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GEOLOGICAL WELL REPORT

E. LYLE JOHNSON

No. 1 Sonnenberg

SE NE Section 18, T-10-N, R-47-W

Sedgewick County, Colorado

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| | |
|-----|-------------------------------------|
| DVR | <input checked="" type="checkbox"/> |
| FJP | <input checked="" type="checkbox"/> |
| NHM | <input checked="" type="checkbox"/> |
| JAM | <input checked="" type="checkbox"/> |
| JJD | <input checked="" type="checkbox"/> |
| GCH | <input checked="" type="checkbox"/> |
| CCM | <input type="checkbox"/> |

Submitted by,


W. H. Cobb, Geologist

file



WELL DATA

Operator E. Lyle Johnson
Well Name #1 Sonnenberg
Location SE NE, Section 18, T-10-N, R-47-W, Sedgewick Co., Colorado
Elevation 3902 GL, 3911 KB
Casing 8 joints, 335', set at 345' w/340 sx reg, 3% CC, plug down,
5 PM, Good Returns
Contractor Exeter Drilling Co., Rig #5 (Bob Fisher- Pusher)
Commenced February 21, 1976
Completed February 27, 1976
T. D. 3846' DPM, 3847' Dresser Atlas
I. P. Plugged and Abandoned
Meas. All Measurements taken from KB
Surveys Dresser Atlas, Induction, Electrology

Formation Tops

| | | | |
|-----------|---------------|--------------|-----------------|
| Niobrara | - 3087 (+824) | Bentonite | - (Faulted Out) |
| Ft. Hays | - 3386 (+525) | "D" Sand | - 3779 (+132) |
| Carlile | - 3430 (+481) | "D" Porosity | - 3791 (+117) |
| Greenhorn | - 3590 (+321) | Total Depth | - 3847 |



DISCUSSION

The E. Lyle Johnson, No. 1 Sonnenberg is located in the SE NE of section 18, T-10-N, R-47-W, on the North end of the Red Lion "D" Sand, Gas Field. The No. 1 Sonnenberg is a diagonal northwest off set to the E. Lyle Johnson, No. 2 Hamm which produces gas from the "D" Sand.

The No. 1 Sonnenberg was found to be 18 feet low on the top of the "D" Sand and 18 feet low on the top of the "D" Sand Porosity, or producing one, to the No. 2 Hamm.

The Porosity zone, which was the main objective, in the No. 1 Sonnenberg has an over all thickness of 2 to 3 feet. There were no shows of oil or gas encountered in sample examination of the "D" Sand Section.

The relative structural position to the producing wells in Red Lion Field, sample examination and evaluation of the electric logs indicated that the E. Lyle Johnson No. 1 Sonnenberg would not produce oil or gas in commercial quantities and it was therefore recommended that this well be plugged and abandoned.



SAMPLE DESCRIPTION

- 2850-
- 2910 tr sh, lt gry, mostly, near surface, qtz sd grns, fg, scatt to abd bent wht (vis water)
- 40 Same w/tr bent grn
- 3050 25-30% sh gry, v fine ctgs, 70% sd grns aa
- 3100 60% sh gry, scatt, loose qtz sd grns aa, 20% bent, wht & lt grn, scatt, loose ls grns, pink (These are specks in Niobrara) Top Niobrara very very fine ctgs
- 3200 Same w/tr sh gry, speckled lmy, Niobrara
- 50 sh gry, speckled lmy, scatt, qtz sd grns & bent
- 3370 shale gry speck lmy & ls shaly lt gry & pink
- 3400 sh gry, speck lmy to very lmy (more ls than sh ip) abd loose qtz sd grns, acd bent, wht grn
- 3520 sh gry, speck lmy to v lmy, ls lt gry, sl shaly, scatt loose qtz sd grns v fg, abd bent aa
- 50 Same w/tr ls wht fx (Ft. Hays ls)
- 3610 Same w/5% ls wht fx
- 40 sh gry, lmy, ls silty aa, tr ls wht fx, abd loose sd grns abd bent grn & wht (Sampler still very very fine)
- 70 40% sh gry, 25% sh gry speck lmy, 5% sh yellow sdy, tr ls wht fx, 20% bent grn, 5% bent wht, tr bent wht soft (Bentonite Marker) Samples Now Courser
- 3670-
- 90 Same w/20% bent grn
Trip for new bit, strap pipe, strap was 2' shallower than Board, TD 3690
- 3710 sh gry, sh grn & yellow w/bent, tr ls, brn mx, sdy (Greenhorn ls prob Recirc)
- 20 Same w/2-3% ls brn mx (poss brn ls marker)
- 65 sh, gry, scatt sh grn bent, tr sh yellow, scatt recirc material
- 3765 15 min. circ. Same
- 65 30 min. circ. Same w/tr ss, gry v fg, shaly NS
- 70 sh gry, abd recirc material, tr ss, v coarse gr, cluster very hard well cemented rd to sub rd, qtz, tr ss, gry, fg, sl tg
- 75 Same w/no cse gr ss aa
- 75 15 min. circ. Same
- 75 30 min. circ. Same w/tr to scatt ss, lt gry, v fg tight NS
- 3775-
- 80 Same as above, mostly recirc
- 85 sh gry, 5% ss, gry fg shaly, lt gry fg, tight NS
- 85 15 min. circ. Same
- 85 30 min. circ. Same w/ 5% ss lt gry fg fairly friable
- 90 sh gry, 5-10% ss, lt gry, fg to v fg, intergran filling tight NS
- 3800 sh gry, 10% ss, lt gry to dirty gry, tight w/intergran filling, tr ss lt gry to gry, fg friable NS
- 10 sh gry, 20% ss, lt gry fg, fair pnp, this is probably the porosity zone
- 20 sh gry, 40-50% ss, lt gry, pg to med gr, some intergran filling, Carbonaceous ip
- 30 sh gry, 25-30% ss lt gry, fg to v fg & carb
- 40 sh gry, 25-30% ss v fg, tight, hard
- 46 Same w/tr ss, lt gry mg, intergran filling



BIT RECORD

| <u>Run</u> | <u>Size</u> | <u>Make</u> | <u>Type</u> | <u>Out</u> | <u>Feet</u> | <u>Hours</u> | <u>Remarks</u> |
|------------|-------------|-------------|-------------|------------|-------------|--------------|----------------|
| 1 | 7-7/8 | STC | DTJ | 3690 | 3339 | 28-1/4 | Wore Out |
| 2 | 7-7/8 | HTC | OSC1G | 3846 | 507 | 9 | Total Depth |

DEVIATION

| <u>Depth</u> | <u>Degrees</u> |
|--------------|----------------|
| 1192 | 1 |
| 2160 | 1-3/4 |
| 3131 | 1 |
| 3690 | 1-3/4 |



3846 15 min. circ. sh gry, 10-15% ss, lt gry fg to v fg aa & lt gry mg,
fair to poor P&P
3846 30 min. circ. sh gry, 15% ss lt gry, fg to v fg tight
3846 Total Depth