



Daniel Pequeno, CPL/ESA Land Representative



MidContinent/Alaska BU North American Exploration and Production Company 15 Smith Road, RM-2235 Midland, Texas 79705 Tel 432 687 7461 Fax 432 687 7871 peqd@chevron.com

January 31, 2008

State of New Mexico
Commissioner of Public Lands
P. O. Box 1148
Santa Fe, New Mexico 87504-1148

Attention: Mr. Pete Martinez

RE: APPLICATION FOR VERTICAL EXPANSION
VACUUM GRAYBURG SAN ANDRES UNIT
LEA COUNTY, NEW MEXICO (CHEVRON FILE NO. QLS-044246)

Dear Mr. Martinez,

Chevron U.S.A. Inc. (Chevron) as sole Operator and Working Interest Owner of the Vacuum Grayburg San Andres Unit, hereby respectfully requests the administrative approval to the Application for the Vertical Expansion of the unitized formation of the Unit Agreement for the Development and Operation of the Vacuum Grayburg San Andres Unit, and in support hereof states:

- 1. Chevron is the operator of the Vacuum Grayburg San Andres Unit;
- 2. The Vacuum Grayburg San Andres Unit was approved by the Division by Order No. R-4433, issued in Case 4851 dated November 8, 1972 and a pressure maintenance project by water flood was authorized for this Unit by Division Order No. R-4442, issued in Case 4852 dated November 27, 1972; and a tertiary recovery project by the injection of CO2 was authorized for this Unit by Division Order No. R-4442-B, issued in Case 13961 dated December 11, 2007;

In accordance with our request for the administrative approval of our application, attached are following supportive Exhibits:

- 1. Original copy of the Application for Vertical Expansion of the Vacuum Grayburg San Andres Unit dated January 23, 2008, effective January 1, 2008 which has been signed by the proper authority at Chevron;
- 2. Attachment I Geological & Engineering Justification of VGSAU Vertical Expansion; and Plan of Operation;
- 3. Attachment II Notice List of offset operators, working interest owners, lease owners & surface owners within a mile radius of the Vacuum Grayburg San Andres Unit;
- 4. Attachment III VGSAU NW-SE Cross Section Index Map with Posted Well Data
- 5. Attachment IV NW-SE Structural Cross Section Map within VGSAU

- 6. Copy of Letter dated January 31, 2008 giving Notification to all offset operators and surface owners of record sent by certified mail return receipt; and
- 7. Chevron's check #0025169912 dated January 25, 2008 in the amount of \$150.00 being the processing fee for the 5-section leases comprising the Application for the Vertical Expansion.

Chevron respectfully looks forward to the approval of the Application for Vertical Expansion of the Unit. If you have any questions regarding this matter, you may call me at (432) 687-7461.

Yours very traily,

Enclosures

Daniel Pequen

Cc: Mark E. Fesmire, Director

Oil Conservation Division
New Mexico Department of Energy,

Minerals and Natural Resources 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Geologic & Engineering Justification for VGSAU Vertical Expansion:

Recent technical studies of various Permian Basin San Andres floods as well as current completion practices in San Andres tertiary floods in the Denver Unit and the Seminole San Andres Units of Texas, along with recently acquired log and core data from wells in Chevron's Central Vacuum Unit and Vacuum Grayburg San Andres Unit have indicated the presence of commercially movable hydrocarbons beneath the historic producing oil/water contact of the respective units. This resource is part of what is now being described by Industry as a residual oil zone which starts immediately beneath the producing oil/water contact and extend for several hundred feet. For the Vacuum Grayburg San Andres pool, the Industry accepted historic producing oil/water contact occurs at an approximate depth of 700' sub-sea.

When the Vacuum Grayburg San Andres Unit was unitized in 1972, the 'Unitized Formation', based on the established producing oil/water contact of 700' sub-sea, was described in article 1.4 of the VGSAU Unit Agreement as "that zone interval including and correlative to portions of the Grayburg and San Andres Formations found between the depths of 3,902 feet (plus 105 feet sub-sea) and 4,809 feet (minus 802 feet sub-sea) on the Welex Acoustic Velocity Log, dated February 22, 1965, run in Texaco's New Mexico 'M' State Well No. 8, located 330 feet from the north line and 1,880 feet from the west line of Section 1, T-18-S, R-34-E, Lea County, New Mexico." Taking into account structural variations across the Unit area, this Unitized Formation interval was adequate to allow the efficient recovery of hydrocarbons across the unit from the Grayburg San Andres reservoir down to the producing oil/water contact as it was known at the time. However, from the more recent studies referenced above, we now know there to be a hydrocarbon resource target below 700' sub-sea that extends beneath the Unitized Formation as it is currently described, but still within the San Andres formation, which cannot be efficiently recovered without vertically expanding the current Unitized Formation. We plan additional coring to confirm the total vertical extent of the residual oil zone interval but feel its currently commercial limit to be near an 850' sub-sea datum. A vertical expansion to the proposed depth of 5020' (1013' subsea) in the New Mexico "M" State Well No. 8 should allow the efficient recovery of all movable hydrocarbons within the full oil column present in the Grayburg San Andres formation. This is the basis for our Application for Vertical Expansion.

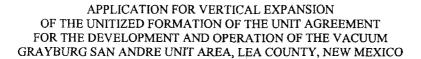
The attached Index Map and NW-SE Structural Cross Section help demonstrate. Shown is the San Andres portion of the Unitized Formation down to the interpreted VGSAU Unit Boundary which is the red-dashed correlation horizon. (Note: The VGSAU Unit referenced well – the New Mexico 'M' State Well No. 8 has since been unitized into the Vacuum Glorieta West Unit and is labeled as the VGWU #113 well, second from the left in the cross section.) The historic producing oil/water contact is shown as the blue-dashed correlation horizon labeled 'OWC_CVU'. lease note the green shaded curve far right of the depth tract for the VGSAU #250; this is the core oil saturation curve, scaled from 0 to 50% left to right, which demonstrates oil saturations extend well beneath the current VGSAU Unitized Formation. The proposed expanded Unitized Formation is represented by the lowermost brown-dashed correlation labeled 'VGSAU New Lower Unit Boundary'.

All current VGSAU completions are from within the current Unitized Formation. Also, all of the interval involved in this Application for Vertical Expansion is within the Grayburg San Andres formation as the San Andres formation extends vertically from the base of the Grayburg to the top of the Glorieta formation, and the top of the Glorieta formation occurs at a depth 5819' (1812' sub-sea) in the same Unit referenced well and log, the Welex Acoustic Velocity Log, dated February 22, 1965, run in Texaco's New Mexico "M" State Well No. 8, located 330 feet from the North line and 1,880 feet from the West line of Section 1, T-18-S, R-34-E, Lea County, New Mexico.



On December 11, 2007, Chevron gained NMOCD approval to initiate a tertiary recovery project in the Vacuum Grayburg San Andres Unit (Case No. 13961, Order No. R-4442-B). Chevron plans to initiate this tertiary recovery project during 2008 to include both the historic oil column and the upper portion of the residual oil zone. The initial phase of the tertiary recovery project will involve four injection-centered patterns in the northeast portion of the Unit incorporating the following wells: VGSAU 54, 155, 55, 156, 56, 157, 57, 158, 258, 122, 250, 150, 249, 149, 48, 148, 47, 147, 39, 140, 40, 141, 41, 142, 42, 143, and 43. Pending approval of this Application for Vertical Expansion, these wells will either be deepened or have perfs added down to an approximate depth of 850' sub-sea in order to implement a tertiary recovery project, which will simultaneously allow the efficient recovery of hydrocarbons from the historic oil column and the upper portion of the residual oil zone. Further, in 2008 Chevron plans to drill seven wells in the VGSAU which lie outside the initial phase of the tertiary recovery project. Each of these wells will be drilled and cased to a total depth of 5000' and then initially completed to a maximum depth of approximately 850' sub-sea.

Scott M. Ingram 1/18/08 Vacuum Projects Manager



Commissioner of Public Lands State of New Mexico P. O. Box 1148 Santa Fe, New Mexico 87501

The Unit Agreement for the Development and Operation of the Vacuum San Andres Unit Area entered into as of the 1st day of November, 1972, by and between the parties subscribing, ratifying or consenting thereto,

WITHNESSETH:

WHEREAS, the owners of interests in the Vacuum Grayburg San Andres Unit have entered into that certain agreement dated November 1, 1972, entitled "Unit Agreement for the Development and Operation of the Vacuum San Andres Unit Area, herein referred to as the "Unit Agreement", a counterpart of which is recorded in Book 306, Page 689 of the Records of Lea County, New Mexico; and

WHEREAS, the Unit Agreement was approved by the Commissioner of Public Lands, State of New Mexico, by Certificate of Approval dated December 7, 1972 to be effective January 1, 1973;

WHEREAS, Chevron U.S.A. Inc is now the Operator and successor in interest to Texaco Inc.;

WHEREAS, Chevron U.S.A. Inc. now desires to amend Article 1.4, Page 2 of the Unit Agreement to provide for a vertical expansion of the Unitized Formation by adding a new lower depth interval to said Unit Agreement which will further promote the conservation of oil and gas and the better utilization of reservoir energy in said unit area as follows;

Article 1.4 - Original Unitized Formation

<u>Unitized Formation</u> is that zone interval including and correlative to portions of the Grayburg and San Andres Formations found between the depths of 3,902 feet (plus 105 feet sub-sea) and 4,809 feet (minus 802 feet sub-sea) on the Welex Acoustic Velocity Log, dated February 22, 1965, run in Texaco's New Mexico "M" State Well No. 8, located 330 feet from the North line and 1,880 feet from the West line of Section 1, T-18-S, R-34-E, Lea County, New Mexico.

Article 1.4 - New Unitized Formation

<u>Unitized Formation</u> is to include portions of the Grayburg and San Andres Formations found between the stratigraphic equivalents of the depths of 3,902 feet and 5,020 feet on the Welex Acoustic Velocity Log, dated February 22, 1965, run in Texaco's New Mexico "M" State Well No. 8, located 330 feet from the North line and 1,880 feet from the West line of Section 1, T-18-S, R-34-E, Lea County, New Mexico.

NOW THEREFORE, Chevron U.S.A. Inc., as Sole Owner and Operator of the Vacuum Grayburg San Andres Unit, pursuant to Article 4.1 of the Unit Agreement, respectfully requests your approval to the vertical expansion to said Unit Area as outlined herein above. Although no revisions are needed for the Tract Participations and percentage and kind of ownership in the Unit Area and outline, we are attaching Exhibit "A" and Exhibit "B" which were revised on January 1, 1981, for the First Enlargement of the Unit Area.

Page 1 of 2





The effective date of vertical expansion of the unitized formation will be January 1, 2008.

Dated this 23rd day of January, 2008.

CHEVRON U.S.A. INC., UNIT OPERATOR AND WORKING INTEREST OWNER

By: D. K. Beckham, Attorney-in-Fact

STATE OF TEXAS

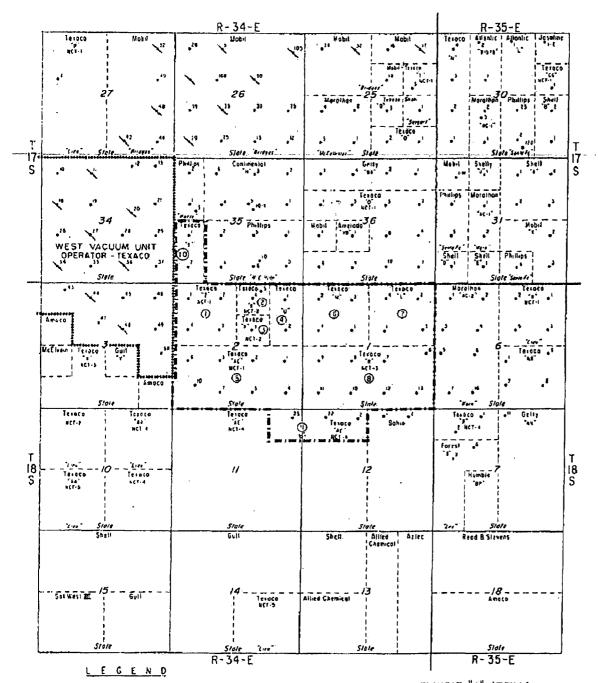
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COUNTY OF MIDLAND

WITNESS my hand and official seal this the 23 day of _______, 2008.

My Commission expires:

KATHRYN A. NEEPER MY COMMISSION EXPIRES May 5, 2010 Notary Public in and for the State of Texas.



TRACT NUMBER

EXHIBIT "A" (REV.)

VACUUM GRAYBURG SAN ANDRES UNIT

LEA COUNTY, NEW MEXICO

SCALE: 2 2000' 4000' KLP/FMR 10-3-72

Vertical Expansion - EFF. 1-1-2008

EXHIBIT "B" REVISED Vertical Expansion Effective January 1, 2008

SCHEDULE SHOWING TRACT PARTICIPATIONS AND PERCENTAGE AND KIND OF OWNERSHIP OF ALL LANDS WITHIN THE VACUUM GRAYBURG SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

0 %	Vicinity 1				
TEXACO FILE NUMBER	60868	55035	55278	54150	54615
PERCENTACE OF TRACT PARTICIPATION	9.80275	3.18789	2.98864	86950.9	11.15760
	1001	1001	1001	1001	2001
WORKENG INTEREST & PERCENTAGE	Texaco Inc. 100%	Texaco Inc. 1001	Texaco Inc. 100%	Texaco Inc. 100%	Texaco Inc. 100%
OVERRIDING BOYALTY 6 PERCENTAGE	D. None	o. None	o, Mone	o. None	o. None
LESSEE OF RECORD	The Texas Co. None	The Texas Co. None	The Texas Co. None	The Texas Co. None	The Texas Co. None
BASIC ROYALTY & PERCENTAGE	State of New Mexico 12.50 (Common School)	State of New Mexico 12.50 (Common School)	State of New Mexico 12.50 (Lieu)	State of New Mexico 12.50 (Common School)	State of New Mexico 12,50 (Common School)
SERIAL NO. 6. DATE OF LEASE OR APPLICATION	B-3011-1 6-11-34 H.B.P.	B-1306-1 11-10-32 H.B.P.	B-1446-1 12-10-32 H.B.P.	B-867-1 5-6-32 H.B.P.	D-1189-1 9-10-32 H.B.P.
NO. OF ACRES	19.191	40.83	40.00	80.92	320.00 4, 4,
DESCRIPTION	IIBS-R34E Section 2; Lots 3 & 4, SX/4 NW/4, SE/4 NR/4	1185-R34E Section 2; Lot 2	T185-R34E Soction 2; SN/4 NE/4	7185-834E Nection 2; Lot 1, 5E/4 NE/4	1185-2342 Scction 2; NE/4 SW/4, NW/4 SW/4, SW/4 SW/4, SE/4 SW/4, NE/4 SE/4, NW/4 SE/4, SW/4 SE/4, SE/4, SE/4
TRACT	-	2	п	4	'n

TEXACO FILE NUMBER	54474	55391	55035	54627	54146	
PERCENTAGE OF TRACE PARTICIPATION	16.33792	18.72683	24.60649	1.15561	5.97729	
	7 001	2001	2001	2001	100%	
NORKING INTEREST & PERCENTAGE	Texaco Inc. 100%	Texaco Inc. 100%	Texaco Inc. 100%	Texaco Inc. 100%	Jexaco Inc. 100%	
OVERRIDING ROYALTY & PERCENTAGE	None	None	None	None	None	
LESSEE OF RECORD	.50 The Texas Co	.50 The Texas Co	50 The Texas Co	50 The Texas Co	2.50 The Texas Co	
DASIC ROYALTY & PERCENTAGE	State of New Mexico 12.50 The Texas Co. (Lieu)	State of New Mexico 12.50 The Texas Co. (Lieu)	State of New Mexico 12.50 The Texas Go. (M. Inst.)	State of New Mexico 12.50 The Texas Co. (Lieu)	State of New Mexico 12.50 The Texas Co. (N. Inst.)	
SERIAL NO. & DATE OF LEASE OR APPLICATION	B-1080-1 7-30-32 H.B.P.	B-1733-1 2-17-33 H.B.P.	B-1306-1 11-10-32	B-1258-1 10-10-32 H,B.P.	B-870-1 5-6-32 H.B.P.	
NO. OF	161.58	160.90	320.00 4,	120.00	80.00	
DESCRIPTION	1185-834E Section 1; Lots 3 6 4, SW/4 NW/4, SE/4 NW/4	1185-R34E Section 1; Lots 1 6 2, SW/4 RE/4, SE/4 RE/4	T195-R34E Section 1; NE/4 SN/4, NN/4 SW/4, SW/4 SW/4, SE/SW/4, NE/4 SE/4, NW/4 SE/4, SW/4 SE/4, SE/4, SW/4,	1185; R34E Soction 11; FE/4 NE/4, and Fortion 12; FE/4 NW/4,	1175; R34E Section 35; NW/4 SW/4 SW/4 SW/4	
TRACT HO.	9	~	∞	os.	10	

Ten (10) State Tracts containing 1,485.64 Acres and 100.00% of Unit Area

R-34-E 18 S // Serwerine 15 Allied Chemical R-35-E EGEND

--- UNIT OUTLINE 2 TRACT NUMBER EXHIBIT "A" (REV.)

VACUUM GRAYBURG SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

SCALE, SODO' 4000'

10-3-72

Vertical Expansion - EFF. 1-1-2008

EXHIBIT "8" REVISED Vertical Expansion Effective January 1, 2008

SCHEDULE SHOWING TRACT PARTICIPATIONS AND PERCENTAGE AND KIND OF OWNERSHIP OF ALL LANDS WITHIN THE VACUUM GRAYBURG SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

TEXACO FILE NUMBER	99809	55035	55278	54150	54615
PERCENTAGE OF TRACT PARTICIPATION	9.80275	3.18789	2.98864	6.05698	11.15760
	1007	1007	2001	100%	7001
WORKING INTEREST & PERCENTAGE	Texaco Inc. 100%	Texaco Inc. 100%	Texaco Inc. 100%	Texaco Inc. 106%	Texaco Inc. 100%
OVERRIDING ROYALIY & PERCENTAGE	. None	None	None	• None	. None
LESSEE OF RECORD	The Texas Co. None	The Texas Co. None	The Texas Co. None	The Texas Co. None	The Texas Co. None
BASIC ROYALTY & PERCENTAGE	State of New Mexico 12.50 (Common School)	State of New Mexico 12,50 (Common School)	State of New Mexico 12.50 (Lieu)	State of New Mexico 12.50 (Common School)	State of New Mexico 12,50 (Common School)
SERÍAL NO. & DATE OF LEASE OR APPLICATION	B-3011-1 6-11-34 R.B.P.	B-1306-1 11-10-32 H.B.P.	B-1446-1 12-10-32 H.B.P.	B-867-1 5-6-32 H.B.P.	B-1189-1 9-10-32 H.B.P.
NO. OF ACRES	161.41	40.83	40.00	80.92	320.00
DESCRIPTION	IIBS-R34E Section 2; Lots 3 & 4, SW/4 RW/4, SE/4 NW/4	1185-234E Section 2; Lot 2	1185-R34E Soction 2; SN/4 NE/4	I185-R34E Section 2; Lot 1, SE/4 NE/4	1165-8342 Sccrion-2; NE/4 SW/4, RW/4 SW/4, SW/4 SW/4, RW/4 SE/4, RE/4 SE/4, SE/4, SE/4,
TRACT NO.	***	2	м	4	۲n

TEXACO PILE NUMBER	54474	55391	55035	54627	54146	
PERCENTAGE OF TRACT PARTICIPATION	16,33792	18.72683	24.60649	1.15561	5.97729	
	2001	7001	7001	2001	1001	
WORKING INTEREST & PERCENTAGE	Texaco Inc. 100%	Texaco Inc. 100%	Texaco Inc. 100%	Texaco Inc. 100%	Texaco Inc. 100%	
OVERRIDING ROYALTY & PERCENTAGE	o. None	o. None	o. None	o. None	None	
LESSEE OF RECORD	O The Texas C	O The Texas C	O The Texas C	60 The Texas C	50 The Texas (
DASIC ROYALTY & PERCENTACE	Stare of New Mcxico 12.50 The Texas Co. (Lieu)	State of New Mexico 12.50 The Texas Co. (Lieu)	State of New Mexico 12.50 The Texas Co. (M. Inst.)	State of New Mexico 12.50 The Texas Co. (Lieu)	State of New Mexico 12.50 The Texas Co. (M. Inst.)	
SERIAL NO. & DATE OF LEASE OR APPLICATION	B-1080-1 7-30-32 II.B.P.	B-1733-1 2-17-33 H.B.P.	B-1306-1 11-10-32	B-1258-1 10-10-32 H.B.P.	B-870-1 5-6-32 H.B.P.	
NO. OF ACRES	161.58	160,90	320.00 1/4, 1, 5, 5/4,	120.00	80.00	
DESCRIPTION	TISS-R34E Section 1; Lots 3 & 4, SW/4 NW/4, SE/4 NW/4	<u>TIBS-R34C</u> Section 1; Lots L 6 2, \$X/4 KE/4, \$E/4 NE/4	T185-R34E Section 1; NE/4 SN/4, NN/4 SH/4, SN/4 SN/4, SE/SN/6, NE/4 SE/4, NN/4 SE/4, SW/4 SE/4, NN/4 SE/4,	1185; B34E Section 11; HE/4 NE/4, and Foreion 12; HE/4 NA/4,	T175; R34E Section 35; NW/4 SW/4 SW/4 SW/4	
TRACT HO.	æ	~	∞	σ	10	

Ten (10) State Tracts containing 1,485.64 Acres and 100.00% of Unit Area