SKELLY EXH #8

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
EXHIBIT No. ____
CASE ____

Texas Gas Proration Formulas

District 1

Imogene, East		A		
Jake Hammon	2/3	AxBHP	1/3	W
Loma Alta Wilcox "B"	1/2	A	1/2	W

District 2

Albrecht	1/2	A	1/2	W
Arneckeville	2/3	A	1/3	W
Boyce		A		
Caesar, South		A		
Cologne, West	2/3	AxRP	1/3	W
Cordele, West	1/2	A	1/2	W
Coy City		AxBHP		
George West, West		AxBHP		
Goree Slick Wilcox	2/3	A	1/3	W
Gottschalt		AxBHP		
Harris (Wilcox)	2/3	A	1/3	BHP
Henze	2/3	GAF	1/3	W
Jennie Bell	2/3	A	1/3	W
Karons, South	2/3	A	1/3	W
Kittie West	2/3	A	1/3	BHP
Long Mott, South	2/3	AxBHP	1/3	W
Mary Ellen O'Connor		AxBHP		
McFaddin, North	1/2	A	1/4 Pt	1/4 W
Oakville (Wilcox)	2/3	A	1/3	BHP
Placedo (5300 zone)	1/2	AxBHP	1/2	W
Plummer - Wilcox		AxBHP		
Refugio - Hynes		AxBHP		
Sheriff, East		AxBHP		
Slick - Wilcox		A		
Welder Ranch (5300 zone)		AxBHP		

District 3

Ace, First Wilcox	2/3	A	1/3	W
Alief	3/4	AxRP	1/4	Pt
Alvin City		AxBHP		
Amelia	3/4	A	1/4	W
Bay City, East		AxBHP		
Beaumont, West	2/3	AxBHP	1/3	W
Blue Lake	2/3	AxRP	1/3	Pt
Castillo	2/3	A	1/3	W
Cold Springs	2/3	A	1/3	W
Deckers Prairie		AxBHP		
Echo		AxBHP		
Evergreen	1/2	A	1/2	W
Fairbanks, Southwest	2/3	A	1/3	W
Fulshear	1/2	A	1/2	W
Hampton, South	2/3	AxBHP	1/3	W
Hamshire, West		A		
Jackson Pasture, East	1/2	AxBHP	1/2	W
Lick Branch	2/3	A	1/3	W
Louise, North	2/3	AxRP	1/3	Pt
Louise, West		AxBHP		
Madisonville		AxBHP		
McCoy	2/3	AxRP	1/3	Pt
Needville	3/4	A	1/4	W
Niels Carlsen		AxBHP		
Nona Mills		AxBHP		
Old Ocean		AxBHP		
Pelican	2/3	A	1/3	W
Prasifka		AxBHP		
Spanish Camp		AxRP		
Spindletop, North	3/4	A	1/4	W
Spurger		AxBHP		
Sublime	2/3	A	1/3	W
Sugar Valley		NAF		
Village Mills, East		AxBHP		

District 4

Brayton		A		
Callaboose	2/3	AxRP	1/3	W
Cinco de Mayo		A		
Goose Island	2/3	A	1/3	W
Hagist Ranch		A		
Harvey		AxBHP		
La Blanca		AxBHP		
Lacy		AxBHP		
La Sal Vieja		AxBHP		
Luby	2/3	A	1/3	BHP
Minnie Bock, North		AxRP		
Murdock Pass	2/3	A	1/3	W
Mustang Island		AxBHP		
Odem	2/3	A	1/3	W
Red Fish Bay, North	3/4	A	1/4	W
Riverside	1/2	AxRP	1/4W	1/4D
Rooke	2/3	AxBHP	1/3	D
Sinton Shallow, West	1/2	A	1/2	W
Starr County, Northeast	2/3	AxBHP	1/3	W
Stedman Island	3/4	A	1/4	W
Sun		NAF		
Tobasco	2/3	A	1/3	W
Taft, West		A		
Tiger		AxRP		
Triple "A" Frio		A		
Weslaco, South		AxBHP		
White Point, East	2/3	A	1/3	W

District 5

Oakwood		A		
Teague		AxBHP		
Teague, West	2/3	AxBHP	1/3	W
Tri-Cities	1/2	A	1/2	Pt

District 6

Bethany	2/3	A	1/3	W
Bobby Joe		AxBHP		
Carthage		AxBHP		
Elysian Fields		AxBHP		
Hallsville, South	2/3	AxRP	1/3	W
Huxley		AxBHP		
Jacksonville		AxRP		
Joaquin	2/3	A	1/3	W
Lansing, North		AxBHP		
Minden		AxBHP		
Navarro Crossing		A		
Prairie Lake	2/3	A	1/3	W
Red Springs		AxBHP		
Trawick		AxBHP		
Tyler, South		AxBHP		
Waskom		AxBHP		

District 6 (Continued)

Willow Springs		AxBHP		
Winnsboro		AxBHP		
Woodlawn		AxBHP		
Yantis		AxBHP		

District 7-B

Lazy Bend		AxD		
Nimrod	3/4	A	1/4	W
Sipe Springs	1/2	AxRP	1/2	D
Trammel		AxBHP		

District 7-C

Benedum		A		
Eden	1/2	AxRP	1/2	D

District 8

Weiner	AxBHP

District 9

Boonsville	AxBHP
Cottondale	AxBHP

District 10

Panhandle, East	1/2	A	1/2	Pt
Panhandle, West	2/3	AxRP	1/3	Pt
Texas Hugoton		AxD		

Key to Symbols

A	-	Acres
D	-	Deliverability
W	-	Well
Pt	-	Potential
RP	-	Rock Pressure
BHP	-	Bottom Hole Pressure
GAF	-	Gross Acre-Feet
NAF	-	Net Acre-Feet

Acreage and Well Formulae:

A		13
1/2 A	1/2 W	6
2/3 A	1/3 W	19
3/4 A	1/4 W	6
		44

Bottom Hole Pressure Formulae:

AxBHP		45
1/2 AxBHP	1/2 W	2
2/3 AxBHP	1/3 W	6
1/3 BHP	2/3 A	4
		57

Rock Pressure Formulae:

AxRP		4
2/3 AxRP	1/3 W	3
		7

Potential Formulae:

1/2 Pt.	1/2 A	2
1/4 Pt.	3/4 AxRP	1
1/3 Pt.	2/3 AxRP	4
1/4 Pt.	1/2 A 1/4 W	1
		8

Deliverability Formulae:

AxD		2
1/2 D	1/2 AxRP	2
1/3 D	2/3 AxBHP	1
1/4 D	1/2 AxRP $\frac{1}{4}$W	1
		6

Acre-Foot Formulae:

NAF		2
2/3 GAF	1/3 W	1
		3

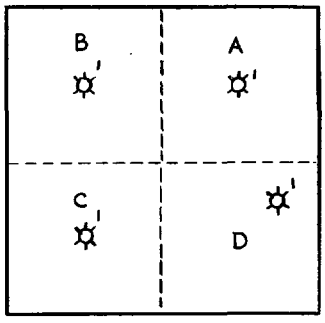
Total 125

Example Showing the Necessity of Including Acreage In Each Term of a "Plus-Type" Allocation Formula in Order To Comply with the Provisions of Section 13(c) of Senate Bill No. 163; Approved March 17, 1949, by the Legislature of the State of New Mexico

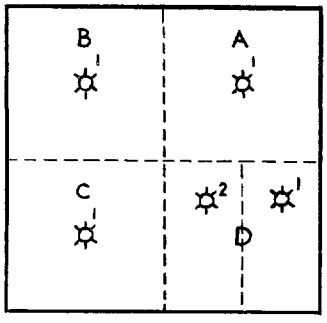
Section 13(c) The pooling of properties or parts thereof shall be permitted, and, if not agreed upon, may be required in any case when and to the extent that the smallness or shape of a separately owned tract would, under the enforcement of a uniform spacing plan or proration unit, otherwise deprive or tend to deprive the owner of such tract of the opportunity to recover his just and equitable share of the crude petroleum or natural gas, or both, in the pool; provided, that the owner of any tract that is smaller than the drilling unit established for the field, shall not be deprived of the right to drill on and produce from such tract, if same can be done without waste; but in such case, the allowable production from such tract, as compared with the allowable production therefrom if such tract were a full unit, shall be in ratio of the area of such tract to the area of a full unit. All orders requiring such pooling shall be upon terms and conditions that are just and reasonable, and will afford to the owner of each tract in the pool the opportunity to recover or receive his just and equitable share of the oil or gas, or both, in the pool as above provided, so far as may be practicably recovered without waste. In the event such pooling is required the costs of development and operation of the pooled unit shall be limited to the lowest actual expenditures required for such purpose including a reasonable charge for supervision; and in case of any dispute as to such costs, the Commission shall determine the proper costs.

Effect of Acreage in a "Plus-Type" Allocation Formula

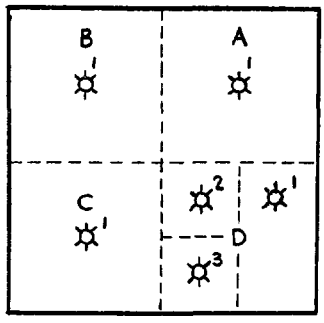
Case I



Case II



Case III



Allocation Formula "A" : 50% Acreage + 50 % Deliverability

Well	Acreage	Deliverability Mcfd	Allowable - Mcfd Acreage	Deliverability	Total
		Case I-A			
A-1	160	1000	500	200	700
B-1	160	2000	500	400	900
C-1	160	3000	500	600	1100
D-1	160	4000	500	800	1300
	640	10000	2000	2000	4000
		Case II-A			
A-1	160	1000	500	143	643
B-1	160	2000	500	286	786
C-1	160	3000	500	429	929
D-1	80	4000	250	571	821
D-2	80	4000	250	571	821
	640	14000	2000	2000	4000
		Case III-A			
A-1	160	1000	500	111	611
B-1	160	2000	500	223	723
C-1	160	3000	500	334	834
D-1	80	4000	250	444	694
D-2	40	4000	125	444	569
D-3	40	4000	125	444	569
	640	18000	2000	2000	4000

Allocation Formula B : 50% Acreage + 50% (Acres x Deliverability)

Well	Acreage	Deliverability Mcfd	(Ac. x Deliv.)	Allowable - Mcfd Acreage	(Ac. x Deliv.)	Total
			Case I-B			
A-1	160	1000	160,000	500	200	700
B-1	160	2000	320,000	500	400	900
C-1	160	3000	480,000	500	600	1100
D-1	160	4000	640,000	500	800	1300
	640	10000	1,600,000	2000	2000	4000
			Case II-B			
A-1	160	1000	160,000	500	200	700
B-1	160	2000	320,000	500	400	900
C-1	160	3000	480,000	500	600	1100
D-1	80	4000	320,000	250	400	650
D-2	80	4000	320,000	250	400	650
	640	14000	1,600,000	2000	2000	4000
			Case III-B			
A-1	160	1000	160,000	500	200	700
B-1	160	2000	320,000	500	400	900
C-1	160	3000	480,000	500	600	1100
D-1	80	4000	320,000	250	400	650
D-2	40	4000	160,000	125	200	325
D-3	40	4000	160,000	125	200	325
	640	18000	1,600,000	2000	2000	4000

Well	Acreage	Ratio of Acreage vs. Allowable 50% Ac + 50% Deliv. (Acreage / 160)	Allowable	(Allowable / 160 Ac. Allowable)	50% Ac. + 50% (Ac. x Deliv.) Allowable	(Allowable / 160 Ac. Allowable)
			Case II-A and Case II-B			
D-1	80	0.500	821	.632	650	0.500
D-2	80	0.500	821	.632	650	0.500
			Case III-A and Case III-B			
D-1	80	0.500	694	.534	650	0.500
D-2	40	0.250	569	.438	325	0.250
D-3	40	0.250	569	.438	325	0.250

Based on the necessary assumption that all wells drilled in the SE/4 will have equal deliverabilities, it is obvious that under Formula "A" the allowable production from the tracts smaller than 160 acres as compared with the allowable production if such tract contained 160 acres is not "in ratio of the area of such tract to the area of a full unit", while under Formula "B" it is apparent that the required ratio is maintained.

It is equally obvious that under Formula "A", the operator having larger acreage units will of necessity have to drill unnecessary wells in order to prevent wells located on smaller acreage from obtaining more than their share of the market. Under Formula "B" the allowables of the offset wells are not affected by the number of wells producing on the SE/4 and there is no necessity to wastefully drill unnecessary wells.

1. EPNG #1 State
   SW/2-30N-9W
   IP 20,300, D, 15,909

2. Stanolind #1 Shaw Gas Unit
   NE/14-30N-9W
   IP 17,725, D, 9,723

3. Delhi #1 Riddle
   NE-21-30N-9W
   D, 17,839

4. Anderson-Prichard #4 Johnston
   NE/33-31N-9W
   IP 11,750, D, 2,618

5. Pubco #6 State
   SW/36-31N-9W
   IP 23,000, D,9,015

6. Woodriver #3 Lambe]
   SW/21-31N-10W
   IP 26,860, D,4749

7. Critchell Parsons-Standard of Texas #1 State
   NE/2-31N-11W
   IP 11,900

8. Pubco #2 Hamilton
   NE/30-32N-10W
   IP 5,600, No. D.

9. Pubco #8 State
   SW/36-32N-12W
   IP 9,360, No. D.

10. Southern Union #1 Hillstrom
    SW/35-32N-12W
    IP 4,023

11. EPNG #3-D Riddle
    SW/22-31N-9W
    IP 36,285, No. D.

12. EPNG #3-D Howell
    NE-31-31N-8W
    IP 11,000, D.5,803

Reservoir Data

	Well	Location		Cliff House	Point Lookout
			Gross Pay	131	100
Average) Closest) Logs)	El Paso #1 State	SW/2-30N-9W IP 20,300 MCF	Net Pay	60	55
			Porosity		
			Permeability		
			Connate Water		
			Gross Pay	100	115
Actual) Log)	Stanolind #1 Shaw Gas Unit	NE/14-30N-9W IP 17,726	Net Pay	70	60
			Porosity		
			Permeability		
			Connate Water		
			Gross Pay	140	120
Closest) Log)	Delhi #1 Riddle	NE/21-30N-9W IP 17,839	Net Pay	70	60
			Potosity		
			Permeability		
			Connate Water		
			Gross Pay	135	125
Actual) Log)	Anderson-Prichard #4 Johnston	NE/33-31N-9W IP 11,750	Net Pay	70	45
			Porosity		
			Permeability		
			Connate Water		
			Gross Pay	115	110
Closest) Logs)	Pubco #6 State	SW/26-31N-9W IP 23,000	Net Pay	65	50
			Porosity		
			Permeability		
			Connate Water		
			Gross Pay	110	110
Actual) Log)	Wood River #1 Lambe	SW/21-31N-10W IP 26,860	Net Pay	70	50
			Porosity		
			Permeability		
			Connate Water		
			Gross Pay	110	110
	Critchell Parsons & Standard of Texas #1 State	NE/2-31N-11W IP 11,900	Net Pay	50	65
			Porosity		
			Permeability		
			Connate Water		
			Gross Pay	100	100
	Pubco #2 Hamilton	NE/30-32N-10W IP 5,600	Net Pay	65	50
			Porosity		
			Permeability		
			Connate Water		
			Gross Pay	150	120
	Pubco #8 State	SW/36-32N-11W IP 9,360	Net Pay	80	60
			Porosity		
			Permeability		
			Connate Water		
			Gross Pay		
	Southern Union #1 Hillstrom	SW/35-32N-12W IP 4,023	Net Pay		
			Porosity		
			Permeability		
			Connate Water		

Well	Location		Cliff House	Point Lookout
El Paso #3-D Riddle	SW/22-31N-9W IP 36,285	Gross Pay Net Pay Porosity Permeability Connate Water	110 60	130 75
El Paso #3-D Howell	NE/31-31N-8W IP 11,000	Gross Pay Net Pay Porosity Permeability Connate Water		

Well		Porosity	Water
El Paso #1 Neil Sec. 14-31N-11W	Cliff House Point Lookout 60'	7.1	31.8
El Paso #2 Mansfield Sec. 19-30N-9W	Cliff House 83' Point Lookout, 60'	11.1 10.1	42.2 20.6
El Paso #1 Jaquez P.U. Sec. 29-31N-9W	Cliff House, 48' Point Lookout, 78'	7.5 6.6	28.1 35.0
El Paso #1-A Warren Sec. 25-28N-9W	Cliff House, 32' Point Lookout	13.5	53.5
El Paso #1 Lawson Sec. 11-31N-11W	Cliff House, 12' Point Lookout, 28'	12.8 14.1	20.5 19.1