

WELL	SPUD	TD	POOL	WELL TYPE	HOLE O.D. (inches)	CASING O.D. (inches)	SET @ (feet)	CEMENT (sacks)	TOC	HOW DETERMINED
Davoil State 1	6/17/81	11860	Midway; Devonian	P & A	17.5	13.375	412	350	GL	circulated 25 sx
30-025-27393					12.25	8.625	4465	2200	GL	circulated 200 sx
I-8-17s-37e					7.875	5.5	11860	1350	8527	calculated 118 sx @ DV tool @ 8527
Warren 1	5/25/79	11980	Midway; Devonian	P & A	17.5	13.375	400	400	GL	circulated 140 sx
30-025-26323			Midway; Strawn		12.25	8.625	4396	1600	GL	circulated 101 sx
G-8-17s-37e			Humble; Wolfcamp		7.785	5.5	11977	1300	4300	temperature survey
Hale State 1Y	4/18/80	11875	Midway; Devonian	below CIBP & 2 sx	17.5	13.375	438	350	GL	circulated 144 sx
30-025-26773			Midway; Strawn	SIOW	12.25	8.625	4450	1700	GL	circulated 235 sx
J-8-17s-37e					7.785	5.5	11875	1700	8536	circulated 125 sx @ DV tool @ 8536

EXHIBIT F



Fasken's
 Davoil State 1
 API 30-025-27393
 1980 FSL & 990 FEL 8-17s-37e
 Spud 6-17-81 and Plug 6-19-87

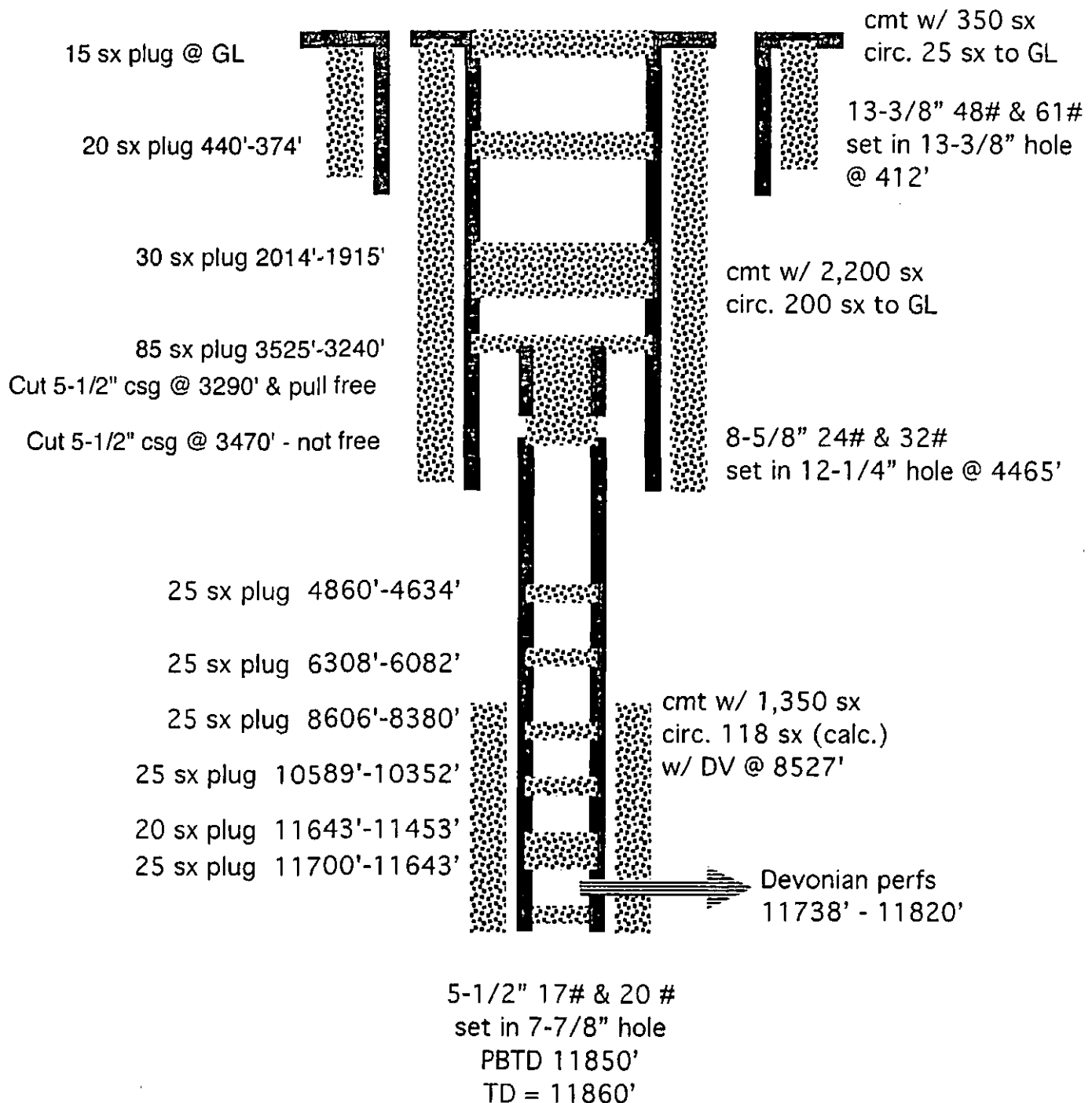


EXHIBIT F

(not to scale)

Fasken's
Warren 1
API 30-025-26323
2080 FNL & 1980 FEL 8-17s-37e
Spud 5-25-79 and Plug 1-5-90

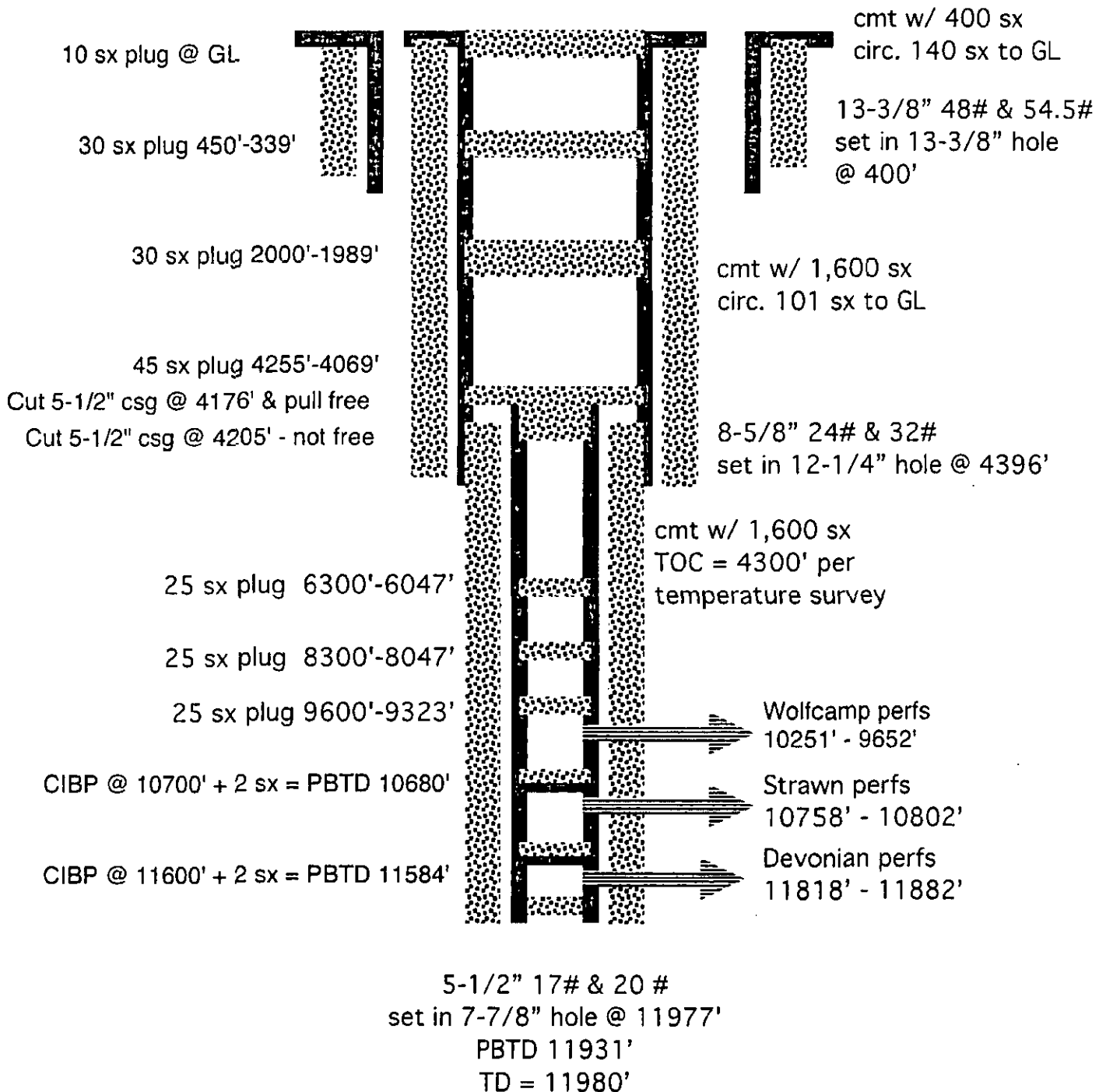


EXHIBIT F

(not to scale)

Fasken's
Warren 3
API 30-025-27274
2310 FNL & 2310 FWL 8-17s-37e
Spud 3-6-81 and Plug 11-22-91

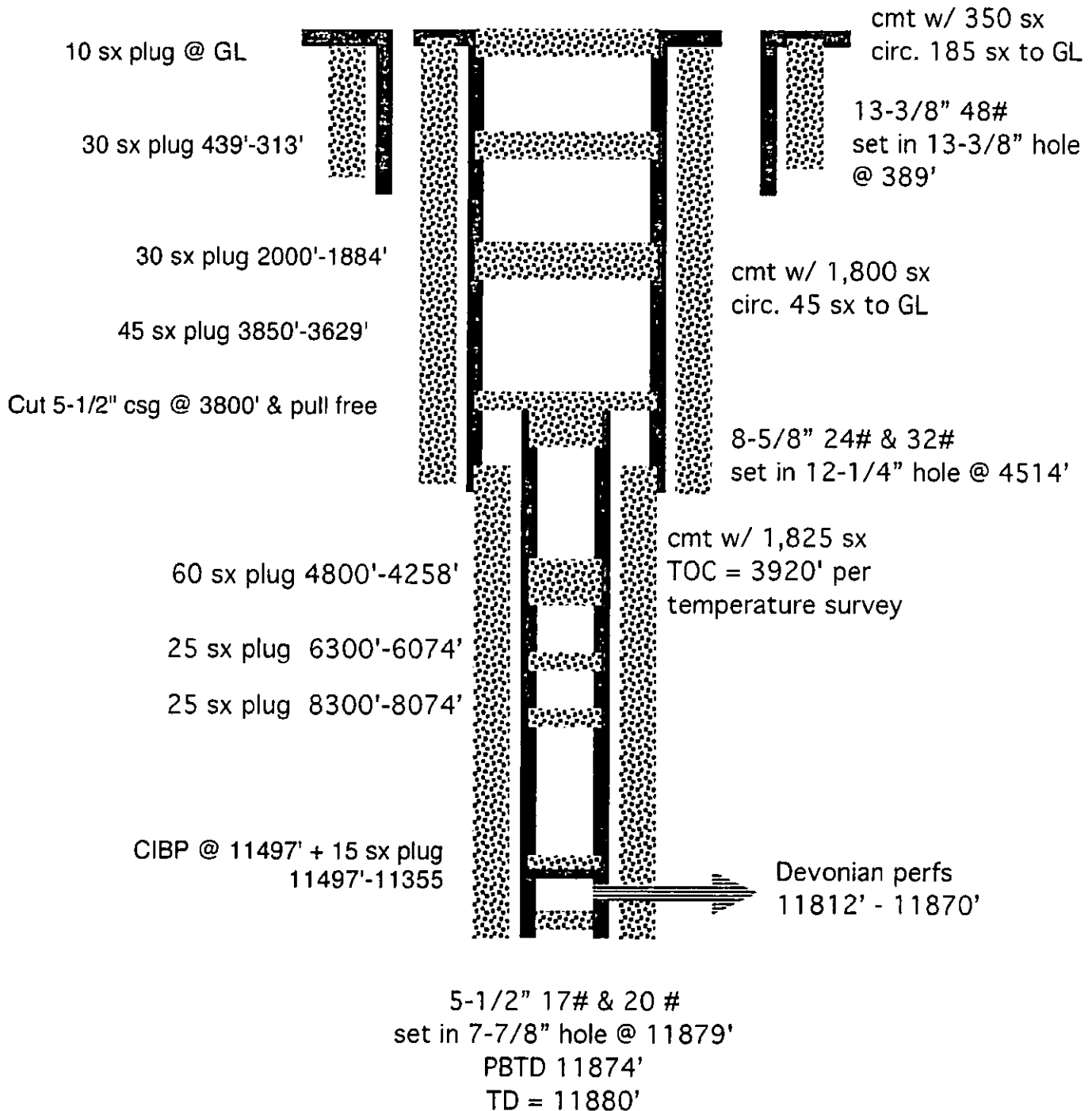


EXHIBIT F

(not to scale)

Fasken's
Consolidated A State 1
API 30-025-27593
990 FSL & 1650 FEL 8-17s-37e
Spud 10-30-81 and Plug 5-25-94

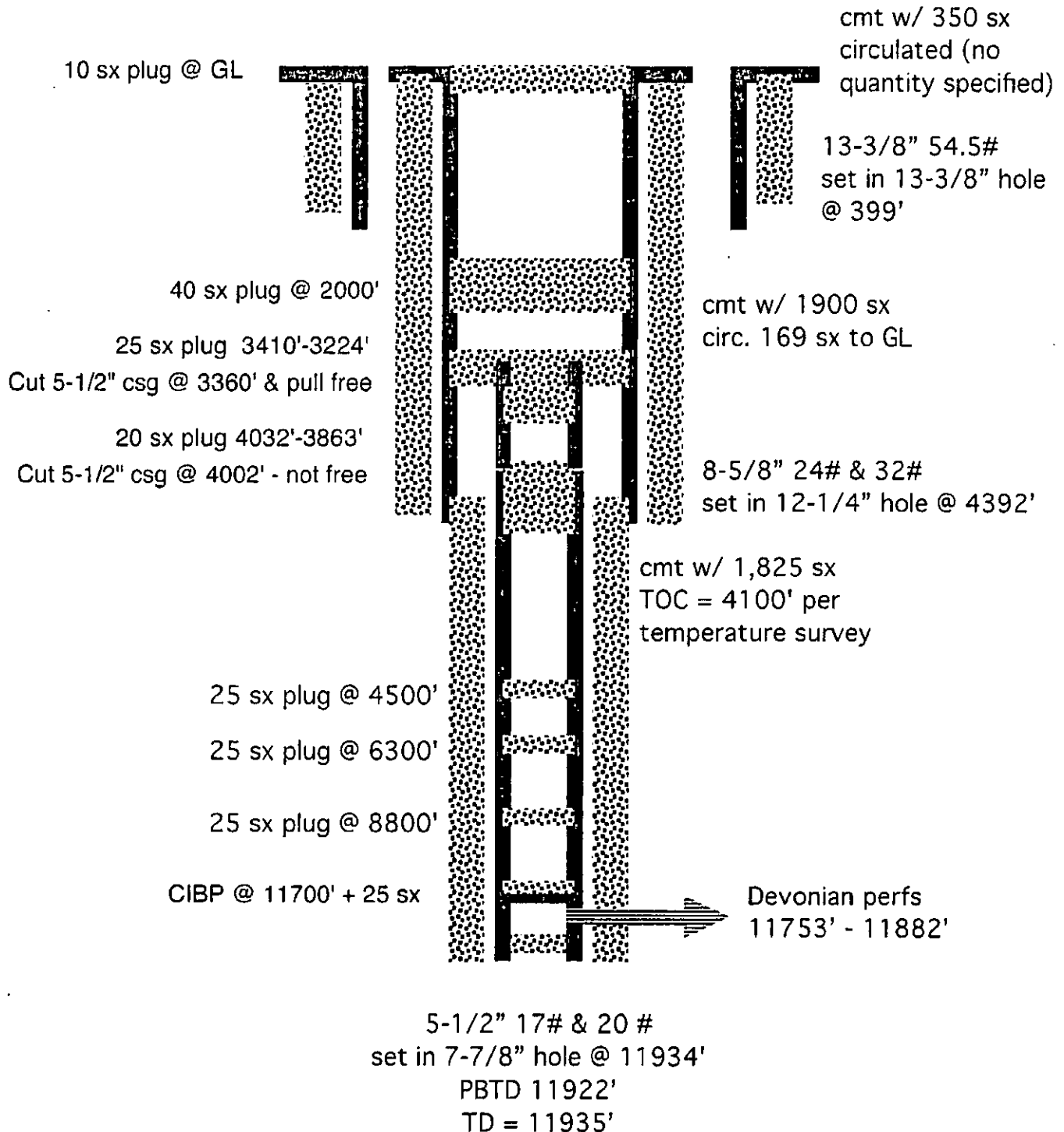


EXHIBIT F

(not to scale)

NM WAIDS

DATA

MAPS

HOME

SCALE

CORROSION

General Information About: Sample 5876			
SNYDER A COM 001			
API	3002534073	Sample Number	
Unit/Section/ Township/Range	18 / 06 / 16 S / 36 E	Field	SHOE BAR NORTHEAST
County	Lea	Formation	STRAWN
State	NM	Depth	
Lat/Long	32.94607 / -103.39970	Sample Source	
TDS (mg/L)	72615.6	Water Type	
Sample Date(MM/DD/YYYY)	3/10/1998	Analysis Date(MM/DD/YYYY)	3/19/1998
Remarks/Description			
Cation Information (mg/L)		Anion Information (mg/L)	
Potassium (K)	168.245	Sulfate (SO)	479.655
Sodium (Na)	26688.3	Chloride (Cl)	45588.1
Calcium (Ca)	1815.17	Carbonate (CO ₃)	0
Magnesium (Mg)	471.295	Bicarbonate (HCO ₃)	368.885
Barium (Ba)	0.3135	Hydroxide (OH)	
Manganese (Mn)		Hydrogen Sulfide (H ₂ S)	
Strontium (Sr)	269.61	Carbon Dioxide (CO ₂)	
Iron (Fe)	33.44	Oxygen (O)	



EXHIBIT G

NM WAIDS

≈10 miles northwest
of Warren 2

DATA

MAPS

HOME

SCALE

CORROSION

General Information About: Sample 5856			
SNYDER A COM 001			
API	3002534073	Sample Number	
Unit/Section/ Township/Range	18 / 06 / 16 S / 36 E	Field	SHOE BAR NORTHEAST
County	Lea	Formation	STRAWN
State	NM	Depth	
Lat/Long	32.94607 / -103.39970	Sample Source	
TDS (mg/L)	65732.6	Water Type	
Sample Date(MM/DD/YYYY)	4/2/1998	Analysis Date(MM/DD/YYYY)	4/15/1998
Remarks/Description			
Cation Information (mg/L)		Anion Information (mg/L)	
Potassium (K)	115.06	Sulfate (SO)	381.79
Sodium (Na)	23155.3	Chloride (Cl)	41323.3
Calcium (Ca)	2535.5	Carbonate (CO ₃)	0
Magnesium (Mg)	446.642	Bicarbonate (HCO ₃)	478.022
Barium (Ba)	1.046	Hydroxide (OH)	
Manganese (Mn)		Hydrogen Sulfide (H ₂ S)	2.092
Strontium (Sr)	270.914	Carbon Dioxide (CO ₂)	
Iron (Fe)	49.162	Oxygen (O)	

New Mexico Tech

PRRC

EXHIBIT G

Laguna "16" State SWD No. 8
Salt Lake Field Area - Sec 16, T20S, R32E
Lea County, NM

Calcium Carbonate and Calcium Sulfate Solubility Calculations
Skillman, McDonald and Stiff Method

Representative Devonian Water - Fasken Operated Denton #3A, S11, T15S, R37E

Water Analysis

Ionic Strength Calculation

Ion	Concentration mg/L	Conversion Factor		Ionic Strength
Na ⁺	24042	2.2E-05	=	0.529
Ca ⁺⁺	3308	5.0E-05	=	0.165
Mg ⁺⁺	546	8.2E-05	=	0.045
Cl ⁻	43000	1.4E-05	=	0.602
CO ₃ ⁻	0	3.3E-05	=	0.000
HCO ₃ ⁻	536	8.2E-06	=	0.004
SO ₄ ⁻	1563	2.1E-05	=	0.033
Total Ionic Strength, μ				1.378

pH= 6.38

pHd= 6.63

Ts, °F= 70

Td, °F= 176

d, ft= 14357

Ps, psia = 13.5

Pd, psia = 6230

Δ pH= 0.25

Calcium Carbonate Scaling Index Calculations

pCa= 1.08

pAlk= 2.06

SI=pH-(K+pCa+pAlk)

	K, (App 12, Patton)	SI	CaCO ₃ precip?	PTB, lbs CaCO ₃ /1000 bbls
Surface, s=	3.54	-0.30		
Depth, d=	1.82	1.67	Likely	315 Severe

Calcium Sulfate Scaling Index Calculations

K_{sp} = 0.0021 @ 180° F (From Appendix 15, Applied Water Technology by Patton)

4K_{sp} = 0.0084

Ion	Conc (mg/L)	Conversion Factor		M (moles/L)
HCO ₃ ⁻	536	1.64E-05	=	0.0087904
Ca ⁺⁺	3308	2.50E-05	=	0.0827
SO ₄ ⁻	1563	1.04E-05	=	0.0162552

Excess Common Ion: X X = Δ M = 0.0664448

S = solubility (meq/L) = $1000 [(X^2 + 4K_{sp})^{1/2} - X]$

S = 46.76

Ion	Conc (mg/L)	Equiv. Wt (MW)	Conc (meq/L) meq/L=(mg/L)/MW
Ca ⁺⁺	3308	20	165.40
SO ₄ ⁻	1563	48	32.56

Actual CaSO₄ Conc. = lesser of meq/L concentrations of Ca⁺⁺ or SO₄⁻ 32.56

If S > Actual, CaSO₄ scale is unlikely

Unlikely

If S < Actual, CaSO₄ scale is likely

EXHIBIT G