

Well no : 7120/ 9-02

Operator : HYDRO

| | | | |
|-------------------------|---------------------------------|-------------|-------------|
| Coordinates | : 71 29 40.81 N 20 42 5.38 E | UTM coord. | : 7932809 N |
| | | UTM zone 34 | : 489425 E |
| Licence no | : 078 | Permit no | : 410 |
| Rig | : TREASURE SCOUT | Rig type | : SEMI-SUB. |
| Contractor | : WILHELMSSEN OFFSHORE SERVICES | | |
| Bottom hole temperature | : 161 deg.C | Elev. KB | : 23 M |
| Spud date | : 84.04.18 | Water depth | : 294 M |
| Compl. date | : 84.10.20 | Total depth | : 5072 M |
| Spud class. | : WILDCAT | Age at TD | : PERMIAN |
| Compl. class. | : P&A. GAS DISCOVERY | | |
| Seis. loc. | : NH 8308 - 201 SP. 263 | | |

LICENSEES

| | |
|--------|----------------------------------|
| 15.000 | ELF AQUITAINE NORGE A/S |
| 25.000 | NORSK HYDRO PRODUKSJON A.S |
| 10.000 | A/S NORSKE SHELL |
| 50.000 | DEN NORSKE STATS OLJESELSKAP A.S |

CASING AND LEAK-OFF TESTS

| Type | Casing diam. | Depth below KB | Hole diam. | Hole depth below KB | Lot mud eqv. g/cm ³ |
|------------|-----------------|-------------------|---------------|------------------------|-----------------------------------|
| ----- | ----- | ----- | ----- | ----- | ----- |
| CONDUCTOR | 30 | 378.0 | 36 | 381.0 | |
| SURF.COND. | 20 | 1152.0 | 26 | 1170.0 | |
| INTERM. | 13 3/8 | 2672.0 | 17 1/2 | 2688.0 | 1.82 |
| INTERM. | 9 5/8 | 4247.0 | 12 1/4 | 4270.0 | 1.91 |
| LINER | 7 | 4782.0 | 8 1/2 | 4796.0 | 1.96 |
| OPEN HOLE | | | 6 | 5072.0 | 2.21 |

CONVENTIONAL CORES

| Core no. | Intervals cored meters | Recovery | | Series |
|----------|---------------------------|----------|------|---------|
| | | M | % | |
| 1 | 4962.0 - 4964.0 | 1.8 | 89.0 | PERMIAN |

MUD PROPERTIES

| Depth below KB meter | Mud weight g/cm ³ | Plastic viscosity mPa.s | Mud type |
|----------------------------|------------------------------------|-------------------------------|-------------|
| 381.0 | 1.04 | | WATER BASED |
| 635.0 | 1.08 | | WATER BASED |
| 908.0 | 1.10 | | WATER BASED |
| 1070.0 | 1.23 | | WATER BASED |
| 1106.0 | 1.22 | | WATER BASED |
| 1153.0 | 1.15 | | WATER BASED |
| 1165.0 | 1.22 | | WATER BASED |
| 1170.0 | 1.24 | | WATER BASED |
| 1429.0 | 1.26 | | WATER BASED |
| 1679.0 | 1.25 | | WATER BASED |
| 2467.0 | 1.55 | 17.0 | WATER BASED |
| 2477.0 | 1.25 | 51.0 | WATER BASED |
| 3845.0 | 1.32 | 19.0 | WATER BASED |
| 3903.0 | 1.39 | 23.0 | WATER BASED |
| 3967.0 | 1.44 | 24.0 | WATER BASED |
| 4020.0 | 1.50 | 25.0 | WATER BASED |
| 4145.0 | 1.56 | 23.0 | WATER BASED |
| 4254.0 | 1.65 | 28.0 | WATER BASED |
| 4261.0 | 1.55 | 22.0 | WATER BASED |
| 4292.0 | 1.57 | 19.0 | WATER BASED |
| 4424.0 | 1.60 | 18.0 | WATER BASED |
| 4580.0 | 1.68 | 21.0 | WATER BASED |
| 4692.0 | 1.70 | 21.0 | WATER BASED |
| 4703.0 | 1.76 | 22.0 | WATER BASED |
| 4742.0 | 1.82 | 25.0 | WATER BASED |
| 4779.0 | 1.85 | 29.0 | WATER BASED |
| 4791.0 | 2.00 | 34.0 | WATER BASED |
| 4964.0 | 1.95 | 26.0 | WATER BASED |
| 5071.0 | 2.04 | 23.0 | WATER BASED |

DRILL STEM TEST

NO DST'S WERE PERFORMED IN THIS WELL

DRILL BIT CUTTINGS AND WET SAMPLES

| <i>SAMPLE TYPE</i> | <i>INTERVAL BELOW KB</i> | <i>NUMBER OF SAMPLES</i> |
|--------------------|------------------------------|------------------------------|
| <i>CUTTINGS</i> | <i>390 - 5072</i> | <i>1470</i> |
| <i>WET SAMPLES</i> | <i>400 - 5072</i> | <i>1320</i> |

SHALLOW GAS

| <i>INTERVAL BELOW KB</i> | <i>REMARKS</i> |
|------------------------------|----------------|
|------------------------------|----------------|

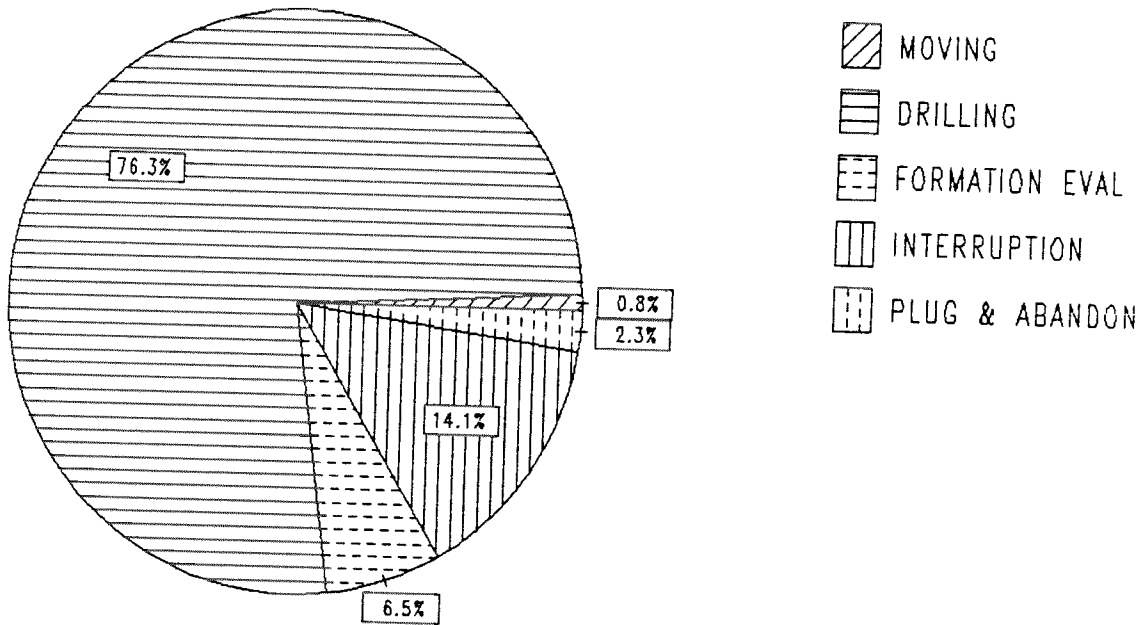
NONE

AVAILABLE LOGS

| LOG TYPE | INTERVALS | 1/200 | 1/500 |
|---|-------------|--------|--------|
| ISF LSS GR | 315 - 1165 | X | X |
| ISF LSS MSFL | 1153 - 2685 | X | X |
| ISF LSS MSFL | 2670 - 4062 | X | X |
| ISF LSS | 4025 - 4262 | X | X |
| ISF LSS | 4247 - 4790 | X | X |
| ISF LSS | 4780 - 4961 | X | X |
| ISF BHC | 4779 - 5069 | X | X |
| LDL CNL | 379 - 1164 | X | X |
| LDL CNL | 1153 - 2686 | X | X |
| LDL CNL | 2671 - 4062 | X | X |
| LDL CNL | 4025 - 4263 | X | X |
| LDL CNL NGS | 4245 - 4790 | X | X |
| LDL CNL | 4780 - 4962 | X | X |
| LDL CNL | 4779 - 5070 | X | X |
| DLL MSFL | 1950 - 2400 | X | X |
| CDM | 1152 - 2680 | X | |
| CDM | 2671 - 4263 | X | |
| CDM | 4245 - 4789 | X | |
| CDM | 4780 - 4962 | X | |
| CDM | 4779 - 5072 | X | |
| CDM AP | 1150 - 2700 | X | X |
| CDM AP | 2676 - 4262 | X | X |
| CDM AP | 4248 - 4788 | X | X |
| CDM AP | 4766 - 4970 | X | X |
| CDM AP | 4780 - 5072 | X | X |
| NGT PLAYBACK | 1153 - 2686 | X | X |
| NGS | 2671 - 4263 | X | X |
| NGS | 4308 - 4790 | X | X |
| RFT | 1971 - 2396 | | |
| RFT HP | 2739 - 3080 | 1:100 | |
| RFT HP | 3179 - 4248 | 1:100 | |
| CBL VDL | 1050 - 2650 | X | |
| CBL VDL | 2650 - 4245 | X | |
| CBL VDL | 4108 - 4777 | X | |
| DRILLING DATA PRESSURE | 350 - 5072 | 1:5000 | |
| PRESSURE EVALUATION | 350 - 5072 | 1:5000 | |
| TEMPERATURE DATA | 350 - 5072 | 1:5000 | |
| DXC/NXB | 350 - 5072 | 1:5000 | |
| MUD | 350 - 5072 | | X |
| VELOCITY | 315 - 5069 | 1:1000 | X |
| (+ Synthetic Seismogram, Marine, 10 cm/s, | | | 1 stk) |
| (+ Synthetic Seismogram, 10 cm/s, | | | 4 stk) |

DAILY DRILLING REPORT SYSTEM

Main operation: 7120/09-02



Total : 4440.00 HRS

| Main operation | Minutes | Hours | % of total |
|----------------|---------|---------|------------|
| MOVING | 2160 | 36.00 | 0.8 |
| DRILLING | 203219 | 3386.98 | 76.2 |
| FORMATION EVAL | 17429 | 290.48 | 6.5 |
| INTERRUPTION | 37472 | 624.53 | 14.0 |
| PLUG & ABANDON | 6120 | 102.00 | 2.2 |

MAIN OPERATION: MOVING

| Sub operations | Min | % of total |
|----------------|------|------------|
| TRANSIT | 450 | 20.83 |
| ANCHOR | 1710 | 79.17 |
| TOTAL | 2160 | 100.00 |

MAIN OPERATION: DRILLING

| Sub operations | Min | % of total |
|-----------------|--------|------------|
| BOP/WELLHEAD EQ | 10453 | 5.14 |
| TRIP | 40473 | 19.92 |
| DRILL | 91726 | 45.14 |
| SURVEY | 1680 | 0.83 |
| CIRC/COND | 8730 | 4.30 |
| CASING | 26910 | 13.24 |
| REAM | 3267 | 1.61 |
| UNDERREAM | 7860 | 3.87 |
| OTHER | 1309 | 0.64 |
| HOLE OPEN | 550 | 0.27 |
| BOP ACTIVITIES | 9751 | 4.80 |
| WAIT | 360 | 0.18 |
| PRESS DETECTION | 150 | 0.07 |
| TOTAL | 203219 | 100.00 |

MAIN OPERATION: FORMATION EVAL

| Sub operations | Min | % of total |
|----------------|-------|------------|
| LOG | 14100 | 80.90 |
| RFT/FIT | 1380 | 7.92 |
| TRIP | 600 | 3.44 |
| CIRC/COND | 329 | 1.89 |
| WAIT | 180 | 1.03 |
| CORE | 780 | 4.48 |
| OTHER | 60 | 0.34 |
| TOTAL | 17429 | 100.00 |

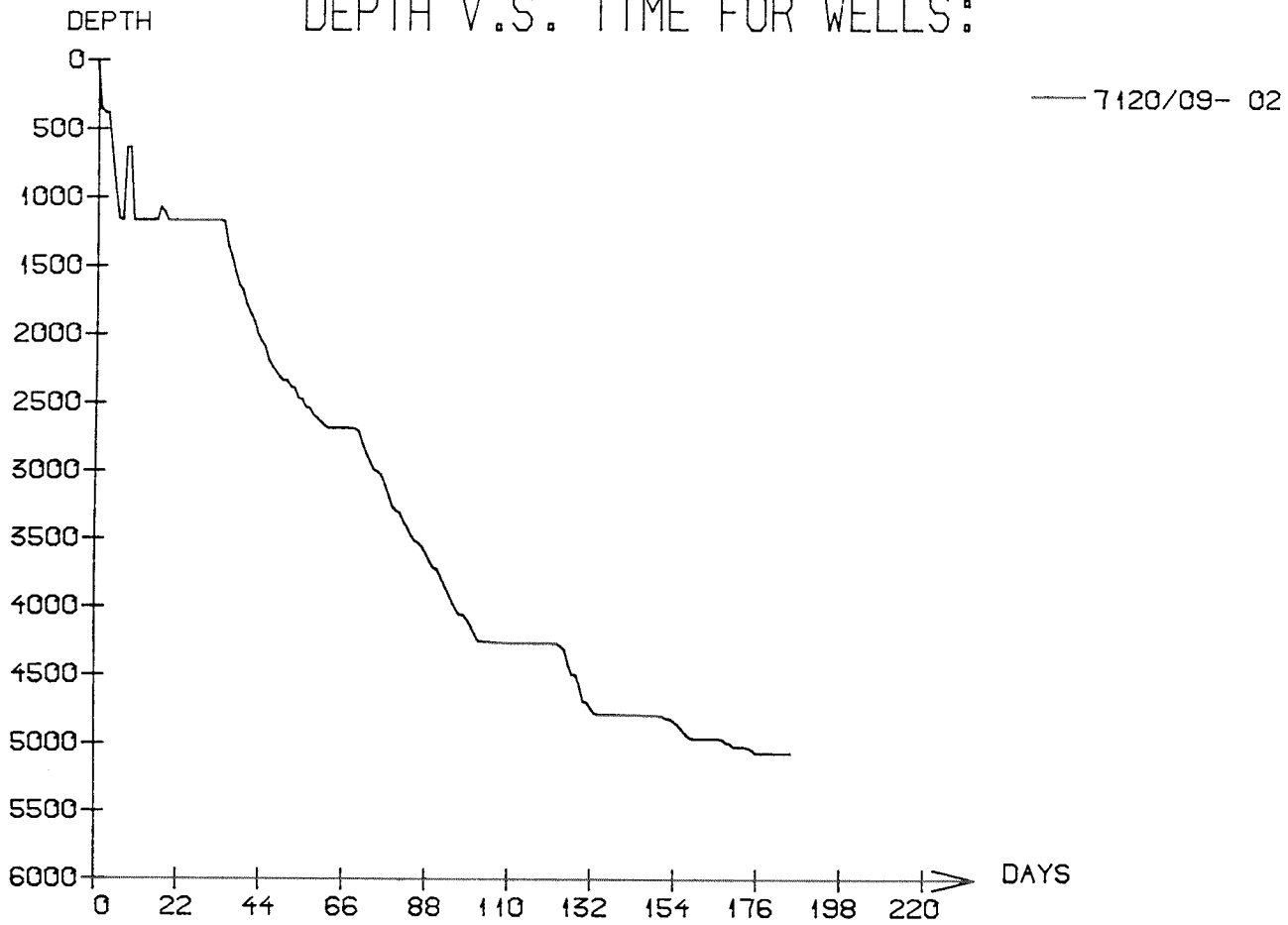
MAIN OPERATION: INTERRUPTION

| Sub operations | Min | % of total |
|----------------|-------|------------|
| MAINTAIN/REP | 6992 | 18.66 |
| FISH | 17490 | 46.67 |
| SIDETRACK | 1770 | 4.72 |
| WAIT | 420 | 1.12 |
| LOST CIRC | 8400 | 22.42 |
| WELL CONTROL | 2400 | 6.40 |
| TOTAL | 37472 | 100.00 |

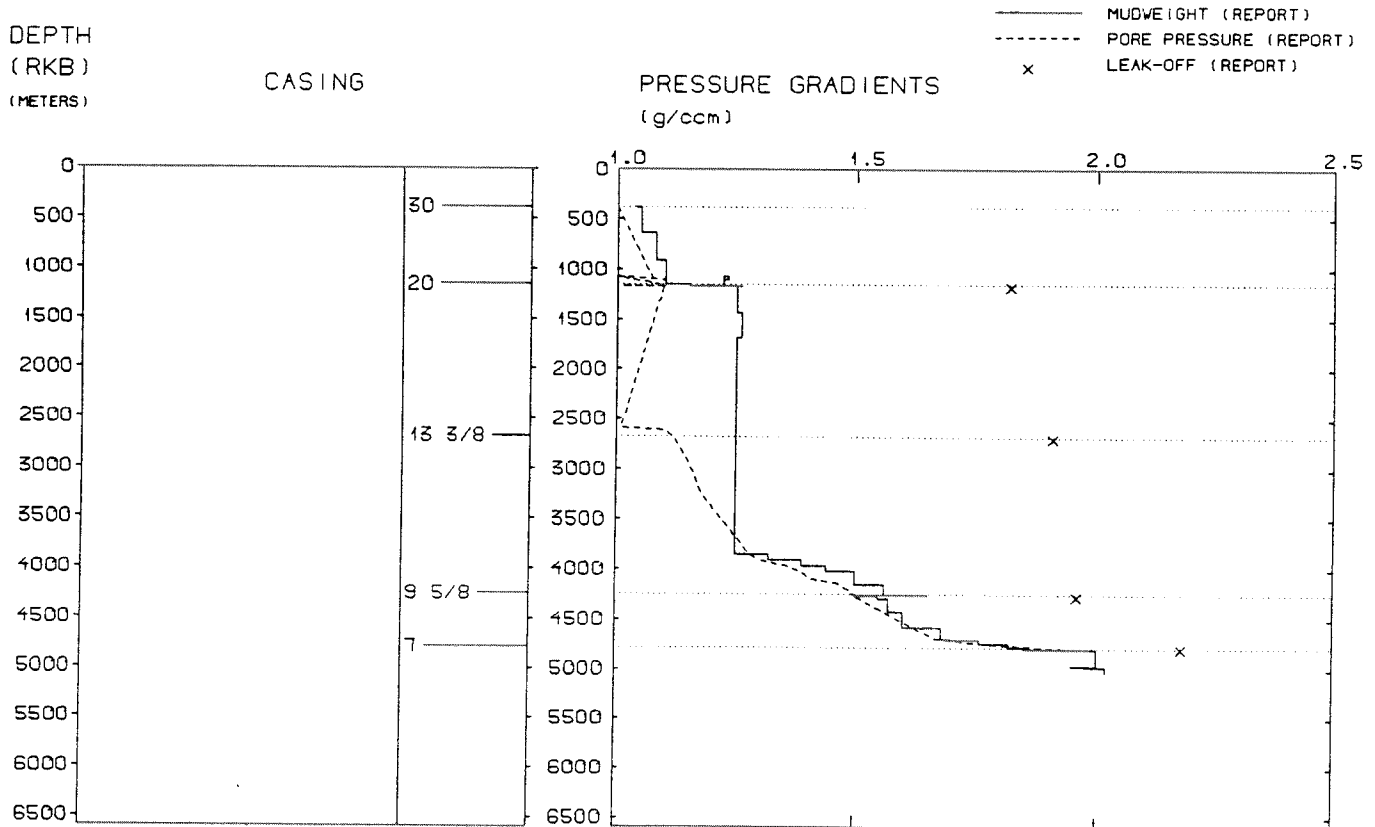
MAIN OPERATION: PLUG & ABANDON

| Sub operations | Min | % of total |
|-----------------|------|------------|
| TRIP | 2910 | 47.55 |
| CIRC/COND | 450 | 7.35 |
| CEMENT PLUG | 510 | 8.33 |
| PERFORATE | 330 | 5.39 |
| MECHANICAL PLUG | 360 | 5.88 |
| SQUEEZE | 300 | 4.90 |
| CUT | 450 | 7.35 |
| EQUIP RECOVERY | 810 | 13.24 |
| TOTAL | 6120 | 100.00 |

DEPTH V.S. TIME FOR WELLS:



WELL: 712009 02 PRESSURE COMPOSITE PLOT



WELL HISTORY - 7120/9-2

GENERAL:

The primary objective of the wildcat 7120/9-2 was to test a Permian reservoir for hydrocarbons. The secondary objectives were to test two possible targets in the Lower Triassic/Upper Permian sequence. The well encountered hydrocarbon bearing sandstones in the Middle/Lower Jurassic and the Triassic. The Permian reservoir was not realised.

OPERATIONS:

The well was spudded 18.04.84 by the semi-submersible rig Treasure Scout. One core was cut in the Permian sequence. A 17 1/2" pilot hole was drilled to 1165 m, before underreaming to 26" hole. The underreamer was lost in the hole, the well was sidetracked at 1070 m. While running the 20" casing, it parted but was recovered. Before drilling the 12 1/4" hole section two cement squeeze jobs were performed due to a low leak off test. Due to lost circulation the 9 5/8" casing was set at 4270 m. Before drilling the 8 3/8" hole section a cement squeeze job was performed due to a low leak off test. Due to lost circulation the 7" liner was set at 4791 m. Two cement squeeze jobs were performed. At 5072 m lost circulation problems occurred, the well was logged and plugged back. The well was drilled using water based mud.

TESTING:

The well was not tested.

GEOLOGICAL TOPS

WELL: 7120/ 9-02

| | <i>Depth m (RKB)</i> |
|-----------------------------|----------------------|
| <i>Nordland Group</i> | 316.000 |
| <i>Sotbakken Group</i> | 380.000 |
| <i>Nygrunnen Group</i> | 1072.000 |
| <i>Nordvestbanken Group</i> | 1097.000 |
| <i>Kolmule Fm</i> | 1097.000 |
| <i>Kolje Fm</i> | 1670.000 |
| <i>Knurr Fm</i> | 1870.000 |
| <i>Teistengrunnen Group</i> | 1906.000 |
| <i>Hekkingen Fm</i> | 1906.000 |
| <i>Fuglen Fm</i> | 1965.000 |
| <i>Realgrunnen Group</i> | 1971.000 |
| <i>Stø Fm</i> | 1971.000 |
| <i>Nordmela Fm</i> | 2048.000 |
| <i>Tubåen Fm</i> | 2156.000 |
| <i>Fruholmen Fm</i> | 2290.000 |
| <i>Ingøydjupet Group</i> | 2552.000 |
| <i>Snadd Fm</i> | 2552.000 |
| <i>Kobbe Fm</i> | 3962.000 |
| <i>Klappmyss Fm</i> | 4245.000 |
| <i>Havert Fm</i> | 4806.000 |
| <i>TD =</i> | 5072.000 |