

THE APPLICATION OF SANDRIDGE EXPL. AND PROD., LLC TO CONSOLIDATE VARIOUS MARTIN FIELDS AND TRANSFER WELLS FROM THE GOLDSMITH, N. (SAN ANDRES, CON.) FIELD INTO THE MARTIN (CONSOLIDATED) FIELD AND TO AMEND THE FIELD RULES FOR THE MARTIN (CONSOLIDATED) FIELD, ANDREWS AND ECTOR COUNTIES, TEXAS

HEARD BY: Richard D. Atkins, P.E. - Technical Examiner

DATE OF HEARING: April 28 and May 28, 2010

APPEARANCES:

REPRESENTING:

APPLICANT:

Bill Spencer
Cary McGregor

Sandridge Expl. and Prod., LLC

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Sandridge Expl. and Prod., LLC ("Sandridge") requests to consolidate various Martin fields into the Martin (Consolidated) Field (ID No. 57774 275). The fields proposed for consolidation are as follows:

<u>FIELD NAME</u>	<u>FIELD NUMBER</u>
Martin (Clear Fork, South)	57774 249
Martin (Glorieta)	57774 420
Martin (San Andres)	57774 581
Martin (Tubb)	57774 664
Martin (5700)	57774 880
Martin (7200)	57774 913

Although the original notice of hearing also included the consolidation of the Fusselman through the Ellenbuger formations, at the hearing, Sandridge withdrew the request in order to prevent a protest from Whiting Oil & Gas Corporation.

After the hearing on April 28, 2010, Sandridge discovered wells in the Goldsmith, N. (San Andres, Con.) Field that were within the Martin (Consolidated) Field area and were contained within the proposed correlative interval. As a result, the hearing was re-noticed

and re-convened on May 28, 2010, and Sandridge also requested that the wells listed in Attachment A be transferred into the Martin (Consolidated) Field.

Field Rules for the Martin (Consolidated) Field were originally adopted by Final Order No. 08-0225627, effective November 20, 2000, as amended. The rules currently in effect for the field are summarized as follows:

1. Designation of the field as the correlative interval from 5,640 feet to 7,960 feet;
2. 330'-660' well spacing;
3. 40 acre units with optional 20 acre density;
4. Allocation based on 100% acres with a top allowable of 164 BOPD and a per well Net GOR casinghead gas limit of 900 MCFGPD;

Sandridge requests that the Field Rules be amended as follows:

1. Designation of the field as the correlative interval from 4,199 feet to 7,923 feet;
2. 330'-0' well spacing;
3. 40 acre units with optional 10 acre density;
4. Allocation based on 95% W-10 potential and 5% per well with a top allowable of 164 BOPD and a per well Net GOR casinghead gas limit of 900 MCFGPD.

This application was unopposed and the examiner recommends approval of the field consolidations, transfer of wells and amending the Field Rules for the Martin (Consolidated) Field, as requested by Sandridge.

DISCUSSION OF THE EVIDENCE

The six fields proposed for consolidation were discovered beginning in 1945. They operate under either 330'-660' or 467'-1,200' well spacing, 40 acre units with 20 acre optional density and have various allocation formulas. Four fields do not have any wells and two fields have 48 total wells listed on the current proration schedules. The fields are geographically intermingled and contain wells that are currently producing from commingled zones in different fields. There are no other fields contained within the proposed correlative interval. Cumulative production from the fields through January 2010 is approximately 14.0 MMBO and 35.3 BCFG.

Sandridge is proposing to consolidate the six subject fields into the Martin (Consolidated) Field. The proposed designated interval for the consolidated field is the entire correlative interval from 4,199 feet to 7,923 feet as shown on the log of the Phillips Petroleum Company - University ATP Lease, Well No. 5 (API No. 42-003-37265). This interval includes all zones located between the top of the San Andres Formation and the base of the Wolfcamp Formation.

All of the reservoirs are continuous across the Martin (Consolidated) Field area and contain fractured dolomites that are deposited over a Northwest-Southeast trending anticline. The producing zones are heterogenous lenticular deposits that have an average porosity of 11%, an average water saturation of 35% and a cumulative average net pay thickness of at least 200 feet. The primary drive mechanism is a solution gas drive and the fields are in the later stages of primary depletion.

Sandridge estimated a recovery factor of 15% and performed a drainage area calculation for 3 wells located in different fields. On the wells studied, the net pay ranged from 45 feet up to 126 feet and the estimated ultimate recoveries ranged from 22,000 BO up to 69,000 BO. The calculated drainage areas ranged from 8 acres up to 10 acres and the average drainage area was 9 acres.

The proposed consolidated fields are almost developed down to 20 acres per well and Sandridge plans to further develop the field down to a density of 10 acres. Based on the drainage calculations submitted by Sandridge, additional wells are needed to effectively drain the reservoirs. Minimum well spacing of 330' lease line spacing with no minimum distance between wells and 40 acre proration units with optional 10 acre density will provide flexibility in locating wells for future development in the area. Sandridge submitted a table showing that there were 29 fields in Districts 8 and 8A that already had field rules providing for 10 acre units or optional 10 acre density.

Sandridge will be actively developing the consolidated interval by drilling infill wells and completing existing wells into additional zones and needs the flexibility to downhole commingle production to increase the economic viability of the wells. To date, there have been 242 Statewide Rule 10 exceptions approved by the Commission to commingle production from eleven different combinations of the six subject fields. No scaling tendencies have yet been identified by Sandridge on the commingled wells.

Sandridge stated that producing all of the reservoirs simultaneously would reduce the abandonment rate for each zone and increase the ultimate recovery of hydrocarbons from all of the reservoirs. Assuming an economic limit of 2 BOPD and an 11.5% exponential decline rate for two reservoirs, Sandridge calculated the incremental reserves to be recovered from each infill well to be 6,261 BO and 46,957 MCFG.

A multi-factor allocation formula is necessary for the protection of correlative rights pursuant to State Statutes. The fields contain heterogenous lenticular deposits and acreage does not represent a well's potential. Therefore, to avoid having a well's allowable

restricted, Sandridge proposed a two-factor allocation formula based on 95% W-10 potential and 5% per well.

FINDINGS OF FACT

1. Notice of this hearing was given to all persons entitled to notice and there were no protests.
2. The six subject fields proposed for consolidation were discovered beginning in 1945.
 - a. They operate under either 330'-660' or 467'-1,200' well spacing, 40 acre units with 20 acre optional density and have various allocation formulas.
 - b. Four fields do not have any wells and two fields have 48 total wells listed on the current proration schedules.
 - c. The fields are geographically intermingled and contain wells that are currently producing from commingled zones in different fields.
 - d. There are no other fields contained within the proposed correlative interval.
3. The six subject fields and the list of wells in Attachment A should be consolidated into the Martin (Consolidated) Field.
4. The designated interval for the consolidated field should be the entire correlative interval from 4,199 feet to 7,923 feet as shown on the log of the Phillips Petroleum Company - University ATP Lease, Well No. 5 (API No. 42-003-37265). This interval includes all zones located between the top of the San Andres Formation and the base of the Wolfcamp Formation.
5. All of the reservoirs are continuous across the Martin (Consolidated) Field area and contain fractured dolomites that are deposited over a Northwest-Southeast trending anticline.
6. Sandridge will be actively developing the consolidated interval by drilling infill wells and completing existing wells into additional zones and needs the flexibility to downhole commingle production to increase the economic viability of the wells. To date, there have been 242 Statewide Rule 10 exceptions approved by the Commission to commingle production from eleven different combinations of the six subject fields.

7. Assuming an economic limit of 2 BOPD and an 11.5% exponential decline rate for two reservoirs, Sandridge calculated the incremental reserves to be recovered from each infill well to be 6,261 BO and 46,957 MCFG.
8. Minimum well spacing of 330 foot lease line spacing with no minimum distance between wells and 40 acre proration units with optional 10 acre density will provide flexibility in locating wells for future development in the area.
9. The fields contain heterogenous lenticular deposits and acreage does not represent a well's potential. The proposed two-factor allocation formula based on 95% W-10 potential and 5% per well will avoid having a well's allowable restricted and satisfy State Statutes.

CONCLUSIONS OF LAW

1. Proper notice of this hearing was given to all persons legally entitled to notice.
2. All things have occurred or been accomplished to give the Railroad Commission jurisdiction in this matter.
3. Consolidation of the various Martin Fields and the transfer of wells from the Goldsmith, N. (San Andres, Con.) Field into the Martin (Consolidated) Field and amending the Field Rules for the Martin (Consolidated) Field will prevent waste, protect correlative rights, satisfy statutory requirements and promote development of the field.

EXAMINER'S RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiner recommends the consolidation of the various Martin Fields and the transfer of wells from the Goldsmith, N. (San Andres, Con.) Field into the Martin (Consolidated) Field. It is further recommended that the Field Rules for the Martin (Consolidated) Field be amended, as requested by Sandridge.

Respectfully submitted,

Richard D. Atkins, P.E.
Technical Hearings Examiner

ATTACHMENT A**Wells to be Transferred From the Goldsmith, N. (San Andres, Con.) Field**

<u>OPERATOR</u>	<u>WELL NAME</u>	<u>LEASE No.</u>	<u>API No.</u>
Brown, H L Operating LLC	Cascade D #1	37035	42-003-33966
Burluson, Lewis B Inc	Argo B #1	18603	42-003-07639
	Argo B #2	18603	42-003-39883
ConocoPhillips Company	University Andrews #91	21905	42-003-04585
Endeavor Energy Resources LLP	Wheeler #1	29276	42-003-34325
Energen Resources Corporation	University Land #2-A	25054	42-003-31679
ExxonMobil Corporation	Parker , J E #29-U	18573	42-003-03006
	Parker , J E #100	18573	42-003-35190
	Parker , J E #107	18573	42-003-36296
	Parker , J E #108	18573	42-003-36294
	Parker , J E #109	18573	42-003-35388
	Parker , J E A/C 1 "A" #74	32101	42-003-10980
	Parker , J E A/C 1 "A" #101	32101	42-003-35189
Huntington Energy LLC	Parker , J E Estate B #2	18572	42-003-11021
	Lockhart #7D	18596	42-003-05237
	Lockhart #8D	18596	42-003-05236
	Lockhart #10	18596	42-003-05233
	Lockhart #11	18596	42-003-05234
	Lockhart #13	18596	42-003-32434
Incline Energy	Humble-Parker #2	18546	42-003-00779
Merit Energy Company	Cascade #1	18533	42-003-00240
	Cascade #2	18533	42-003-00237
	GNSA Cons #5	22681	42-003-00311
	GNSA Cons #6	22681	42-003-00321
	GNSA Cons #20	22681	42-003-00326
	GNSA Cons #23W	22681	42-003-84623
	GNSA Cons #24W	22681	42-003-00312
	GNSA Cons #26	22681	42-003-02034
	GNSA Cons #27	22681	42-003-00310
	GNSA Cons #28	22681	42-003-00373
GNSA Cons #29	22681	42-003-03206	

GNSA Cons #30 22681 42-003-03104

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<u>OPERATOR</u>	<u>WELL NAME</u>	<u>LEASE No.</u>	<u>API No.</u>
Merit Energy Company	GNSA Cons #37	22681	42-003-33111
	GNSA Cons #38	22681	42-003-33117
	GNSA Cons #39	22681	42-003-33521
	GNSA Cons #40H	22681	42-003-36946
	GNSA Cons #41	22681	42-003-37360
	GNSA Cons #42	22681	42-003-37448
	GNSA Cons #43	22681	42-003-37449
	GNSA Cons #44	22681	42-003-37434
	GNSA Cons #45	22681	42-003-37457
	GNSA Cons #46	22681	42-003-37458
OK Arena Operating Company	Parker #1	18577	42-003-03190
	Parker #2	18577	42-003-03191
	Parker #3	18577	42-003-03192
	University 18 #1	27312	42-003-33163
	University 18 #2	27312	42-003-33377
	University 18 #3	27312	42-003-33329
	University 18 #4	27312	42-003-33376
Pennant Dev and Prod LLC	University AB #1	29267	42-003-04098
	University AB #2	29267	42-003-04108
	University AB #3	29267	42-003-04097
	University AB #4	29267	42-003-04107
Sandridge Expl and Prod LLC	Phillips University P #1	21809	42-003-04686
	Phillips University P #2	21809	42-003-33858
Schlachter Operating Corporation	Cascade B #3	27252	42-003-33016
Sheridan Production Company	Argo #1	18602	42-003-07637
	Argo #2	18602	42-003-07643
	Martin, Nellie C #3-U	18604	42-003-06407
	Martin, Nellie C #4	18604	42-003-06408
	Martin, Nellie C #5W	18604	42-003-06409
	Martin, Nellie C #6	18604	42-003-30070

	Martin, Nellie C #24U	18604	42-003-36650
Simata Energy	Parker, J E -B- #1	18586	42-003-03391
	Parker, J E -B- #2	18586	42-003-03225

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<u>OPERATOR</u>	<u>WELL NAME</u>	<u>LEASE No.</u>	<u>API No.</u>
Spindletop Oil & Gas Company	Lockhart & Brown #1	18545	42-003-00776
	Wheeler #1	18547	42-003-00748
Stout Energy Inc	Halliday, H J #2	18555	42-003-00010
Triag Energy Operating Inc	Cascade -C- #1-U	18544	42-003-00242