SHORT CONTRIBUTIONS
TO
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Faulting in the Plantation RO* Injection Well Sarasota County, Florida

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The local working units shown on Figure 2 were established by regional correlations in another project.

In the Plantation RO well (No. 2, Fig. 1) the Arcadia-3Bu interval (Figs. 2 & 3) is 365 feet thinner than in the Venice Gardens well one mile to the west (No. 1, Fig. 1). In addition, the top of Unit 3Bu in Well 2 is 265 feet higher structurally compared to Well 1. Well 2 is only 35 feet higher on the base of the Arcadia.

Correlation of the 2 high resistivity kicks (points 1 & 2) between the two wells (Fig. 4) indicates that, compared to Well 1, two intervals are missing in Well 2. These intervals include 110 feet in Unit 2 (essentially Ocala), and 245 feet in basal Unit 3A (essentially upper Avon Park). How much of underlying Unit 3Bu in Well 2 has also been faulted out cannot be determined as neither well penetrates deeper marker horizons.

The above data indicate the presence in Well 2 of two adjacent normal faults, downthrown to the west.

Within the competent dolomite of Unit 3Bu in Well 2 the borehole video survey shows 50 feet of wall-collapse in three zones within an 80-foot interval. In contrast, unfaulted Well 1 had only an occasional one-foot interval of wall-collapse.

In Winston 1995 I showed that in three instances thick intervals of borehole wall-collapse were associated with known faults. This suggests that thick wall-collapse zones in a well can indicate the presence of a fault, either in the well or in the vicinity. The main cause of wall-collapse in dolomite is by drilling into zones of intersecting open fractures which are often solution-enlarged. When the large blocks defined by such fracture systems lose support due to the open hole, the wall collapses.

The presence of thick wall-collapse in Well 2 provides additional support for faulting.

*aka Ramar & Venice RO

Reference

Winston, G.O., 1995 in review, "The Boulder Zone Dolomites of Florida - Vol. 1 - Paleogene & Upper Cretaceous Zones of the Southeastern Peninsula and the Keys", Miami Geol Soc

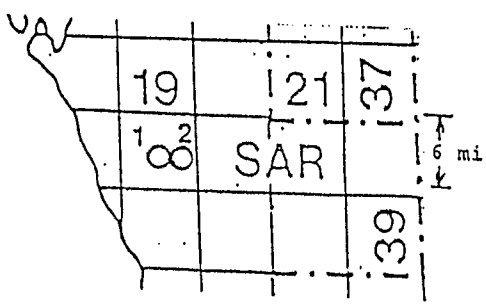
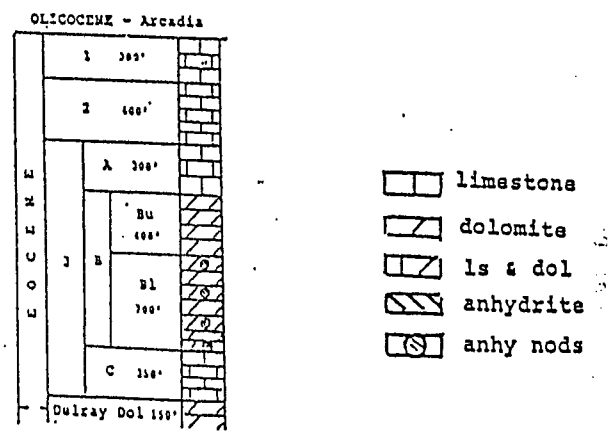


Fig. 1



Generalized Geologic Column

Local Working Units
Sarasota County

Fig. 2

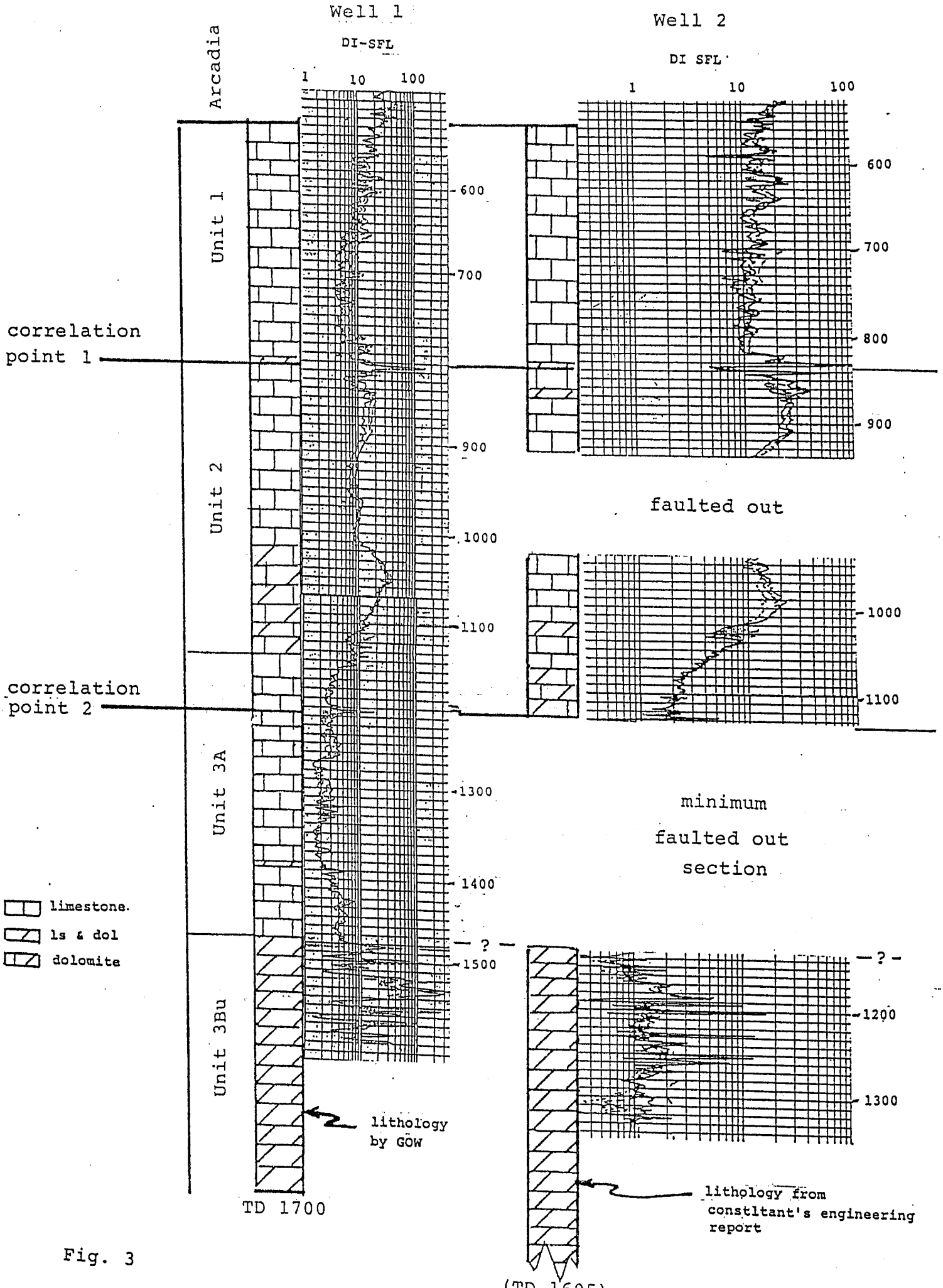

Well 1
DI-SFL
1
10
100
Well 2
DI SFL
1
10
100
Arcadia
Unit 1
Unit 2
Unit 3A
Unit 3Bu
correlation point 1
correlation point 2
600
700
800
900
1000
1100
1300
1400
1500
1200
?
faulted out
minimum faulted out section
limestone
ls & dol
dolomite
lithology by GOW
lithology from constltant's engineering report
TD 1700
(TD 1605)

Fig. 3