/4 of Section 6, T20S, R37E and an west offsetting working interest owner with an 18.71 % interest in the W/2E/2 of Section 7.

(4) Conoco Inc. ("Conoco") also is an west offsetting working interest owner with a 37.42 % interest in the W/2E/2 of Section 7.

(5) Both Chevron and Conoco appeared in opposition to the applicant and requested that Sapient's Barber 12 well be shut-in, its application be denied and that Sapient be required to form a standard 160-acre GPU consisting of the NE/4 of Section 7 and pay 50 % of the well proceeds to the owners in the W/2NE/4 of Section 7.

Experience:

(6) This case involves the Tubb formation in the Monument Area of Lea County, New Mexico which has been developed with Tubb oil wells on 80-acre spacing.

(7) Both Chevron and Conoco are long time experienced operators in the Monument Area of Lea County, New Mexico and assign technical personnel to monitor activity in the area including orders of the Division.

(8) None of Conoco or Chevron's witnesses knew the pool rules nor the applicable spacing and well locations requirements for this area, despite the fact that on November 10, 1964, at the request of Conoco, the Division entered Order R-2800 which granted Conoco application for 80-acre oil spacing.

(9) This case represents Sapient's first experience before a Division Examiner. Sapient has never operated wells in New Mexico until July 14, 2000 when it acquired some 340 wells from Falcon Creek, one of which is the Barber 12 Well which is the only Tubb gas well in the immediate area.

Affected parties:

(10) From the date of first production, Cross Timbers, Falcon Creek and now Sapient paid and distributed proceeds with an estimated value of \$1.5 million dollars from the Tubb formation production totalling 551,000 MCF from the Barber 12 Well to the mineral owners in the E/2E/2 of this section. **Sapient Exhibit 11**

(11) There are approximately 79 different royalty owners in the E/2E/2 of Section 7.

(12) Sapient presented an estimate that a new Tubb gas well drilled from the surface to the Tubb formation was estimated to cost \$350,000 to drill and complete and that a recovery of approximately 500,000 MCF of gas would provide a return of investment of 10 to 1.

(13) Sapient, having no legal recourse against either Falcon Creek or Cross Timbers, would suffer severe economic hardship if required to reallocate production to a standard 160-acre unit consisting of the NE/4 of Section 7.

BACKGROUND

(14) Sapient presented evidence that:

(a) on August 10, 1999, Cross Timbers filed a sundry notice of intention to recomplete the Bertha J. Barber Well No. 12 in Tubb formation. (Form C-103)

(b) on August 21, 1999, Cross Timber recompleted the Barber 12 Well from an oil well to a producing gas well in the Tubb gas formation.

(c) by documents dated September 9, 1999, Cross Timbers filed the following with the Division (OCD-Hobbs):

a Tubb gas well recompletion report (Form C-105);

a C-102 showing an unorthodox Tubb gas well location and the dedication of a non-standard 160-acre spacing unit consisting of the E/2E/2 of Section 7; and

a C-104 (allowable request) showing this well as a Wildcat Tubb gas well and a request for permission to produce the well

(b) On September 20, 1999, the Division (OCD-Hobbs) signed written authorization for Cross Timbers to produce the well and approved all of the documents filed by Cross Timbers to recomplete this oil well as a gas well at an unorthodox gas well location in the Tubb formation with a 160-acre non-standard acreage dedication consisting of the E/2E/2 of Section 7;

(15) In September, 1999, Chevron, as an offset operator to the Cross Timber's Barber 12 Well, became aware that Cross Timbers had recompleted this well only 330 feet from the common boundary as a new gas well in the Tubb formation. However, Chevron waited until October, 2000 to complain about the Cross Timber well location and non-standard unit.

(16) On January 6, 2000, in Case 12321, the Division issued Order R-11304 which approved the creation of the West Monument-Tubb Gas Pool, designated the E/2 of Section 7 as the acreage for the new pool and approved the Barber 12 Well as the discovery well for this pool. Chevron and Conoco failed to appear and object.

(17) On April 1, 2000, Falcon Creek Resources, Inc. ("Falcon Creek") acquired the Bertha J. Barber Well No. 12 from Cross Timbers Operating Company ("Cross Timbers").

(18) on April 14, 2000, the OCD-Hobbs approved Falcon Creek's C-104 (allowable request) which shows this well to be in the West Monument Tubb Gas Pool.

(19) On July 14, 2000, Sapient Energy Corp. ("Sapient") acquired this well from Falcon Creek.

(20) In July, 2000, Chevron decided to recomplete its Matthews Well No 6, located some 1650 feet north of the common boundary between Cross Timbers and Chevron (SE/4 of Section 6, T20S, R37E) in an attempt to produce from the same Tubb Gas Pool as the Cross Timber's well was producing. That effort was not successful because the Tubb formation in Chevron's wellbore was too tight to produce.

(21) By letter dated October 11, 2000, after waiting more than a year to offset the Cross Timbers well, Chevron filed an administrative application with the Division seeking approval of an unorthodox gas well location for its G. C. Matthews Well No. 12 located 330' FSL & 990' FEL (Unit P) Section 6, T20S, R37E, to be dedicated to a standard 160-acre gas spacing consisting of the SE/4 of this section for production from the West Monument-Tubb Gas Pool.

(22) Despite the fact that by July 14, 2000, Sapient was the Division designated operator of record for the Barber 12 Well, Chevron sent notification of its application to Cross Timbers and then to Falcon Creek Resources, Inc. as the offsetting operator of the Bertha J. Barber Well No. 12 towards whom the Chevron well will encroach.

(23) On January 24, 2001, the Division entered Administrative Order NSL-3752-A approving Chevron's application.

REGULATORY AUTHORITY

(24) In accordance with Section 70-2-17 NMSA (1978), the Division

A. is required, so far as it is practicable to do so, afford to the owner of each property in a pool the opportunity to produce its just and equitable share of the oil or gas, or both, in the pool, being the amount, so far as can be practically determined, and so far as such can be practicably obtained without waste, **substantially in the proportion that the quantity of the**

recoverable oil or gas, or both, under such property bears to the total recoverable oil or gas, or both, in the pool..." [emphasis added]

B. ...may establish a proration unit for each pool, such being the area that can be efficiently and economically drained and developed by one well...."

RESERVOIR DRIVE MECHANISM

(25) Conoco and Chevron contend that this Tubb reservoir is an oil pool with a gas cap and that the Barber 12 Well is in the gas cap and may be connected to Marathon's oil wells in the SW/4 of Section 5, T19S, R37E.

(26) In order to support its contention that these wells were in the same reservoir, Conoco presented a geologic structure map which awkwardly changed the rate and orientation of structural dip so as to place the oil wells in the same structural feature with the gas well.

(27) Chevron contended that the gas well ("Barber 12 Well") and Marathon's oil wells were in the same reservoir by deleting from its structural interpretation the control point for Marathon's oil well in the SW/4 of Section 5 which caused Conoco's structure map to be awkwardly contoured.

(28) Both Conoco and Chevron's structure maps showed that if this was an oil pool with a gas cap, then the lowest perforations in the Sapient Barber 12 Well would be in a gas/oil transition area which would cause the gas well to produce some oil with similar composition as the oil from Marathon's oil wells.

(29) Sapient contended that the Barber 12 Well was producing from a gas expansion drive gas reservoir and was not connected to the Marathon oil wells which are producing from a Tubb oil pool not connected to the Tubb gas well.

(30) In support of its interpretation, Sapient presented evidence which demonstrated that:

(a) the change in the rate and orientation of dip between all the Marathon oil wells in the SW/4 of Section 5 and the Barber 12 Well was caused by a structural fault separating the gas well from the oil wells; and

(b) the gas well produced gas and only a small volume of high gravity condensate characteristic of a gas reservoir while the oil wells produced lower gravity fluids characteristic of an oil reservoir.

(31) Chevron and Conoco failed to present substantial evidence to demonstrate that this is an oil pool with a gas cap. For example, both failed to present any isopach, any gas/oil ratios; any production plots for the oil wells to show communication with the Tubb gas well.

(32) Both Chevron and Conoco presented geologic structure maps which showed a potential gas cap to be large enough to include the Matthews Well No 6 which was tested in the Tubb and found by Chevron to be too tight to produce. That contradiction condemns the reliability of both the Chevron and Conoco geologic opinions.

ESTIMATES OF ULTIMATE RECOVERY

(33) Sapient's reservoir engineer presented petroleum engineering calculations and evidence that the estimated ultimate recovery ("EUR") from the Barber 12 Well would be approximately 2.4 BCF by decline curve analysis and 2.3 BCF by materials balance.

(34) Using the same engineering methodology but picking different values, Conoco estimated that the estimated ultimate recovery at 2.88 BCF while Chevron estimated a EUR range of 2.05 BCF to 2.53 BCF.

(35) While the exact assumptions and value differ, all three parties estimates are reasonable

ESTIMATED DRAINAGE AREAS and PRODUCTIVE ACRES

(36) Although the estimates of ultimate recovery are similar, Conoco, Chevron and Sapient had different opinion concerning the distribution of the recoverable gas.

(37) Conoco and Chevron both failed to present a net pay isopach to demonstrate the size, shape, thickness and distribution of the Tubb reservoir. Sapient presented a net pay isopach.

(38) Sapien's material balance calculations demonstrate that its estimate of ultimate recovery can fit within the size, volume and shape reservoir as depicted on Sapien's net pay isopach.

(39) Sapien introduced a net pay isopach which showed the distribution of the reservoir as it relates to the NE/4 of Section 7 and the SE/4 of Section 6 and demonstrated that that distribution was not uniform.

(40) Sapien estimated that the drainage area from the Barber 12 Well was between 103 acres and 107 acres;

(41) Sapien's geologic and petroleum engineering evidence demonstrated that:

(a) the E/2NE/4 of Section 7 had the greatest volume of productive acreage when compared to either the SE/4 of Section 6 or the W/2NE/4 of Section 7

(b) the E/2E/2 of Section 7 had substantially more productive acreage than the W/2E/2 of Section 7.

(c) the Chevron Matthews 12 Well only had 40-80 acres of its 160 acre unit underlain by productive acres.

(d) the Barber 12 Well will not be sufficient to adequately drain the W/2NE/4 over a reasonable period of time.

(42) Conoco and Chevron both showed circular drainage patterns with radii but failed to introduce isopach maps to show how those drainage circles related to the distribution of the net pay thickness of the reservoir.

(43) Conoco and Chevron's presumed radial drainage circles are contrary to and inconsistent with the geologic isopach map introduced by Sapien.

(44) Assuming uniform radial drainage, Conoco's drainage radius circle showed a substantial portion (approximately 50%) of the NE/4 of Section 7 would not be drained by the Barber 12 Well and that a second well in the W/2NE/4 would be necessary. **See Conoco Exhibit 5.**

(45) Division finds that:

(a) only Sapiant provided the necessary evidence upon which to decide the distribution of the reservoir among the SE/4 of Section 6 and the NE/4 of Section 7.

(c) Sapiant provided the necessary evidence upon which to decide the most reasonable number of acres to assign to a spacing and proration unit in this pool.

UNORTHODOX WELL LOCATION

(46) At the time of the hearing Conoco and Chevron withdrew any objection to the approval of Sapiant's unorthodox well location for the Barber 12 Well.

(47) The unorthodox well location for the Barber 12 Well should be approved.

DIVISION DECISION

(48) The data presented failed to demonstrate that Sapiant's Barber 12 Well is producing from a gas cap of an oil pool. To the contrary, all evidence presented demonstrates that the Tubb reservoir being produced by Sapiant's Barber 12 Well is a gas reservoir.

(49) The size, shape, limited areal extent and distribution of productive acres of the Tubb reservoir, including the calculated drainage area of the Barber 12 well, in the West Monument-Tubb Gas Pool ("the Tubb gas pool") lends itself to adopting rules consistent with the Monument Tubb Pool ("the Tubb oil pool") such that 80-acre spacing is appropriate for Tubb Gas wells in this circumstance.

(50) While the limits of the Tubb gas pool have not yet been defined, there is substantial evidence within the NE/4 of Section 7 and the SE/4 of Section 6 to decide on the most equitable distribution of productive acres and the size of the spacing units for those areas.

(51) Sapiant has provided substantial geological and petroleum engineering evidence which demonstrates that it is possible to accurately estimate the potential limits of this Tubb reservoir and the orientation and location of this reservoir as it affects the NE/4 of Section 7 and the SE/4 of Section 6.

(52) Sapient has provided substantial geological and petroleum engineering evidence which demonstrates that it is necessary to grant exceptions to Division Rule 104 in order to prevent waste and in doing so, correlative right will not be impaired.

(53) In accordance with Section 70-2-17 NMSA (1978), the Division finds that:

(a) in order to provide an opportunity for each interest owner to produce its share of the Tubb gas reserves underlying its tract the Division should adopt special rules and regulations for the West Monument Tubb Gas Pool;

(b) should establish proration units in the pool of 80-acres as the area that can be most efficiently and economically drained and developed by one well and is the area that most closely fits Sapient's drainage calculations; and

(c) to adopt 160-spacing units would result in too few wells being drilled.

(54) It is most reasonable and practicable to adopt 80-acre spacing units as follows

(a) Chevron S/2SE/4 of Section 6

(b) Conoco/Chevron W/2NE/4 of Section 7

(c) Sapient E/2NE/4 of Section 7

(55) These three spacing units will afford each the opportunity to recover and produce its just and equitable share of the oil or gas, or both, in the pool, being the amount, so far as can be practically determined, and so far as such can be practicably obtained without waste, substantially in the proportion that the quantity of the recoverable oil or gas, or both, under such property bears to the total recoverable oil or gas, or both, in the pool.

(56) It is the Division's practice and policy to grant well location and spacing unit exceptions from Rule 104 of the Division's General Rules when there is substantial evidence to demonstrate to do so is necessary to prevent waste and/or protect correlative rights.

(57) Sapien's request for an unorthodox well location for its Barber 12 well should be granted.

(58) Correlative rights are defined as "the opportunity" afforded each interest owner to recover his share of the recoverable hydrocarbons apportioned to his tract. That opportunity is not an absolute entitlement to a certain volume of hydrocarbons. That opportunity can be lost or waived by an interest owner failing to act. **See 19 NMAC 15.A (22).**

(59) In this case, both Conoco and Chevron either knew or should have known that Cross Timbers had recompleted the Barber 12 Well as a new Tubb gas well immediately adjacent to their property and failed to timely act.

(60) Therefore Conoco and Chevron each waived their correlative rights in this matter.

IT IS THEREFORE ORDERED THAT:

(1) The Division's prior approvals are inadequate because Cross Timbers failed to obtain all the necessary approvals from the Division for the non-standard 160-acre proration and spacing unit for the Barber 12 Well consisting of the E/2E/2 of Section 7.

(2) Sapien is hereby **granted** the approval of an unorthodox well location and a standard 80-acre gas spacing unit consisting of the E/2NE/4 of Section 7 for production from the West Monument-Tubb Gas Pool **retroactive to the date of first production (September 9, 1999).**

(3) The Division **hereby** adopts rules and regulations for the production of gas from the West Monument-Tubb Gas Pool including a provision for standard 80-acre gas spacing and proration units.

(4) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

LORI WROTENBERY
Director