

Drainage Calculations

Nix-Yates No. 1 (Champlin

NE/Sec 2

Estimated GUR = 440,000 MCFG
35,944 Bbls Condensate

$$A \times 12 \times 43.56 \times .04 \times 0.8 \times \frac{520}{650} \times \frac{4700}{15.025} \times 0.8 = 469,300 \text{ MCFG}$$

A = 140 acres

Bass No. 1 (Western Oil Producers)

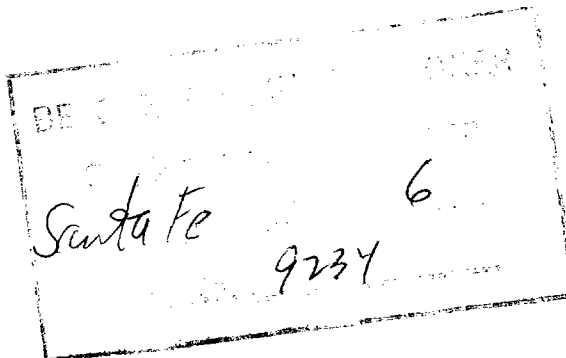
NE Sec. 11

Estimated GUR = 1,255,000 MCFG
85,251 Bbls Condensate

$$A \times 26 \times 43.56 \times .04 \times 0.8 \times \frac{520}{640} \times \frac{4800}{15.025} \times 0.8 = 1,324,394 \text{ MCFG}$$

A = 177 acres

JRP:s1-854



Volumetric Reserve Calculation
Basic Formula

$$\text{Recoverable Volume of Gas (MCF)} = (A)(H)(43.560)(\phi)(1-S_w) \times \frac{60+460}{T} \times \frac{\text{BHP}}{15.025} \times \frac{1}{Z} \times \text{RF}$$

Where:

A = Acres

H = Reservoir Thickness (Ft.)

ϕ = Porosity (%)

S_w = Connate Water (%)

BHP = Reservoir Pressure (psia)

T = Reservoir Temperature (°R)

Z = Compressibility Factor

RF = Recovery Factor

Volumetric Reserve Calculations

Delta Fee No. 1 (Texas O&G)

$$160 \times 22 \times 43.56 \times .04 \times 0.81 \times \frac{520}{640} \times \frac{4528.4}{15.025} \times \frac{1}{0.953} \times .8 = 1,021,236 \text{ MCFG}$$

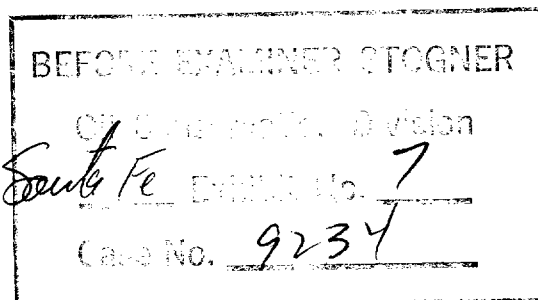
Estimated GUR on 160 acre spacing 967,512 MCFG
65,000 Bbls Condensate

Chase State "2" No. 1 (Santa Fe Energy Operating Partners, L.P.)

$$160 \times 20 \times 43.56 \times .04 \times 0.81 \times \frac{520}{681} \times \frac{5433}{15.025} \times \frac{1}{1.023} \times 0.8 = 975,166 \text{ MCFG}$$

Estimated GUR on 160 acre spacing 914,116 MCFG
75,000 Bbls Condensate

JRP:s1-855

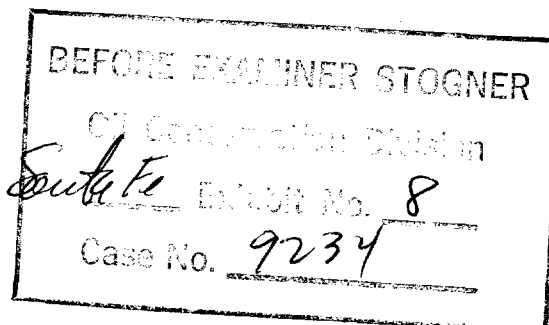


11-Sep-87

SANTA FE ENERGY COMPANY
GENERALIZED WELL COST ESTIMATE

NAME: Chase ^{Red} State 11 No. 1
LOC: NW/4, Section 11-22S-27E
DESC: Drill and complete a 9,900' Wolfcamp Test

ACCOUNT	DESCRIPTION OF COSTS	DRY HOLE	PRODUCER	SFE SHARE
				100.0%
501-000	TANGIBLE WELL COSTS			
-41	CONDUCTOR CSG	3,000	3,000	3,000
-41	SURFACE CSG	9,275	9,275	9,275
-41	PROTECTION CSG	21,700	21,700	21,700
-41	DRILLING LINER			0
-41	PROD CSG		83,655	0
-41	PROD LINER			0
-42	TUBING		31,590	0
-43	WELLHEAD	5,000	30,000	5,000
-44	PMPG UNIT			0
-45	PRIME MOVER			0
-50	OTHER DWN HOLE EQUIP		6,000	0
-50	RODS			0
-50	SUBSURFACE PMPS			0
-55	CSG EQUIP	2,000	3,500	2,000
-55	ELECTRICAL			0
-55	MISC. TANGIBLES			0
-55	ROD EQUIP			0
-55	TUBING EQUIP			0
	TOTAL TANGIBLE COSTS	40,975	188,720	40,975
541-000	LEASE FACILITY COSTS			
-50	FLOW LINES		2,000	0
-50	LABOR		5,000	0
-50	OTHER PROD EQUIP		15,000	0
-50	TANK FACILITIES		2,500	0
	TOTAL LEASE FACILITY COSTS	0	24,500	0
511-000	INTANGIBLE WELL COSTS			
-21	LOCATION	18,500	18,500	18,500
-22	FENCING	1,000	1,000	1,000
-26	WTR & FUEL FOR RIG			0
-31	CONTRACTOR MOVING EXP			0
-32	CONT FOOTAGE OR TURNKEY	160,500	160,500	160,500
-32	CONTRACTOR DAY WORK	12,000	12,000	12,000
-33	DRLG FLUID & ADDITIVES	28,000	28,000	28,000
-34	BITS & REAMERS			0
-36	CORING & CORE ANALYSES			0
-37	CEMENT	20,300	41,300	20,300
-39	INSPECTION & TSTG OF TANG	1,000	3,500	1,000
-41	DIRECTIONAL DRLG SURVEYS			0
-42	DRILLING EQUIP RENTAL	18,200	18,200	18,200
-43	OPEN HOLE LOGGING	16,700	16,700	16,700
-44	DRILL STEM TSTG	8,000	8,000	8,000
-45	MUD LOGGING	12,250	12,250	12,250
-51	TRANSPORTATION	5,000	5,000	5,000
-52	COMPLETION UNIT		10,000	0
-53	COMPLETION TOOL RENTAL		3,800	0
-54	CASED HOLE LOGS & PERFING		3,500	0
-55	STIMULATION		5,000	0
-56	RIG SITE SUPERVISION	14,000	17,500	14,000
-72	ADMINISTRATIVE OVERHEAD	5,000	5,000	5,000
-99	FSHG TOOLS & EXPENSES			0
-99	TESTING: BHP, GOR, 4 PT. POT		5,000	0
	ABANDONMENT COST	10,000		10,000
	OTHER INTANGIBLES			0
0	CONTINGENCY (5%)	16,523	18,738	16,523
	TOTAL INTANGIBLES	346,973	393,488	346,973
	TOTAL COSTS	387,948	606,708	387,948



Estimated By: Michael R. Burton Date: 9/11/87
SFE Approved By: Thomas E. Dentry for HLB Date: _____
Non Operator Approval By: _____ Date: _____

