771-11-2-1

WELLSITE REPORT OF
TOLTEC PEEL RIVER YT N-77
UNIT N. SECTION 77 GRID 6600 134 15
134° 29' 12.00" W.L. 65° 29' 39.00" N.L.

Well
Summary

WELL SUMMARY

Well Name:	Toltec Peel River YT N-77
Permittee, Licencee or Lessee:	United Canso Oil & Gas Ltd., and Alminex Limited.
Operator:	Toltec Mines Limited, 703 - 5th Street SW, Calgary 2, Alberta
Location:	Unique Well Identifier 300N-77-66-00-134-151 Lat. 65°56'46" Long. 134°29'12" Universal Well Loc. Ref. 65.94611°N Lat. 134.48666°W Long.
Co ordinates:	Not Available.
Permit No.:	5714
Drilling Contractor:	(1) Connors Drilling Ltd., and (2) Heath & Sherwood (Western) Limited, Kirkland Lake, Ontario. Rig No.: 1 Rig Type: Diamond Core Rig Canadian Longyear Model 44
Drilling Authority:	No. 321 Dated - August 27, 1968.
Classification:	Wildcat
Elevation:	Ground 480'(?) * K.B. 487'(?)
Spudded:	October 7, 1968 11:15 A.M.
Completed Drilling:	July 19, 1970 4:00 P.M.
Total Depth:	3683'
Well Status:	Abandon - Mechanical Failure.
Rig Released:	July 23, 1970 4:00 P.M.

* Elevation from topographic map.

Hole Size T. D.:	0' - 39'	7 3/8"
	39' - 2036'	3 7/8"
	2036' - 3683'	3 1/4"
Casing:	Conductor Pipe-	39' of 7" set at 46' K. B. with 18 sx cement.
	Surface Casing -	421.08' J-55 9 1/2# set at 429.08' K. B. with 55 sx cement plus 150# CaCl.

ZONE DRILLING TERMINATED: Devonian (Fort Creek Shale)

SAMPLES: Samples in 10 foot intervals from 450 feet.

DRILLING FLUID: Black Magic oil base fluid supplied by Milchem.

CORES: Well was cored from 985' to T. D.

LOGS: No logs were run due to deteriorated hole conditions.

ABANDONMENT PLUGS:

	Interval	Cement Sx.	Felt Plug
Plug 1	3000-3100	6	Not Req'd.
Plug 2	370- 470	10	365'

Surface casing was cut off 3' below ground level & a steel plate welded over open end of casing. A five sx cement plug was mixed and placed over the steel plate.

Erected identification marker.

Geological
Information

GEOLOGICAL INFORMATION

	FORMATION	DEPTH	SUB-SEA EL.
FORMATION TOPS:	Fort Creek Shale	30' ?	+457'

SAMPLE DESCRIPTION

450-60 Shale, dark grey to dark brown in part petroliferous pyritic, silty & micaceous, silty & pyritic shale (80-85%), siltstone, dark grey, argillaceous, hard. (10%), Pyrite - (3-5%)
(Reconstruction of strata from samples would suggest stringers of silt and argillaceous silt in shale that is in part petroliferous & has stringers nodules & dissiminated pyrite. Deposition was in a reducing environment).

470 As above with slickenside on some shale.

480 As above less slickenside. Trace of shale showes carbonized "Grass".

500 Shale: dark grey to dark brown in part petroliferous pyritic, silty & micaceous 95%
Siltstone: dark grey, highly argillaceous - (2-3%)
Sandstone: white, fine to med. grained tightly cemented with siliceous cement - (trace).

510 Shale & Siltstone as above 95%.
Microbreccia: white to pink with soft chalky matrix.

520 As above less microbreccia.

530 Shale & Siltstone as above plus .. trace of black sub rounded chert pebels up to 5 mm in diameter. Siltstone becoming more abundant.

540 Siltstone: dark grey, argillaceous, arenaceous, pyritic & calcareous - very hard (95%)
Shale: as above (5%)

580 Siltstone & Shale as above in approx. equal amounts.

590 Shale: dark grey, hard, slightly silty & petroliferous in part. Bands of disiminated pyrite cyrstals common throughout samples. Trace of slickenside. (95%)
Siltstone: dark tan to dark grey slightly calcareous & pyritic (5%)

600 Shale: as above trace of slickenside (96-98%)
Chert: black - (noduel fragments) (trace)
Siltstone: as above (trace)

620 Shale: as above (95%)
Chert: black with very small milk-white dots. (5%)

630 Shale & Chert as above.
Sandstone: dark grey brown, fine to very fine grained, cemented with calcite, argillaceous silty & petroliferus. (less than 5%)

650 Shale & Chert as above.
Fracturs in shale are lines with clear quartz terminating in euhedral crystals with petroliferous inclutions.

660 Shale & Chert as above.

680 " " " "

690 As above with limestone increasing to 10 to 15%. The limestone has higher percentage of earthy matrix than above sample.

700 Shale & Chert as above with trace of dog tooth calcite.

710 Shale & Chert as above.

750 Shale as above, but somewhat softer.

770 Shale as above, plus chert, dull black.

790 Shale as above.
Limestone: dark brown, fine to very fine skeletal (?)
Cemented with calcite, argillaceous & petroliferous (5%)

800 Shale & Limestone as above.
L.S. increasing to (15%)

810 Shale as above.

Samples between 830 & 950 are poor due to poor sampling of drill cuttings from the diamond bit. However, the cuttings were of shale as above with a trace of siltstone that may not have been in place.

950-80 Shale: dark grey, hard, petroliferous, pyritic & probably siliceous grading to chert (95%).
Chert: dark grey, dull (may be siliceous shale) (5%).

Core No. 1 985- 995 Rec. 10'
Shale: Dark grey to black, hard, petroliferous, pyritic with very small nodules (3 MM) & highly siliceous (previously logged as chert) grading to argillaceous chert? Core is highly fractured with hairline vertical & diagonal open fractures. Some exhibiting slickenside. Core is sporatically inbedded with inclusions seldom larger than 2 MM of tan fine to medium grained skeletal limestone with a chalky matrix. Trace of horizontal poker chip bedding.

Core No. 2 995-1005 Rec. 10'
Shale as above.

Core No. 3 1005-1015 Rec. 10'
As above.

Core No. 4 1015-1025 Rec. 10'
As above with fewer fractures
Fewer limestone inclusions & legs siliceous shale.

Core No. 5 1025-1035 Rec. 10'
As above.

Core No. 6 1035-1045 Rec. 10'
As above.

Core No. 7 1045-1055 Rec. 10'
As above.

Core No. 8 1055-1065 Rec. 10'
As above.

Core No. 9 1065-1075 Rec. 10'
As above.

Core No. 10 1075-1085 Rec. 10'
As above.

Core No. 11 1085-1095 Rec. 10'
As above with increase in fractures.

Core No. 12 1095-1105 Rec. 10'
Shale as above with fewer fractures - Fractures for most part have held with coarse white blades of crystallin calcite. Core is spotted with thin bands (up to 1" thick) dark gray, highly argillaceous & silty mcaceous fine to very fine angular.
Grained sandstone - tight.

Core No. 13 1105-1115 Rec. 10'
As above.

Core No. 14 1115-1125 Rec. 10'
Shale as above. Little or no sand. Horiz. bedding.

Core No. 15 1125-1132 Rec. 6'
As above. Core jammed at 1132.

Core No. 16 1132-1142 Rec. 10'
As above with bands of argillaceous
Silty fine to med. angular grained sandstone.
Bedding Plane = 25° Change from horiz.
to 25° appears to be at 1137.

Core No. 17 1142-1152 Rec. 10'
4' shale: as above with dip changing from horiz.
to 25° at 1143.
6' sandstone: dark grey, fine to med. angular grained
silty & highly argillaceous & slightly
calcareous, tight & hard.

Core No. 18 1152-1162 Rec. 10'
2 · Siltstone: Dark grey, highly argillaceous
& siliceous, hard bedding dip of 25° slickenside
8 · Shale as above very hard. Horizontal bedding.
Shale appears silty in part. Highly siliceous - Chert

Core No. 19 1162-1172 Rec. 10'
Shale as above sparsly fractured.

Core No. 20 1172-1182 Rec. 10'
As Above.

Core No. 21 1182-1192 Rec. 10'
As Above.

Core No. 22 1192-1202 Rec. 10'
As Above.

Core No. 23 1202-1212 Rec. 10'
As Above.

Core No. 24 1212-1219 Rec. 7'
As Above.

Core No. 25 1219-1227 Rec. 8'
As above.

Core No. 26 1227-1237 Rec. 10'
As Above.

Core No. 27 1237-1247 Rec. 10'
As Above.

Core No. 28 1247-1253 Rec. 6'
As Above.

1260:
Shale: Dark grey, pyritic & petroliferous. Siliceous grading to chert. (sample fine grained. Cut with diamond plug.) Trace slickenside & pyrite.

1310:
As above plus trace of clear coarse crystal blades of calcite.

1320:
As above plus trace of dogtooth spar.

1340:
As above less spar.

1380:
As above plus dogtooth spar.trace.

1400:
As above less dogtooth spar trace.

1460:
As above plus dogtooth spar trace.

Core No. 29 1476-1486 Rec. 10'
Shale: dark grey, pyritic, petroliferous, siliceous grading to chert (?) with lenses or hard argillaceous. Very fine grained, skeletal limestone, core sporatically fractured with short (up to one foot) vertical & diagonal fractures. Most fractures are open. Closed fractures are healed with white calcite. Horizontal bedding.

Core No. 30 1486-1496 Rec. 9.6'
As above.

Core No. 31 1496-1506 Rec. 10'
As Above. Less fracturing & limestone.

Core No. 32 1506-1516 Rec. 9.7'
As Above. Slightly calcareous in part.

Core No. 33 1516-1526 Rec. 10'
As above. Becoming more calcareous.

Core No. 34 1526-1536 Rec. 10'
Shale: as above. Lime content of core is not uniform & can be seen to change within the paper thin caminations of the core.

Core No. 35 1536-1546 Rec. 9.5'
As above.

Core No. 36 1546-1556 Rec. 10'
As above.

Core No. 37 1556-1566 Rec. 9.7'
As above.

Core No. 38 1566-1576 Rec. 10'
As above.

Core No. 39 1576-1586 Rec. 10'
As above plus thin bands of scattered skeletal debris - may be crinoid fragments.

Core No. 40 1586-1596 Rec. 10'
Shale as above with streaks of very fine to fine grained, dark brown, highly argillaceous limestone. Limestone may be skeletal - streaks up to 1' wide.

Core No. 41 1596-1606 Rec. 10'
As Above. Shale becoming softer & flaky in streaks near base.

Core No. 42 1606-1616 Rec. 10'
As Above.

Core No. 43 1616-1626 Rec. 10'
As Above.

Core No. 44 1626-1634 Rec. 8'
3' · Shale: Dark grey. Pyritic & calcareous alternations of paper thin soft & hard (siliceous)
5' · Limestone: As above showing false bedding plans dips up to 40°.

Core No. 45 1634-1644 Rec. 10'
3.4' Limestone: As above with false & cross bedding.
1.4' Shale: dark grey, calcareous, pyritic with scattered skeletal deris
1.2' Limestone: As above with flow structures.
3.6' Shale: Dark grey, pyritic, calcareous with alternating paper thin hard & thin paper thin layers.
.4' Limestone: As above.

Core No. 46 1644-1654 Rec. 10'
.7' Shale: As above.
1.8' Limestone: As Above.
4.4' Shale: As Above.
1.0' Limestone: As above.
2.1' Shale: As Above.

Core No. 47 1654-1664 Rec. 10'
3.0' Shale: As Above
1.7' Limestone: As Above
1.2' Shale: As Above
1.0' Limestone: As Above
.8' Shale: As Above
.9' Limestone: As Above
1.8' Shale: As Above

Core No. 48 1664-1674 Rec. 10'
3.8' Shale: As Above
0.5' Limestone: As Above
4.0' Shale: As Above
.5' Limestone: As Above
1.2' Shale: As Above

Core No. 49 1674-1684 Rec. 9.6'
1.0' Shale as above
0.8' Limestone: As Above
3.3' Shale: As Above
0.4' Limestone: As Above
4.1' Shale: As Above

Core No. 50 1684-1694 Rec. 10'
Shale: black, thinnly bedded with alternate layers of hard & soft platy layers; pyritic, non-calcareous for most part.

Core No. 51 1694-1704 Rec. 10'
Shale: As Above with a 5" stringers of limestone as above one foot from base of core.

Core No. 52 1704-1714 Rec. 10
Shale: As Above with 5" stringer of limestone as above 3' from top of core. Shale becoming softer in places.

Core No. 53 1714-1724 Rec. 10'
Shale: As Above with an eight inch limestone as above streak five feet from top of core. Shale slightly calcareous & becoming softer in part.

Core No. 54 1724-1734 Rec. 10'
Shale: As Above with 2.5' limestone (as above) streak 4½ feet from top of core.
Shale slightly calcareous.

Core No. 55 1734-1744 Rec. 10'
Shale: As Above with scattered thin (up to 4") bands of limestone as above. Some diagonal fracturing & slickenside.

Core No. 56 1744-1754 Rec. 9'
As Above.

Core No. 57 1754-1764 Rec. 10'
Shale: dark gray, very slightly pyritic & slightly calcareous solft may be bentonitic in part.
Forms thin "poker chips" in part.
Few thin limestone (as above) stringers.

Core No. 58 1764-1768 Rec. 4'
As Above.

Core No. 59 1768-1771 Rec. 3'
Shale: dark gray, thinnly bedded, slightly calcaeous & fairly hard but not as hard as the siliceous petroliferous shales higher in the section.

Core No. 60 1771-1781 Rec. 10'
Shale: dark gray, thinnly bedded, slightly calcareous, soft, bentonitic in part with thin stringers (up to 4") of microgranined highly argillaceous limestone.

Core No. 61 1781-1791 Rec. 10'
As Above.

Core No. 62 1791-1801 Rec. 10'
As Above.

Core No. 63 1801-1811 Rec. 10'
As above, very little to no bentonite.

Core No. 64 1811-1821 Rec. 10'
As Above.

Core No. 65 1821-1831 Rec. 10'
Shale: as above with hard calcareous bands throughout.
Shale harder with only trace of bentonitic shale.

Core No. 66 1831-1841 Rec. 10'
Shale as above with thin laminations (approx 1 mm) of micrograined highly argillaceous limestone showing cross bedding & flow structures. Limestone content between 20%-30%.

Core No. 67 1841-1851 Rec. 10'
As Above.

Core No. 68 1851-1861 Rec. 10'
As Above.

Core No. 69 1861-1871 Rec. 10'
As Above.

Core No. 70 1871-1881 Rec. 10'
As Above.

Core No. 71 1881-1891 Rec. 10'
As Above.

Core No. 72 1891-1901 Rec. 10'
As Above.

Core No. 73 1901-1911 Rec. 10'
As Above.

Core No. 74 1911-1921 Rec. 10'
As Above.

Core No. 75 1921-1932 Rec. 10' (Plus 1' correction)
As Above.

Core No. 76 1932-1942 Rec. 10'
As Above with flow structure more pronounced.

Core No. 77 1942-1952 Rec. 10'
As Above.

Core No. 78 1952-1962'2" Rec. 10'2"
As Above with a little less limestone than in previous cores.

Core No. 79 1962'2"-1972'5" Rec. 10'3"
As Above with a little more limestone.
(5% to 10%)

Core No. 80 1972'5"-1982'6" Rec. 10'1"
As Above.

Core No. 81 1982'6"-1993 Rec. 10'6"
As Above with very few limestone stringers
(less than 5%)

Core No. 82 1993-2003 Rec. 10'
As Above.

Core No. 83 2003-2013 Rec. 10'
As Above.

Core No. 84 2013-2023 Rec. 10'
As Above.

Core No. 85 2023-2033 Rec. 10'
Shale: as above with approx. 35% of core composed of micrograined highly argillaceous limestone laminated with the dark gray calcareous shale. The laminations ranged from 1 mm. to 4 inches wide. Horizontal bedding prevails with some cross bedding & flow structures.

Core No. 86 2033-2042 Rec. 10'
As Above with 5% limestone.

Core No. 87 2043-2053 Rec. 10'
As Above less than 5% limestone.

Core No. 88 2053-2063 Rec. 10'
As Above. Limestone between 5-10%.

Core No. 89 2063-2073 Rec. 10'
Shale as above. Limestone less than 5%
Uniform bedding between 9^{o} to 11^{o}.

Core No. 90 2073-2083 Rec. 10'
As Above.

Core No. 91 2083-2093 Rec. 10'
As Above.

Core No. 92 2093-2103 Rec. 10'
As Above bedding between -3^{o}-5^{o}

Core No. 93 2103-2112 Rec. 10'
As Above bedding between 9^{o} & 12^{o}
One 4" band of tan dolomitic fine grained sparry limestone.
Argillaceous limestone as above, less than 5%.

Core No. 94 2113-2123 Rec. 10'
As Above with argillaceous limestone making up
20-25% of core. 2 thin (3-5 mm) stringers of dolomitic
limestone as above. Horizontal bedding.

Core No. 95 2123-2133 Rec. 10'
Shale as above with trace of argillaceous limestone
as above (less than 5%).

Core No. 96 2133-2143 Rec. 10'
As Above.

Core No. 97 2143-2153 Rec. 10'
Shale as above. (No limestone).

Core No. 98 2153-2163 Rec. 10'
As Above with a 5^{o} bedding plane.

Core No. 99 2163-2173 Rec. 10'
As Above.

Core No. 100 2173-2183 Rec. 10'
Shale as above with near horizontal bedding.

Core No. 101 2183-2193 Rec. 10'
As Above.

Core No. 102 2193-2203 Rec. 10'
As Above.

Core No. 103 2203-2213 Rec. 10'
As Above with 10^{o} - 12^{o} bedding dip.

Core No. 104 2213-2223 Rec. 10'
As Above.

Core No. 105 2223-2233 Rec. 10'
As Above.

Core No. 106 2233-2243 Rec. 10'
As Above.

Core No. 107 2243-2253 Rec. 10'
As Above with few thin bands of tan fine skeletal grained sparry slightly argillaceous & delomitic limestone three feet from base of core .
Horizontal bedding.

Core No. 108 2253-2263 Rec. 10'
As Above with the limestone making up less than 1%.

Core No. 109 2263-2268 Rec. 5'
Sha Shale as above with the limestone making up less than 1%. Cross bedding & flow structures.

Core No. 110 2268-2277 Rec. 9'
Shale as above with trace of limestone bedding plane of 18 degrees.

Core No. 111 2277-2287 Rec. 10'
As Above bedding plane horizontal to 12".

Core No. 112 2287-2297 Rec. 10'
As Above.

Core No. 113 2297-2307 Rec. 10'
As Above with flow structures.

Core No. 114 2307-2317 Rec. 10'
As Above with diagonal bands of tan very fine grained argillaceous limestone in lower three feet of core.

Core No. 115 2317-2327 Rec. 10'
As Above with diagonal limestone as above throughout core (22 diagonal bands).

Core No. 116 2327-2337
As Above (with 16 diagonal bands) bedding dip = 15^{o}

Core No. 117 2337-2347 Rec. 10'
As Above (with 35 diagonal limestone bands)
Bedding dip: 15°

Core No. 118 2347-2357 Rec. 10'
Shale: dark gray, dull, calcareous, somewhat softer than shale above. There is no distinct bedding although core crumbles along the diagonal. Crumbling appears to be caused by depositional conditions that gives a "dumpping" structure. Core is cut by 36 diagonally contourted bands of tan very fine grained argillaceous limestone.

Core No. 119 2357-2367 Rec. 10'
Shale: dark gray, calcareous with numerous bands of tan argillaceous limestone. Bedding dip of 15°. The core also has "dumpping" structure as above. (with 62 diagonal limestone bands).

Core No. 120 2367-2377 Rec. 10'
As Above (with 32 diagonal limestone bands).

Core No. 121 2377-2387 Rec. 10'
As Above (with 27 diagonal limestone bands).

Core No. 122 2387-2397 Rec. 10'
As Above. (with 37 diagonal limestone bands).

Core No. 123 2397-2407 Rec. 10'
As Above. (with 19 diagonal limestone bands).

Core No. 124 2407-2417 Rec. 10'
As Above (with 5 diagonal limestone bands).
One 8' open diagonal fracture 5' from top of core.

Core No. 125 2417-2427 Rec. 10'
Shale as above with cross bedding. Bedding dips between horizontal & 10° (with 16 diagonal limestone bands).

Core No. 126 2427-2437 Rec. 10'
Shale as above (with 5 diagonal limestone bands)

Core No. 127 2437-2447 Rec. 10'
Shale as above with 16° bedding dip & flow structures. (20 diagonal limestone bands).

Core No. 128 2447-2457 Rec. 10'
5.5' Shale as above (with 13 diagonal to horizontal limestone bands)
4.5' Shale dark gray very hard, highly calcareous massive bedding.

Core No. 129 2457-2467 Rec. 10'
Shale: dark gray, calcareous, with thin bands of tan argillaceous limestone & thin bands of soft bentonitic shale. Gross bedding & flow structures.

Core No. 130 2467-2477 Rec. 10'
As Above.

Core No. 131 2477-2487 Rec. 10'
As Above with horizontal bedding.

Core No. 132 2487-2497 Rec. 10'
Shale: dark gray, calcareous with thin bands of micro-grained, argillaceous, tan, limestone & a few specks & thin bands of tan very fine to coarse grained skeletal recrystallized, argillaceous limestone. Cross bedding & flow structures throughout core.

Core No. 133 2497-2507 Rec. 10'
As Above.

Core No. 134 2507-2513 Rec. .6'
Shale: dark gray, calcareous with trace of limestone. Bedding horizontal to approx. 3°.

Core No. 135 2513-2527 Rec. 4.5'
Shale: as above.

Core No. 136 2527-2537 Rec. 10'
As Above.

Core No. 137 2537-2547 Rec. 10'
As Above.

Core No. 138 2547-2555'11" Rec. 8'11"
As Above. Bedding - horizontal with flow structures.

Core No. 139 2555'11"-2566 Rec. 10'1"
As Above & cross-bedding.

Core No. 140 2566-2576 Rec. 10'
As Above.

Core No. 141 2576-2586 Rec. 10'
As Above.

Core No. 142 2586-2596 Rec. 10'
As Above.

Core No. 143 2596-2606 Rec. 10'
As Above.

Core No. 144 2606-2616 Rec. 10'
As Above.

Core No. 145 2616-2626 Rec. 10'
As Above.

Core No. 146 2626-2636 Rec. 10'
As Above.

Core No. 130 2467-2477 Rec. 10'
As Above.

Core No. 131 2477-2487 Rec. 10'
As Above with horizontal bedding.

Core No. 132 2487-2497 Rec. 10'
Shale: dark gray, calcareous with thin bands of micro-grained, argillaceous, tan, limestone & a few specks & thin bands of tan very fine to coarse grained skeletal recrystallized, argillaceous limestone. Cross bedding & flow structures throughout core.

Core No. 133 2497-2507 Rec. 10'
As Above.

Core No. 134 2507-2513 Rec. 6'
Shale: dark gray, calcareous with trace of limestone. Bedding horizontal to approx. 3^{o}.

Core No. 135 2513-2527 Rec. 4.5'
Shale: as above.

Core No. 136 2527-2537 Rec. 10'
As Above.

Core No. 137 2537-2547 Rec. 10'
As Above.

Core No. 138 2547-2555'11" Rec. 8'11"
As Above. Bedding - horizontal with flow structures.

Core No. 139 2555'11"-2566 Rec. 10'1"
As Above & cross-bedding.

Core No. 140 2566-2576 Rec. 10'
As Above.

Core No. 141 2576-2586 Rec. 10'
As Above.

Core No. 142 2586-2596 Rec. 10'
As Above.

Core No. 143 2596-2606 Rec. 10'
As Above.

Core No. 144 2606-2616 Rec. 10'
As Above.

Core No. 145 2616-2626 Rec. 10'
As Above.

Core No. 146 2626-2636 Rec. 10'
As Above.

Core No. 147 2636-2646 Rec. 10'
As Above.

Core No. 148 2646-2656 Rec. 10'
As Above.

Core No. 149 2656-2666 Rec. 10'
As Above.

Core No. 150 2666-2671 Rec. 5'
As Above.

Core No. 151 2671-2681 Rec. 10'
As Above.

Core No. 152 2681-2691 Rec. 10'
As Above. (L.S. streaks wider)

Core No. 153 2691-2701 Rec. 10'
As Above.

Core No. 154 2701-2711 Rec. 10'
As Above.

Core No. 155 2711-2721 Rec. 2'
As Above.

Core No. 156 2721-2731 Rec. 10'
As Above with horizontal bedding.

Core No. 157 2731-2741 Rec. 10'
As Above. Becoming more calcareous.

Core No. 158 2741-2751 Rec. 10'
As Above with more streaks of tan micro-grained argillaceous limestone. Limestone approx. 20% of core.

Core No. 159 2751-2761 Rec. 7.4'
As above.

Core No. 160 2761-2764 Rec. 2.4'
As Above with only trace of limestone streaks. Less than 1%.

Core No. 161 2764-2774 Rec. 7'
As Above.

Core No. 162 2774-2784 Rec. 10'
As Above.

Core No. 163 2784-2794 Rec. 10'
As above with few diagonal stringers of micro-grained limestone. Bedding horizontal.

Core No. 147 2636-2646 Rec. 10'
As Above.

Core No. 148 2646-2656 Rec. 10'
As Above.

Core No. 149 2656-2666 Rec. 10'
As Above.

Core No. 150 2666-2671 Rec. 5'
As Above.

Core No. 151 2671-2681 Rec. 10'
As Above.

Core No. 152 2681-2691 Rec. 10'
As Above. (L.S. streaks wider)

Core No. 153 2691-2701 Rec. 10'
As Above.

Core No. 154 2701-2711 Rec. 10'
As Above.

Core No. 155 2711-2721 Rec. 2'
As Above.

Core No. 156 2721-2731 Rec. 10'
As Above with horizontal bedding.

Core No. 157 2731-2741 Rec. 10'
As Above. Becoming more calcareous.

Core No. 158 2741-2751 Rec. 10'
As Above with more streaks of tan micro-grained argillaceous limestone. Limestone approx. 20% of core.

Core No. 159 2751-2761 Rec. 7.4'
As above.

Core No. 160 2761-2764 Rec. 2.4'
As Above with only trace of limestone streaks. Less than 1%.

Core No. 161 2764-2774 Rec. 7'
As Above.

Core No. 162 2774-2784 Rec. 10'
As Above.

Core No. 163 2784-2794 Rec. 10'
As above with few diagonal stringers of micro-grained limestone. Bedding horizontal.

Core No. 164 2794-2804 Rec. 10'
As Above less diagonal streaks of limestone.

Core No. 165 2804-2814 Rec. 10'
As Above with thin open fractures in basal three feet.

Core No. 166 2814-2824 Rec. 10'
As above less fractures.

Core No. 167 2824-2834 Rec. 10'
As above.

Core No. 168 2834-2842 Rec. 8'
As above becoming more calcareous in part.
Flow structures.

Core No. 169 2842-2852 Rec. 9.6'
As above with 4.5' foot section.
(2846-2850.5') composed of alternating layers between 1 mm & 6 mm thick of dark gray calcareous shale & tan micro-grained argillaceous limestone.

Core No. 170 2852-2862 Rec. 4.7'
Shale as above with cross bedding with dips to 18°
& flow structures.

Core No. 171 2862-2872 Rec. 10'
As Above.

Core No. 172 2872-2882 Rec. 10'
Shale: dark gray, calcareous with horizontal bedding.

Core No. 173 2882-2892 Rec. 10'
As above with several streaks of tan micro-grained argillaceous limestone & flow structures.

Core No. 174 2892-2902 Rec. 10'
As Above.

Core No. 175 2902-2912 Rec. 10'
As Above.

Core No. 176 2912-2922 Rec. 10'
As Above.

Core No. 177 2922-2932 Rec. 10'
As Above.

Core No. 178 2932-2942 Rec. 10'
As Above.

Core No. 179 2942-2952 Rec. 10'
As Above.

Core No. 180 2952-2962 Rec. 10'
As Above.

Core No. 181 2962-2972 Rec. 10'
As Above.

Core No. 182 2972-2982 Rec. 10'
As Above.

Core No. 183 2982-2992 Rec. 10'
As Above.

Core No. 184 2992-3002 Rec. 10'
As Above.

Core No. 185 3002-3012 Rec. 10'
As Above with trace of bentonitic shale & slickenside.

Core No. 186 3012-3022 Rec. 10'
As Above.

Core No. 187 3022-3032 Rec. 10'
As Above.

Core No. 188 3032-3042 Rec. 10'
As Above less bentonitic shale. Tan limestone streaks as above more abundant. Approx. 10% of core.

Core No. 189 3042-3052 Rec. 10'
As Above L.S. approx. 5% or less.

Core No. 190 3052-3062 Rec. 10'
As above with trace of bentonitic shale.

Core No. 191 3062-3072 Rec. 10'
As above with only occational L.S. streak.

Core No. 192 3072-3082 Rec. 10'
As above with few short (4"- 5") vertical fracture. Shale more bentonitic.

Core No. 193 3082-3092 Rec. 10'
As Above.

Core No. 194 3092-3102 Rec. 10'
As Above with one open diagonal fracture at top of core lines with coarse clear euhedrals of calcite.

Core No. 195 3102-3112 Rec. 10'
Shale as above, with dump structures, that show irregular distorted bedding & crumbles when broken.

Core No. 196 3112-3122 Rec. 10'
Shale as above.

Core No. 197 3122-3128 Rec. 5'
Shale: dark gray, slightly calcareous with few thin L.S. stringers as above. Horizontal bedding. Trace slicken side.

Core No. 198 3128-3137 Rec. 9'
Shale as above badly fractured throughout.

Core No. 199 3137-3147 Rec. 10'
Shale as above with fractures dieing out in lower four feet. Bedding approx. 12^{o}.

Core No. 200 3147-3157 Rec. 10'
Shale as above less fractures.

Core No. 201 3157-3167 Rec. 10'
Shale as above, with diagonal fracture in bottom foot. Bedding approx. 4^{o}.

Core No. 202 3167-3177 Rec. 10'
Shale as above no fracturing.
Bedding horizontal.

Core No. 203 3177-3187 Rec. 10'
Shale as above with flow structures & perhaps drag folding. Some slicken side.

Core No 204 3187-3197 Rec. 7'
Shale: as above, more calcareous. Horizontal bedding. Horizontal & near horizontal slicken side.

Core No. 205 3197-3207 Rec. 10'
As Above with 12^{o} - 15^{o} bedding plane.

Core No. 206 3207-3217 Rec. 10'
As Above. Less conspicuous slicken side.

Core No. 207 3217-3227 Rec. 10'
As Above.

Core No. 208 3227-3237 Rec. 10'
Shale as above with diagonal & horizontal slicken side plane very abundant in lower three feet.

Core No. 209 3237-3247 Rec. 10'
Shale as above with 12^{o} - 15^{o} bedding plane with few diagonal (in bedding) slicken side planes in upper two feet.

Core No. 210 3247-3257 Rec. 10'
Shale as above less conspicuous slicken side.

Core No. 228 3427-3437 Rec. 10'
As Above.

Core No. 229 3437-3447 Rec. 10'
As Above.

Core No. 230 3447-3457 Rec. 10'
As Above.

Core No. 231 3457-3467 Rec. 10'
As Above.

Core No. 232 3467-3477 Rec. 10'
As Above.

Core No. 233 3477-3487 Rec. 10'
As above with open diagonal fractures in lower foot of core.

Core No. 234 3487-3491 Rec. 4'
Shale as above less fracture.

Core No. 235 3491-3501 Rec. 10'
Shale as above with few vertical fractures.

Core No. 236 3501-3503 Rec. 2'
Shale as above.

Core No. 237 3503-3513 Rec. 10'
Shale as above.

Core No. 238 3513-3517 Rec. 4'
Shale as above.

Core No. 239 3517-3523 Rec. 6'
Shale, as above, (black with abundant medium grey bands, inclusions (50-50)

Core No. 240 3523-3533 Rec. 10'
Core essentially as above. In part slight dip. Shale is micronucorceous. Horizontal bedding.

Core No. 241 3533-3553 Rec. 20' (a & b)
Pred. shale as above, with ± 12" break, 5' from bottom. 1' limy shale, hard with pyrite and traces fine fossil remains. Crinoid discs?

Core No. 242 3553-3574 Rec. 20' (a & b)
Black shale as above high angle fracturing and horizontal wafers common. Wire line creeps a few inches each trip, making 3574 rather than 3573.

Core No. 243 3574-3594 Rec. 20' (a & b)
20' shale as above.

Core No. 211 3257-3267 Rec. 10'
Shale as above trace diagonal slicken side.

Core No. 212 3267-3277 Rec. 10'
As Above.

Core No. 213 3277-3287 Rec. 10'
As Above.

Core No. 214 3287-3297 Rec. 10'
As Above.

Core No. 215 3297-3307 Rec. 10'
As above with a 4^{o} bedding plane.

Core No. 216 3307-3317 Rec. 10'
As Above.

Core No. 217 3317-3327 Rec. 10'
As Above.

Core No. 218 3327-3337 Rec. 10'
Shale as above with a bedding plane dip of 20^{o} - 25^{o} (cross-bedding & flow structure)

Core No. 219 3337-3347 Rec. 10'
Shale as above with a bedding plane dip of 12^{o}- 27^{o}.

Core No. 220 3347-3357 Rec. 10'
Shale as above. Bedding horizontal to 12^{o}.

Core No. 221 3357-3367 Rec. 10'
As Above.

Core No. 222 3367-3377 Rec. 10'
As above with numerous thin bands of tan argillaceous micro-grained L.S. flow structures.

Core No. 223 3377-3387 Rec. 10'
As Above.

Core No. 224 3387-3397 Rec. 10'
As Above.

Core No. 225 3397-3407 Rec. 10'
As above with vertical fractures sealed with white micro-crystallin calcite. Bedding appears horizontal with horizontal slicken side.

Core No. 226 3407-3417 Rec. 10'
As Above less fractures.

Core No. 227 3417-3427 Rec. 10'
As Above with horizontal & diagonal slicken side.

Core No. 244 3594-3614 Rec. 20'
Same as above.

Core No. 245 3614-3634 Rec. 20' (a & b)
Shale as above, dense, compact, dark grey, separates into thin wafers.

Core No. 246 3634-3640 Rec. 6'
Shale, alt. bands hard & soft shale, bll plugged.

Core No. 247 3640-3657 Rec. 17'
Shale, dark grey as above.

Core No. 248 3657-3669 Rec. 12'
Shale as above with thin bands blads shale.

Core No. 249 3669-3674 Rec. 5'
Shale as above.

Core No. 250 3674-3682 Rec. 8'
Shale, dark grey, compact, hard. breaks into thin $\pm$ 1" wafers, showing horizontal bedding between alternating hard med. grey & dark grey thin beds.

Core No. 251 3683
TD 3683

Litho-Log &
Drilling Time

SAMPLE DESCRIPTIONS AND FORMATION TOPS

WELL: [illegible] PEEL RIVER YT N-11

LOCATION: 65° 56' 46.00

ELEVATION: GROUND 783 KB 787

[illegible]

500

[illegible]

600

[illegible]

SHALE & CHERT AS ABOVE [illegible]

[illegible]

S & CHERT AS ABOVE + TRACE DOG TOOTH SPAR

700

800

10

20

30

40

SAMPLE RETURNS BETWEEN 830-840
MAY NOT BE REPRESENTATIVE OF
SECTION CUT BY DIAMOND BLT. IT
IS BELIEVED THAT AIRLINE [illegible]
[illegible] RETURNS [illegible] ONLY

50

60

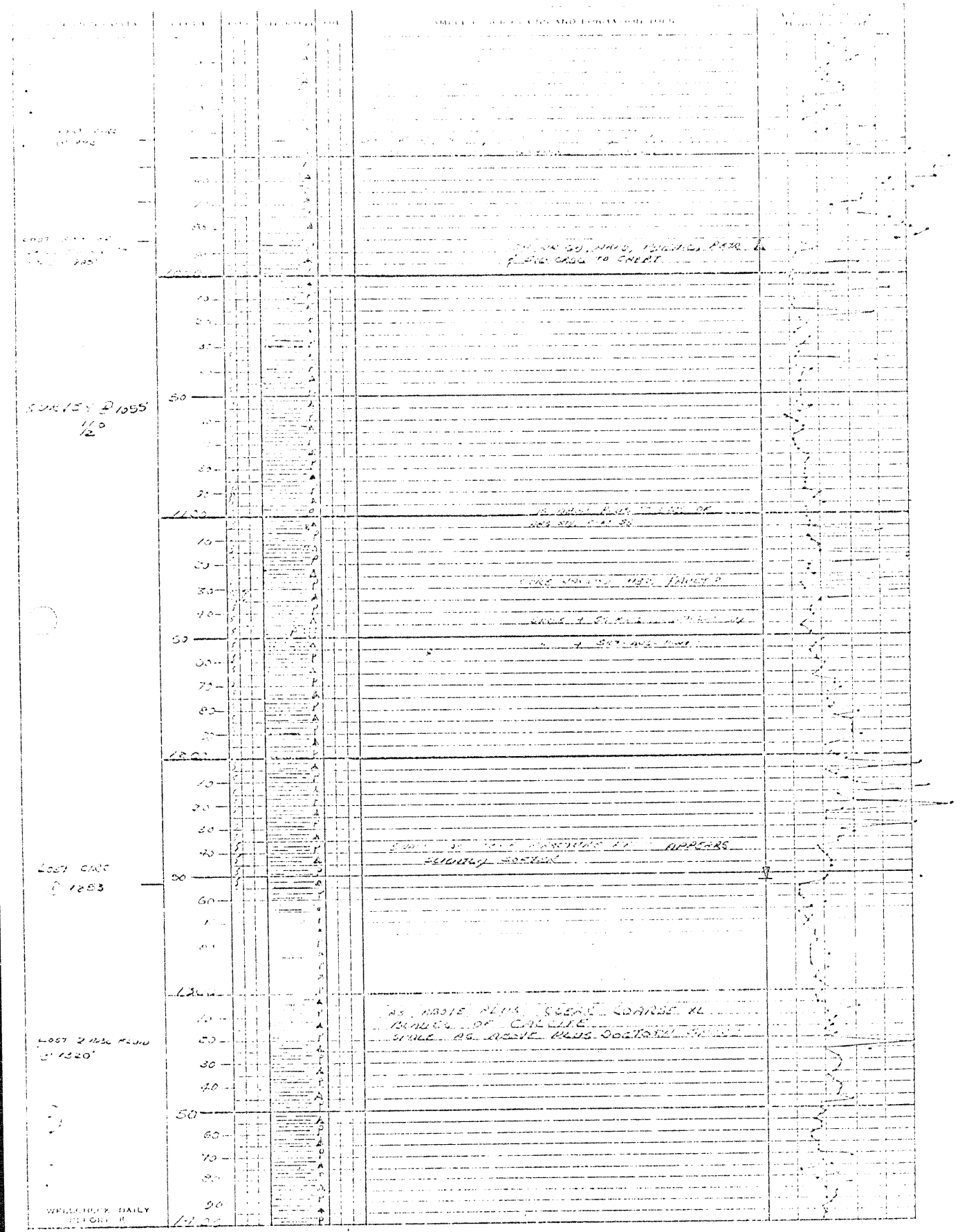
70

80

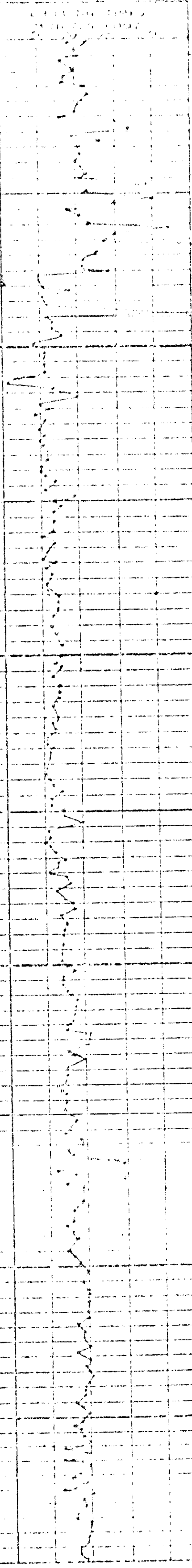
90

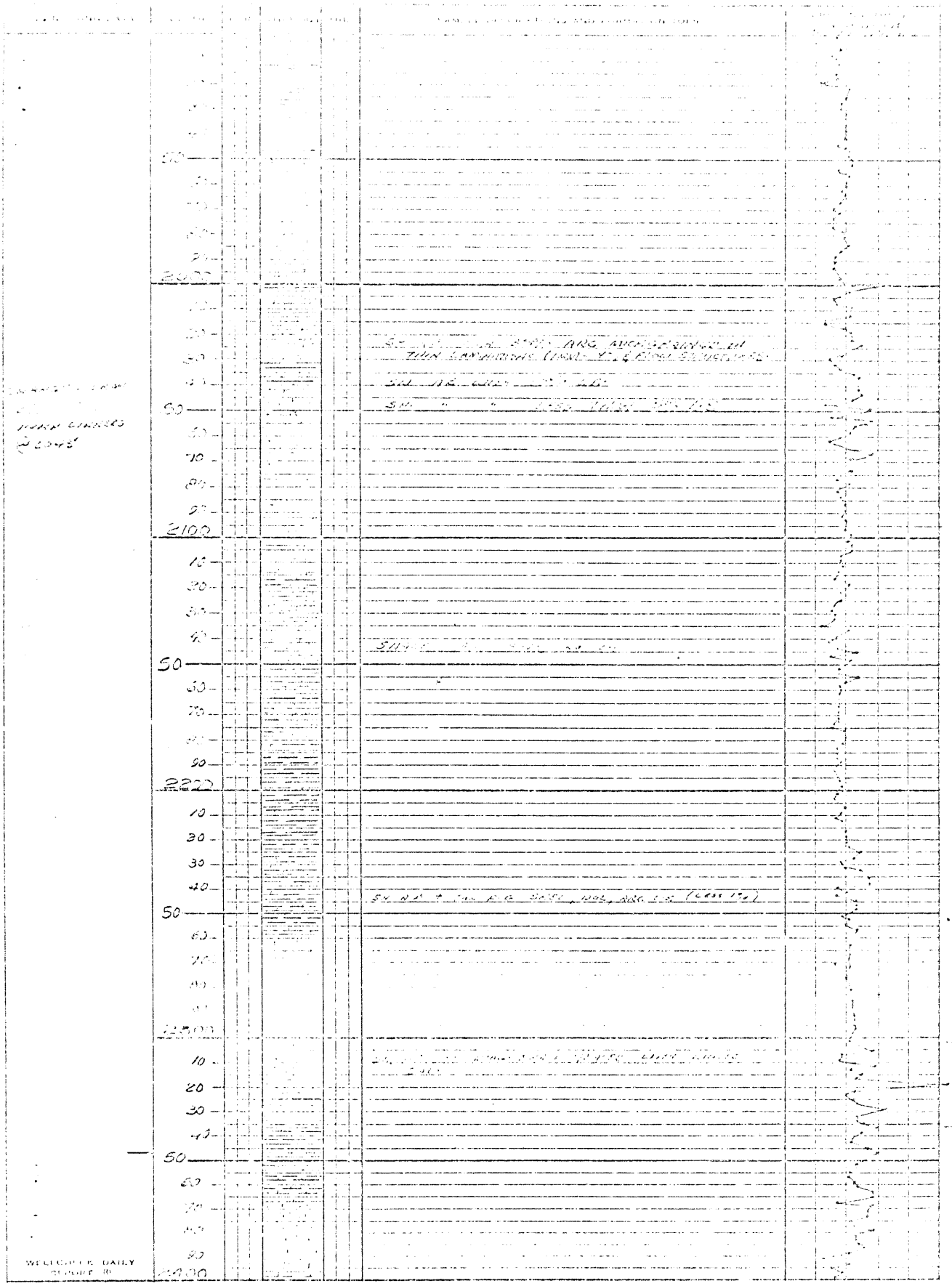
900

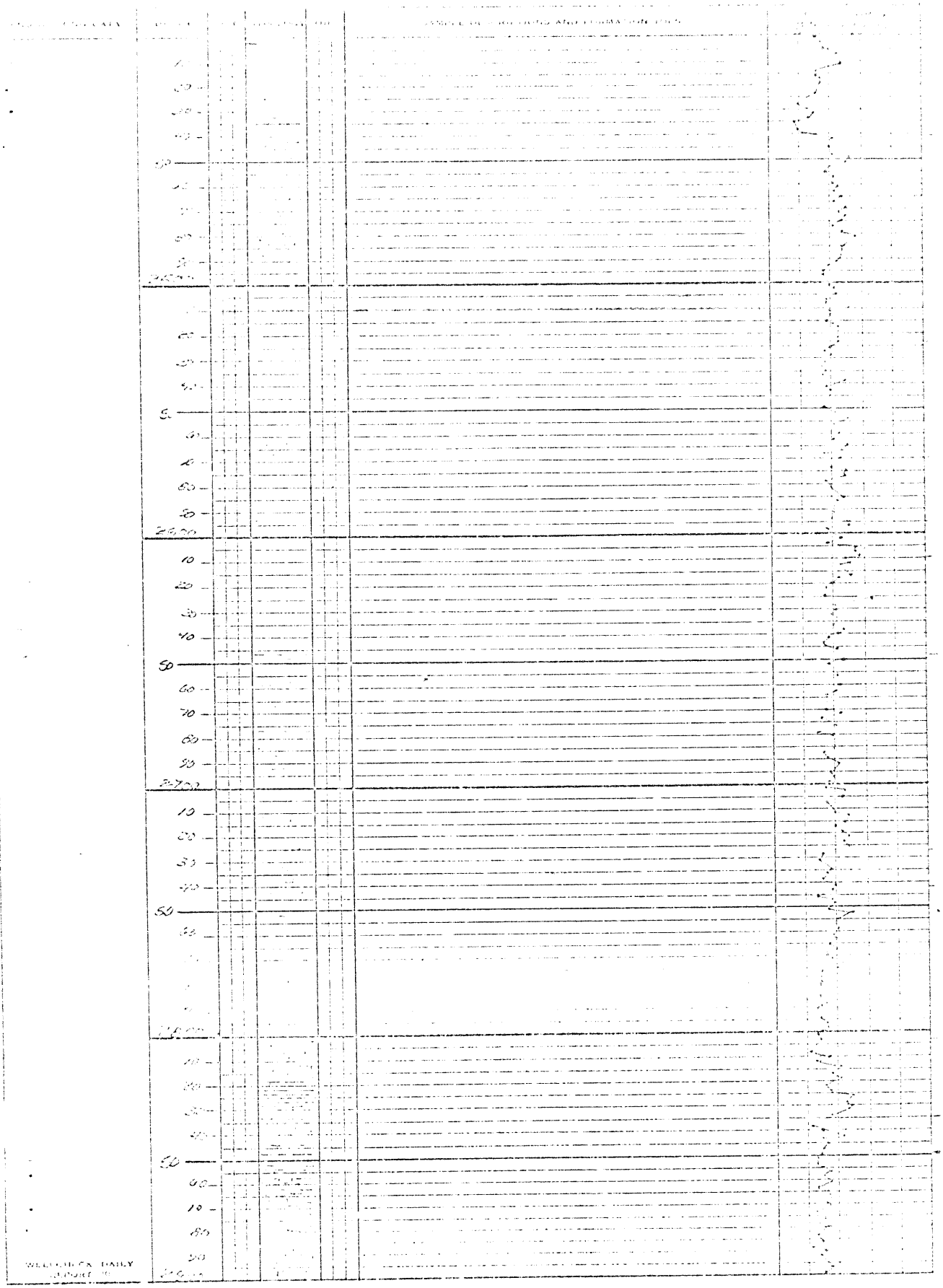
WELLCHECK DAILY REPORT


SURVEY @ 1055'
1/2°
LOST CIRC @ 1683
LOST 2 BBLS MUD @ 1920'
WELLSITE DAILY REPORT

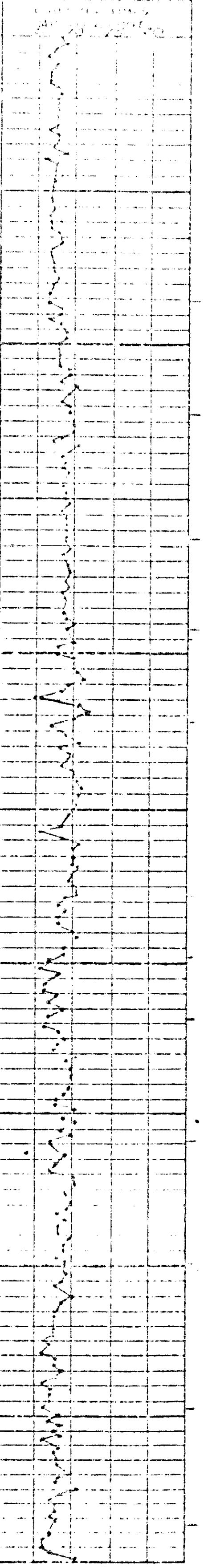
[illegible] DATA	DEPTH	POR	LITHOLOGY	OIL	SAMPLE DESCRIPTIONS AND FORMATION TOPS
	10				
	20				
	30				
	40				
	50				
	60				
	70				[illegible]
[illegible] pits & mix 20 New mud @ 1476'	80				[illegible]
	90				
	1500				[illegible] ([illegible])
	10				
	20				
	30				
	40				
	50				
	60				
	70				
	80				AS ABOVE PLUS SCATTERED [illegible]
	90				STREAKS OF [illegible] [illegible] SPECKLES UP TO 1" THICK
	1600				
	10				
	20				
	30				
	40				
	50				
	60				
	70				
	80				
	90				SH. DK GRAY, ALT. HARD & SOFT LAYERS, PYR NON-CALC. FOR MOST PART.
	1700				SH AS SC CALC IN PART [illegible] L.S. A.S. BECOMING SOFTER IN PART
	10				
	20				
	30				
	40				
SURVEY 1760' 1/4°	50				SH. APPEARS TO BE BENTONITIC IN PART.
	60				
	70				
	80				
	90				
	1800				
	10				
	20				SH. DK. GY. WITH MINOR ST. OF BENT. [illegible] THIN BEDS ARE [illegible] & [illegible] STRUCTURES.
	30				
	40				
	50				
	60				
	70				
	80				
	90				
	1900				







[illegible]	DEPTH	POR	LITHOLOGY	OIL	SAMPLE DESCRIPTIONS AND FORMATION TOPS
	10				
	20				
	30				
	40				
	50				
	60				
	70				
	80				
	90				
	3000				[illegible]
	10				
	20				
	30				
	40				
	50				
	60				
	70				
CLEANED MUD TANKS & MIXED MUD AT 3084'	80				
	90				[illegible] VERTICAL FRACTURES
	3100				
	10				
	20				
	30				A.B. CORE FRACTURED THROUGHOUT
	40				FRACTURING ENDS 3142'
	50				
	60				
	70				
	80				SH: AB WITH HORIZ. SLICKENSIDE
	90				
	3200				
	10				
	20				
	30				SH AB WITH HORIZ & DIAG SLICKEN SIDE
	40				
	50				
	60				
	70				
	80				
	90				
	3300				
	10				
	20				
	30				
	40				
	50				
	60				
	70				
	80				
	90				
	3400				



CLEANED AND TANKED MIXED MUD AT 3084'

AIR CORE FRACTURED THROUGHOUT

FRACTURING ENDS 3142'

SOLAR WITH HORIZ. STRENGTHENING

WELL CHECK DAILY REPORT

Depth	Sample Description
10	AS ABOVE
20	[illegible] WITH HARD & [illegible] [illegible] SIZE
30	
40	
50	
60	
70	
80	
90	
3500	
10	
20	
30	
40	
50	
60	
70	
80	
90	
3600	
10	SHALE AS ABOVE, DENSE, COMPACT, SEPERATES INTO THIN WAFERS.
20	
30	
40	SHALE ALT. BANDS HARD & SOFT
50	
60	
70	
80	SH. BN. GY. COMPACT, HARD. SEPERATES INTO THIN WAFERS
90	TD= [illegible]
3700	
10	
20	
30	
40	
50	
60	
70	
80	
90	
3800	
10	
20	
30	
40	
50	
60	
70	
80	
90	
3900	

WELLCHECK DAILY REPORT ®

Engineering
Information

ENGINEERING INFORMATION

CASING:

Conductor Pipe: 39' of 7" pipe set at 46' with 18 sax cement

Surface Casing: 421.08' J-55 9 1/2# set at 429.08' K. B. with 55 sax cement plus 150# CaCl.

MUD RECORD:

Black Magic (bbls.)	Black Magic (sax)	Add. 58 (sax)	Diesel (bbls.)	Gel (sax)
100	200	21	245	77

LOST CIRCULATION ZONES: *	MATERIAL LOST:	CORRECTIVE MEASURES:
54'	water	cemented hole with 15 sx
63'	water	cement, felt plug 39'
104'	water	mixed 2 sx gel
880'	14 bbls drilling mud	thickened mud, added 10 sx saw dust mud
942'	21 bbls drilling mud	
1250'		
1320'	2 bbls drilling mud	added saw dust to mud
3002'	6 bbls drilling mud	thickened mud
3080'	12 bbls drilling mud	thickened mud & added saw dust
3140'	5 bbls drilling mud	thickened mud & added 2 sx saw dust
3149'	3 bbls drilling mud	added 1 1/2 sx saw dust & 3 sx quick seal
3274'	6 bbls drilling mud	added 1 sx saw dust & 5 sx quick seal
3440'	8 bbls drilling mud	thickened mud & added 3 sx quick seal
3491'	No Record	No Record
3501'	4 bbls drilling mud	added saw dust to mud
3513'		
3630	No Record	added 1 sx quick seal to mud

* Lost Circulation Zones all in 'Fort Creek Shale' formation.

DEVIATION SURVEY:

Depth	Deviation
1055'	1/2°
1760'	1/4°
2447'	1/4°
3127'	3 1/2°

ABANDONMENT PLUGS:

1st plug: 3100' - 3000' with 6 sax plug down at 8:05 a.m. July 22.
2nd plug: 470' - 370' with 10 sax plug down at 4:00 p.m. July 22
Felt plug at 365' 8:30 a.m. July 23
Surface casing was cut off 3' below ground and steel plate welded over casing open end.
A five sack cement plug was mixed and placed over the steel plate.

DRILLING CONTRACTOR:

Connors Drilling Ltd. & Heath & Sherwood Drilling (Conners drilled to 3513'with their rig & crew. Heath & Sherwood furnished crew using the Conner's rig from 3513 to T.D.)

DRILLING EQUIPMENT:

Draw Works: Canadian Longyear Model 44. Diamond core rig powered by one GMC 353 3 cylinder 48 H.P. Diesel.

Pump: Oilwell Model C-323 Triplex plunger pump powered by one GMC 4 cylinder 52 H.P. Diesel.

Rods: 3900' NQ Rods.
160' H Rods.

Mast: Pre-fabricated wood.

ENGINEERING INFORMATION

CASING:

Conductor Pipe: 39' of 7" pipe set at 46' with 18 sax cement.

Surface Casing: 421.08' J-55 9 1/2# set at 429.08' K.B. with 55 sax cement plus 150# Ca Cl.

MUD RECORD:

Black Magic BBLS.	Black Magic Sacks	Additive 58 Sacks	Diesel BBLS.	Gel Sacks
100	200	21	245	77

LOST CIRCULATION ZONES:

54'
63'
104'
880'
942'
1250'
1320'
3002'
3080'
3140'
3491'
3501'
3513'

DEVIATION SURVEY:

Depth	Deviation
1055'	1/2°
1760'	1/4°
2447'	1/4°
3127'	3 1/2°

Bit
Summary

LOCATION						CONTRACTOR							RIG No.	TOOL PUSHER							PAGE		OF			
No.	Size	Make	Type	Jet Size	Serial	Depth Out	Feet	Hours	Accum. Hours	Dull Cond. T	Dull Cond. B	Dull Cond. G	No. of DC	Wt. 1000 Lbs.	R.P.M.	Vert Dev	Pump Pres	No. 1 Spm	No. 1 Liner	No. 2 Spm	No. 2 Liner	Mud Wt	Mud Vis	Mud pH	Mud WL	Date
1	3⅞	HT	OW			41	41	8																		
2	3⅞		OW			55	14																			
3	3⅞		OW			70	15																			
4	3⅞		OW			75	5	5																		
5	3⅞		OW			107	32	24																		
6	3⅞		OW			175	68																			
7	3⅞		OW			254	79																			
8	3⅞		OW			320	76																			
9	3⅞		OW			408	88																			
10	6¼		OSC-1G			98	98	11½																		
11	6¼		OSC-1G			258	160	17½																		
12	6¼		OSC-1G			437	179	12																		
13	3⅞		OW			498	61	5																		
14	3⅞		OW			[illegible]	48	8½																		
15	3⅞		OW			594	65	9																		
16	3⅞		OW			622	28	9½																		
17	3⅞		OW			658	36	9																		
18	3⅞		OW			683	25	9½																		
19	3⅞		OW			728	45	8																		
20	3⅞		OW			782	54	12		X																
21	3⅞		Diamond			822	40	10			X	X														
22	3⅞		[illegible]		EC 10818	942	120	27½																		
23	3⅞		Viola			954	12	5		X	X	X														
24	3⅞		Viola			968	14	6			X	X														
25	3⅞		Viola			985	17	8																		
26	2 63/64		DIAM CORE		BIT A18694 SHELL 18693	1253	268	61		GOOD																
27	3⅞	DIAMOND PLUG Re-Run #22			EC 10818	1426	222 / 611*	74 / 101.5		FAIR			* 2-3' of total footage was from reaming													
28	2 63/64	NB 9	DIA. CORE		BIT LE0591 SHELL 18693	2347	271	42.5		Good																
[illegible]	2 63/64	NB 9 Re-Run Bit 28	DIA CORE		BIT E18694 SHELL 18693	3491	1144 / [illegible]	[illegible]		Fair																
[illegible]	2 61/64	NB 9 Re-Run 28	DIA CORE		BIT 20591 SHELL 18693	3501	10 / [illegible]																			
[illegible]	2 61/64	NB 9	Dia Core		BIT SHELL NE20001	3513	12	5½																		

CONTRACTOR | RIG No. | TOOL PUSHER

No.	Size	Make	Type	Jet Size	Serial	Depth Out	Feet	Hours	Accum. Hours	Dull Cond. T	B	G	No. of DC	Wt. DC Lbs.	R.P.M.	Vert Dev
32	3 7/8	[illegible]			RERUN IN @ 1476'	2036	560	82 3/4								
33	2 15/16		TRI CONE		REAMING IN FILL	3292	568									
34	2 15/16		MILL		"	3370	77'									
35	2 15/16		MILL		"	3464	184	12								
36	2 15/16		MILL		"		650									
37	2 15/16		"		"	3400	400'									
38	2 15/16		TRI CONE		"	3513		41								
39	2 15/16		"			3149		11								
40	2 15/16		"		"	3513										
41	2 15/16		DIAMOND		CORING.	3683	170									