

CR 68/57

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IMC DEVELOPMENT CORPORATION

ANNUAL REPORT - P.A. 1788 (LULU)
(Period: July 19, 1967-July 18, 1968)

The attached map shows the location of the fifteen holes drilled on P.A. 1788 during the period of tenure.

The lithologic data, their stratigraphic interpretation, and assay data which are also attached, were previously described in monthly reports and in "Progress Report on Prospecting Authorities 1766, 1788, 1801, 1802 and 1897 in the Alexandria Region" by J. Barrie and submitted on April 5, 1968.

The latter report contains comprehensive data on the region which IMC Development Corporation is studying as a single unit rather than as individual Prospecting Authorities. Plates include a 1:250,000 geologic map, a 1:500,000 gravity feature map, a 1:500,000 lithofacies map and structure map and, finally, two geologic sections.

OPEN FILE

LOG OF LITHOLOGIC AND ASSAY DATA

| | | |
|------------------------|--|--------------|
| DRILLHOLE No. L1 | LOCATION Prospecting Authority 1788 | T.D 182'6" |
| Date Started 22/4/67 | Co-ordinates See attached map | Elevation |
| Date Completed 22/4/67 | 1: 250,000 SHEET Ranken (NAME & NUMBER) SE53-16 | Sheet 1 of 1 |

| INTERVAL | LITHOLOGIC DESCRIPTION |
|-----------|---|
| 0-15' | Soil, clayey, slightly calcareous with few chert pebbles. |
| 15-35' | Clay, slightly calcareous in part. |
| 35-45' | Chert, clay and silt, tends to sand, some ironstone. |
| 45-55' | Siltstone, limestone, minor chert. |
| 55-60' | Limestone and fine-grained silty sandstone. |
| 60-72½' | Sandy siltstone, fine-grained, clay, minor chert. |
| 72½-100' | Brown chert, calcareous coarse-grained siltstone, minor limestone. |
| 100-135' | Grey and brown chert with minor slightly calcareous coarse-grained siltstone. |
| 135-152½' | Siltstone, minor chert, clay. |
| 152½-160' | Dolomite, very fine-grained to medium-grained, sandy in part. |
| 160-182½' | Dolomite, very fine-grained to medium-grained, sandy in part. |

NOTE: The phosphate below 150' appears to be associated with the clastic fraction.

Stratigraphic Interpretation

0-45' Quaternary.
45-182½' Camooweal Dolomite (B.M.R. Mapping).

Assay Data

| Sample | % P ₂ O ₅ |
|----------|---------------------------------|
| 60-65' | 0.01 |
| 140-145' | 0.1 |
| 150-155' | 0.2 |
| 155-160' | 0.1 |
| 160-165' | 0.1 |

LOG OF LITHOLOGIC AND ASSAY DATA

| | | | |
|------------------------|-------------------------------------|-------------------------------|--------------|
| DRILLHOLE No. L2 | LOCATION | Prospecting Authority 1788 | T.D 82'6" |
| Date Started 22/4/67 | Co-ordinates See attached map | | Elevation |
| Date Completed 22/4/67 | 1: 250,000 SHEET (NAME & NUMBER) | Ranken SE53-16 | Sheet 1 of 1 |

| INTERVAL | LITHOLOGIC DESCRIPTION |
|----------|--|
| 0-5' | Soil, clay. |
| 5-15' | Clay with gypsum. |
| 15-30' | Mottled red and grey clay, siltstone, slightly ironstained. |
| 30-35' | Siltstone, ironstone, travertine. |
| 35-45' | Dark brown silty dolomite, chert. |
| 45-57½' | Dolomite, very sandy (quartz) in part, minor siltstone and chert. |
| 57½-70' | Dolomite, very sandy in part, as above. |
| 70-77½' | Dolomite, as above. |
| 77½-82½' | Dolomitic quartz sand and chert. |
| | N.B. Dolomite blocks on plains to south; 0-35' therefore probably residual dolomite. |
| | <u>Stratigraphic Interpretation</u> |
| 0-35' | Quaternary. |
| 35-82½' | Camooweal Dolomite (B.M.R. Mapping). |
| | <u>Assay Data</u> |
| Sample | % P ₂ O ₅ |
| 30-35' | 0.2 |

LOG OF LITHOLOGIC AND ASSAY DATA

| | | |
|------------------------|--|--------------|
| DRILLHOLE No. L3 | LOCATION Prospecting Authority 1788 | T.D 125' |
| Date Started 22/4/67 | Co-ordinates See attached map | Elevation |
| Date Completed 22/4/67 | 1: 250,000 SHEET Ranken (NAME & NUMBER) SE53-16 | Sheet 1 of 1 |

| INTERVAL | LITHOLOGIC DESCRIPTION |
|-----------|---|
| 0-5' | Sandy soil, ironstained in part. |
| 5-22½' | Fine-grained sandstone, siltstone, clay. |
| 22½-32½' | Sandstone, medium-grained, and siltstone, minor clay. |
| 32½-77½' | Siltstone, coarse-grained sandstone, clay pellets, minor quartzite and chert at base. |
| 77½-97½' | Siltstone, chert, quartzite. |
| 97½-105' | Siltstone, hard, silicified. |
| 105-117½' | Siltstone, clayey with minor chert. |
| 117½-125' | Calcareous siltstone to fine-grained sandstone. |
| | N.B. Deepened from 125' to 135' on 31/10/67. |
| | <u>Stratigraphic Interpretation</u> |
| 0-5' | Quaternary. |
| 5-125' | Burton Beds (B.M.R. Mapping). |
| | <u>Assay Data</u> |
| Sample | % P ₂ O ₅ |
| 85-90' | 0.2 |
| 90-95' | 0.04 |
| 105-110' | 0.1 |
| 110-115' | 0.2 |
| 115-120' | 0.1 |

LOG OF LITHOLOGIC AND ASSAY DATA

| | | |
|------------------------|---|--------------|
| DRILLHOLE No. L4 | LOCATION Prospecting Authority 1788 | T.D. 122'6" |
| Date Started 23/4/67 | Co-ordinates See attached map | Elevation |
| Date Completed 23/4/67 | 1:250,000 SHEET Ranken (NAME & NUMBER) SE53-16 | Sheet 1 of 1 |

| INTERVAL | LITHOLOGIC DESCRIPTION |
|-------------------------------------|---|
| 0-5' | Soil, silty to sandy with fragments of dark chert. |
| 5-15' | Sandy silt, mottled in part, sand poorly sorted. |
| 15-47½' | Siltstone, some fragments of ironstone. |
| 47½-57½' | Siltstone and grey chert (no oolites). |
| 57½-75' | Siltstone, very minor brown chert (no oolites). |
| 75-112½' | Siltstone and chert, chert generally grey, some brown - not oolitic. |
| 112½-122½' | Siltstone, some ironstone (limonitic siltstone). |
| <u>Stratigraphic Interpretation</u> | |
| 0-5' | Quaternary. |
| 5-122½' | Burton Beds (B.M.R. Mapping). |

LOG OF LITHOLOGIC AND ASSAY DATA

| | | |
|------------------------|---|--------------|
| DRILLHOLE No. L5 | LOCATION Prospecting Authority 1788 | T.D 93' |
| Date Started 1/11/67 | Co-ordinates See attached map | Elevation |
| Date Completed 1/11/67 | 1:250,000 SHEET Ranken (NAME & NUMBER) SE53-16 | Sheet 1 of 1 |

| INTERVAL | LITHOLOGIC DESCRIPTION |
|-------------------------------------|---|
| 0-2½' | Grey clayey soil. |
| 2½-12½' | Clay. |
| 12½-20' | Sandy siltstone. |
| 20-30' | Silty quartz sandstone. |
| 30-40' | Siltstone with minor chert. |
| 40-55' | Calcareous siltstone with thin dolomitic limestone beds and chert. |
| 55-75' | Dolomitic limestone with chert. |
| 75-82½' | Siltstone, silicified in part. |
| 82½-87½' | Very fine-grained sand with chert. |
| 87½-93' | Dolomitic limestone. |
| <u>Stratigraphic Interpretation</u> | |
| 0-12½' | Quaternary. |
| 12½-93' | Undifferentiated Middle Cambrian |

LOG OF LITHOLOGIC AND ASSAY DATA

| | | | |
|-----------------------|------------------------------------|-------------------------------|--------------|
| DRILLHOLE No. L6 | LOCATION | Prospecting Authority 1788 | T.D. 200' |
| Date Started 6/6/68 | Co-ordinates See attached map | | Elevation |
| Date Completed 7/6/68 | 1:250,000 SHEET (NAME & NUMBER) | Ranken SE53-16 | Sheet 1 of 1 |

| INTERVAL | LITHOLOGIC DESCRIPTION |
|-----------|--|
| 0-20' | Clay, gypsiferous, grey at top becomes mottled brown and white. Clear, rounded quartz sand-?aeolean. |
| 20-30' | Siltstone, white, very soft and chert. |
| 30-92½' | Dolomite, dolomitic limestone and limestone-calcareenites. |
| 92½-97½' | Dolomite, silt and quartz sand. |
| 97½-102½' | Silt, quartz sand, minor chert. |
| 102½-135' | Dolomite, dolomitic limestone, limestone silt, quartz sand, minor chert. |
| 135-200' | Dolomite, vuggy dolomitic limestone, minor limestone and chert. |
| | N.B. 165-170' very soft drilling; may be cavity fill (?silt). |
| | <u>Stratigraphic Interpretation</u> |
| 0-20' | Quaternary. |
| 20-200' | Camooweal Dolomite (B.M.R. Mapping). |

LOG OF LITHOLOGIC AND ASSAY DATA

| | | |
|-----------------------|--|--------------|
| DRILLHOLE No. L7 | LOCATION Prospecting Authority 1788 | T.D 200' |
| Date Started 7/6/68 | Co-ordinates See attached map | Elevation |
| Date Completed 8/6/68 | 1: 250,000 SHEET Ranken (NAME & NUMBER) SE53-16 | Sheet 1 of 1 |

| INTERVAL | LITHOLOGIC DESCRIPTION |
|-------------------------------------|---|
| 0-7½' | Clay, minor chert pebbles and gypsum. |
| 7½-12½' | Silt, chert. |
| 12½-67½' | Silty fine-grained quartz sandstone, few bands dark grey chert. |
| 67½-85' | Siltstone (?dololomite), minor sandstone. |
| 85-130' | Siltstone with chert, minor sand. |
| 130-160' | Dolomite with chert generally. |
| 160-200' | Dolomite, chert. |
| <u>Stratigraphic Interpretation</u> | |
| 0-10' | Quaternary. |
| 10-200' | Camooweal Dolomite (B.M.R. Mapping). |

LOG OF LITHOLOGIC AND ASSAY DATA

| | | |
|-----------------------|--|--------------|
| DRILLHOLE No. L8 | LOCATION Prospecting Authority 1788 | T.D 147'6" |
| Date Started 8/6/68 | Co-ordinates See attached map | Elevation |
| Date Completed 9/6/68 | 1: 250,000 SHEET Ranken (NAME & NUMBER) SE53-16 | Sheet 1 of 1 |

| INTERVAL | LITHOLOGIC DESCRIPTION |
|-------------------------------------|--|
| 0-22½' | Clay, spotted, with gypsum, few chert fragments and pebbles. Minor quartz sand-probably aeolean filling cracks in soil. Siltstone at base. |
| 22½-110' | Siltstone, sandy, ferruginous about 40' (see colours). |
| 110-120' | Siltstone, calcareous, sandy (quartz). |
| 120-137½' | Sandstone/quartzite, silty with increasing chert. |
| 137½-147½' | Dolomite and chert, minor sand and silt (possibly contaminant). |
| <u>Stratigraphic Interpretation</u> | |
| 0-22½' | Quaternary. |
| 22½-147½' | Camooweal Dolomite (B.M.R. Mapping). |

LOG OF LITHOLOGIC AND ASSAY DATA

| | | |
|------------------------|---|-------------------|
| DRILLHOLE No. L9 | LOCATION Prospecting Authority 1788 | T.D 100' |
| Date Started 9/6/68 | Co-ordinates See attached map | Elevation |
| Date Completed 10/6/68 | 1:250,000 SHEET Ranken (NAME & NUMBER) SE53-16 | Sheet 1 of 1..... |

| INTERVAL | LITHOLOGIC DESCRIPTION |
|----------|--|
| 0-5' | Clay. |
| 5-100' | Dolomite, dolomitic limestone with minor sand, clay silt, chert. Quartz sand associated with white clay-possibly fracture filling? |
| | <u>Stratigraphic Interpretation</u> |
| 0-5' | Quaternary. |
| 5-100' | Camooweal Dolomite (B.M.R. Mapping). |

LOG OF LITHOLOGIC AND ASSAY DATA

| | | | |
|------------------------|-------------------------------------|-------------------------------|--------------|
| DRILLHOLE No. L10 | LOCATION | Prospecting Authority 1788 | T.D. 20' |
| Date Started 10.6.68 | Co-ordinates | See attached map | Elevation |
| Date Completed 10.6.68 | 1: 250,000 SHEET (NAME & NUMBER) | Ranken SE53-16 | Sheet 1 of 1 |

| INTERVAL | LITHOLOGIC DESCRIPTION |
|----------|---|
| 0-5' | Clay, sand, chert pebbles. |
| 5-20' | Dolomite, sandy and sandstone, calcareous, well rounded fine-grained to medium-grained quartz grains. |
| | <u>Stratigraphic Interpretation</u> |
| 0-5' | Quaternary. |
| 5-20' | Camooweal Dolomite (B.M.R. Mapping). |

LOG OF LITHOLOGIC AND ASSAY DATA

| | | | |
|------------------------|-------------------------------------|-------------------------------|-------------------|
| DRILLHOLE No. L11 | LOCATION | Prospecting Authority 1788 | T.D 200' |
| Date Started 10/6/68 | Co-ordinates See attached map | | Elevation |
| Date Completed 12/6/68 | 1: 250,000 SHEET (NAME & NUMBER) | Ranken SE53-16 | Sheet...1 of...1. |

| INTERVAL | LITHOLOGIC DESCRIPTION |
|-------------------------------------|--|
| 0-32½' | Clay, quartz sand, silt, gypsum, minor chert. |
| 32½-50' | Dolomitic limestone, limestone. |
| 50-55' | Soft silty cavity filling? |
| 55-70' | Dolomite, dolomitic limestone. |
| 70-77½' | Dolomite, quartz sand in soft silt matrix-cavity filling? |
| 77½-147½' | Dolomitic limestone, limestone. |
| 147½-150' | Very soft cavity filling? |
| 150-160' | Dolomitic limestone. |
| 160-200' | Dolomite, quartz grains mainly in silt, some in calcareous matrix. |
| <u>Stratigraphic Interpretation</u> | |
| 0-32½' | Quaternary. |
| 32½-200' | Camooweal Dolomite (B.M.R. Mapping). |

LOG OF LITHOLOGIC AND ASSAY DATA

| | | |
|------------------------|--|--------------|
| DRILLHOLE No. L12 | LOCATION Prospecting Authority 1788 | T.D 135' |
| Date Started 12/6/68 | Co-ordinates See attached map | Elevation |
| Date Completed 13/6/68 | 1: 250,000 SHEET Ranken (NAME & NUMBER) SE53-16 | Sheet 1 of 1 |

| INTERVAL | LITHOLOGIC DESCRIPTION |
|-------------------------------------|---|
| 0-7½' | Clay, chert pebbles, gypsum. |
| 7½-15' | Sand, fine-grained to medium-grained colourless quartz grains, chert pebbles. |
| 15-35' | Sandstone, fine-grained to medium-grained, some coarse-grained, sub to rounded quartz grains, fair to good sorting, soft friable. Quartz grains clear, some pink. |
| 35-37½' | Clayey silt, chert. |
| 37½-135' | Calcarenite, dolomitic limestone, dolarenite, minor coarse crystalline dolomite, quartz sandstone, sandy claystone. |
| <u>Stratigraphic Interpretation</u> | |
| 0-7½' | Quaternary. |
| 7½-135' | Camooweal Dolomite (B.M.R. Mapping). |

LOG OF LITHOLOGIC AND ASSAY DATA

| | | |
|------------------------|--|-------------------|
| DRILLHOLE No. L13 | LOCATION Prospecting Authority 1788 | T.D 50' |
| Date Started 13/6/68 | Co-ordinates See attached map | Elevation |
| Date Completed 13/6/68 | 1: 250,000 SHEET Ranken (NAME & NUMBER) SE53-16 | Sheet...1 of 1... |

| INTERVAL | LITHOLOGIC DESCRIPTION |
|-------------------------------------|---|
| 0-20' | Clay, with gypsum, minor quartz sand grains and chert. |
| 20-22½' | Siltstone, mottled, ferruginous dolomite. |
| 22½-50' | Dolomitic limestone, dolomite with minor quartz sandstone fragments and silt. |
| <u>Stratigraphic Interpretation</u> | |
| 0-20' | Quaternary. |
| 20-50' | Camooweal Dolomite (B.M.R. Mapping). |

LOG OF LITHOLOGIC AND ASSAY DATA

| | | |
|------------------------|--|--------------|
| DRILLHOLE No. L14 | LOCATION Prospecting Authority 1788 | T.D. 200' |
| Date Started 13/6/68 | Co-ordinates See attached map | Elevation |
| Date Completed 14/6/68 | 1: 250,000 SHEET Ranken (NAME & NUMBER) SE53-16 | Sheet 1 of 1 |

| INTERVAL | LITHOLOGIC DESCRIPTION |
|-----------|--|
| 0-5' | Clay, very sandy, chert pebbles, ferruginous in part. |
| 5-30' | Siltstone, sandy mottled red-white with ironstone fragments |
| 30-70' | Sandstone, fine-grained quartz grains, clayey to silty and chert towards base. Ironstone fragments 65-70'. |
| 70-87½' | Siltstone with chert. |
| 87½-160' | Dolomitic limestone, minor dolomite and limestone bands, chert. Cavity 98½'. |
| 160-177½' | Dolomitic limestone, minor limestone. |
| 177½-200' | Dolomitic limestone with chert. |

Stratigraphic Interpretation

| | |
|--------|--------------------------------------|
| 0-5' | Quaternary. |
| 5-200' | Camooweal Dolomite (B.M.R. Mapping). |

LOG OF LITHOLOGIC AND ASSAY DATA

| | | |
|------------------------|--|----------------------------|
| DRILLHOLE No. L15 | LOCATION Prospecting Authority 1788 | T.D 130' |
| Date Started 22/6/68 | Co-ordinates See attached map | Elevation |
| Date Completed 22/6/68 | 1: 250,000 SHEET Ranken (NAME & NUMBER) SE53-16 | Sheet <u>1</u> of <u>1</u> |

| INTERVAL | LITHOLOGIC DESCRIPTION |
|-------------------------------------|--|
| 0-7½' | Clay with gypsum. |
| 7½-95' | Siltstone and chert. |
| 95-102½' | Clay; limestone, clay, chert, calcareous silt at base. |
| 102½-130' | Dolomitic limestone cavities 115-127½'. Samples below 120' unreliable. |
| <u>Stratigraphic Interpretation</u> | |
| 0-10' | Quaternary. |
| 10-130' | Burton Beds (B.M.R. Mapping). |

GAMMA LOGS

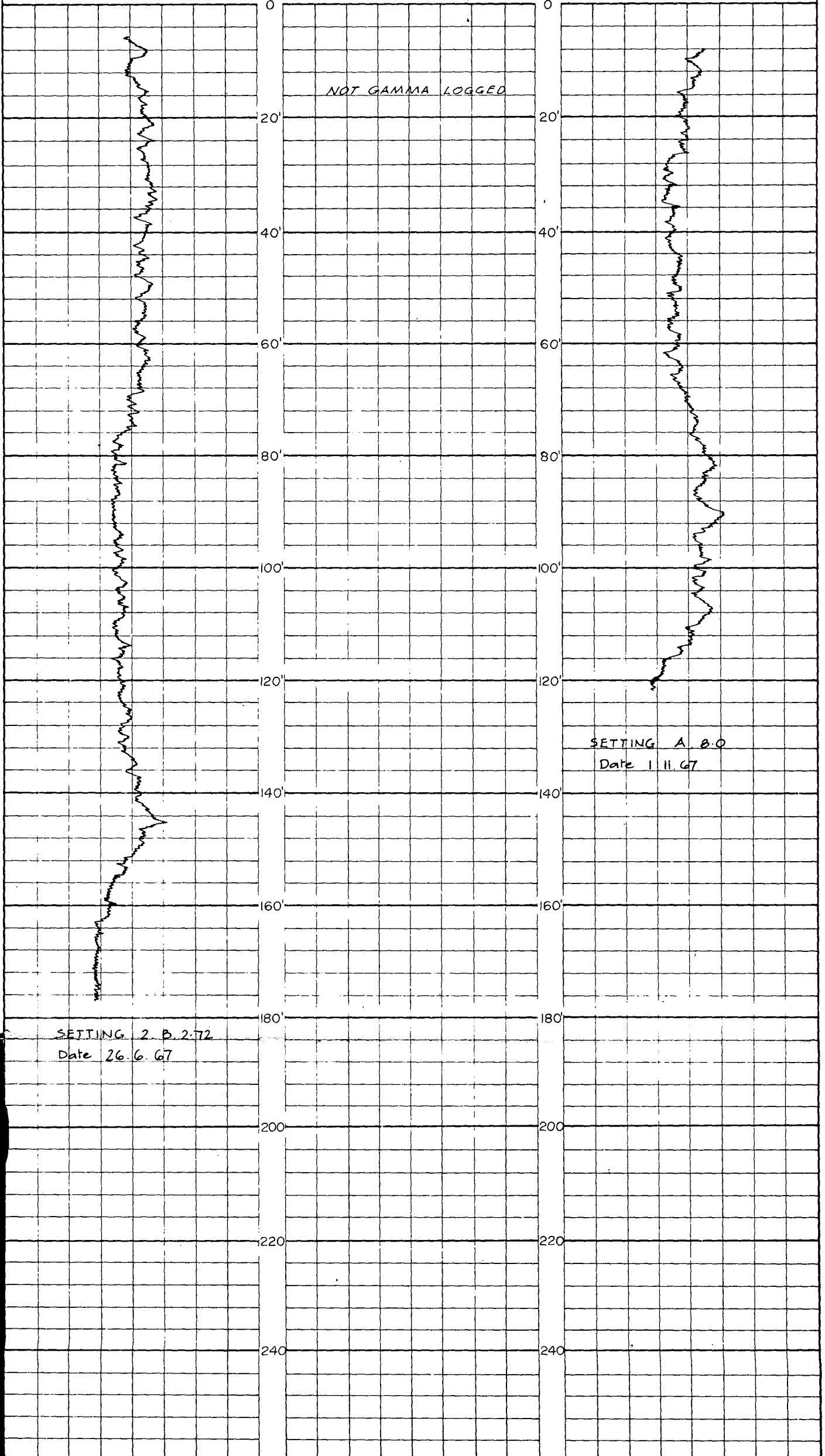
PROSPECTING AUTHORITY No 1788

Instrument : Well Reconnaissance Geo-Logger

HOLE L1

HOLE L2

HOLE L3



GAMMA LOGS

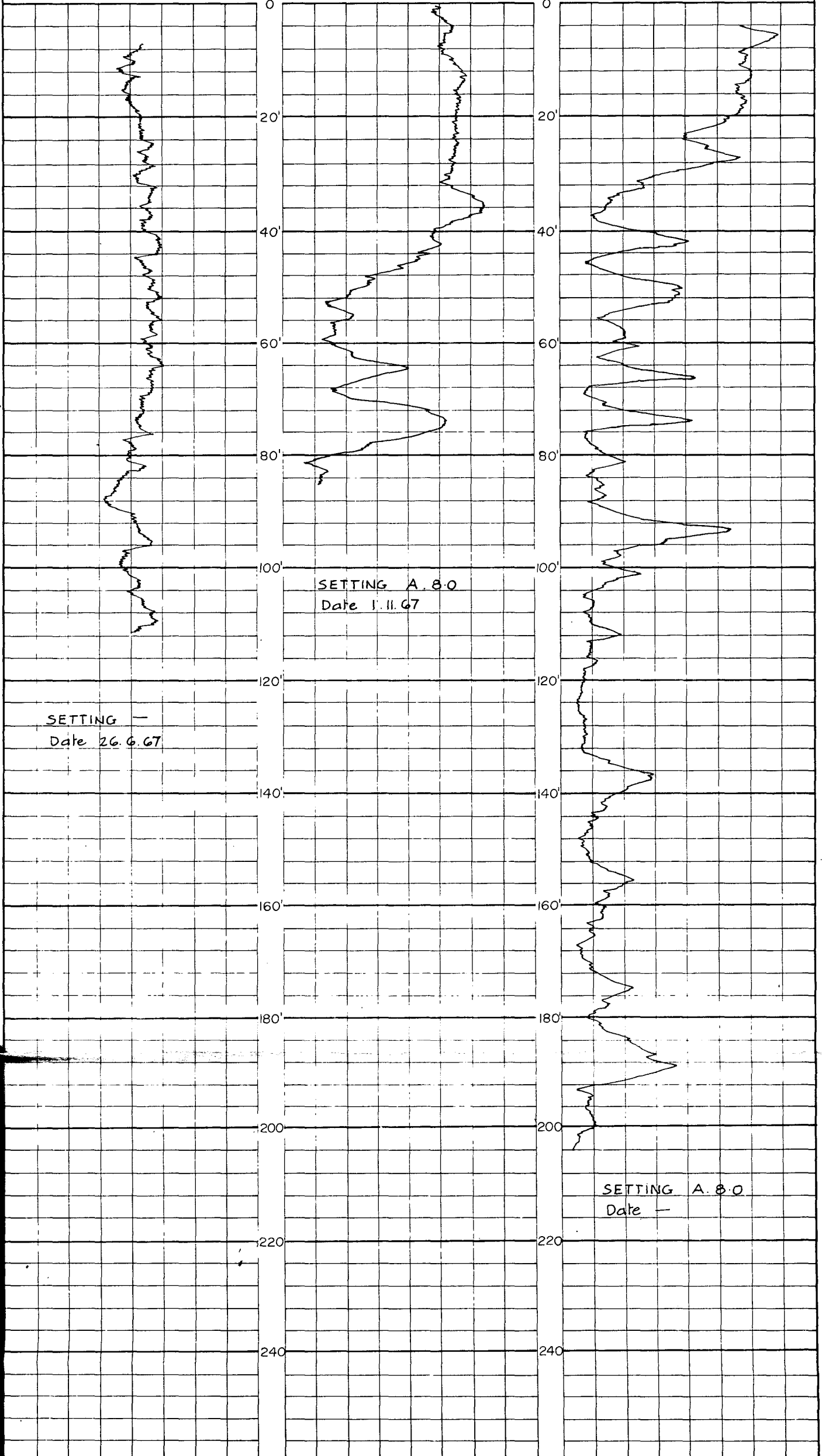
PROSPECTING AUTHORITY No. 1788

Instrument : Well Reconnaissance Geo-Logger

HOLE L4

HOLE L5

HOLE L6



GAMMA LOGS

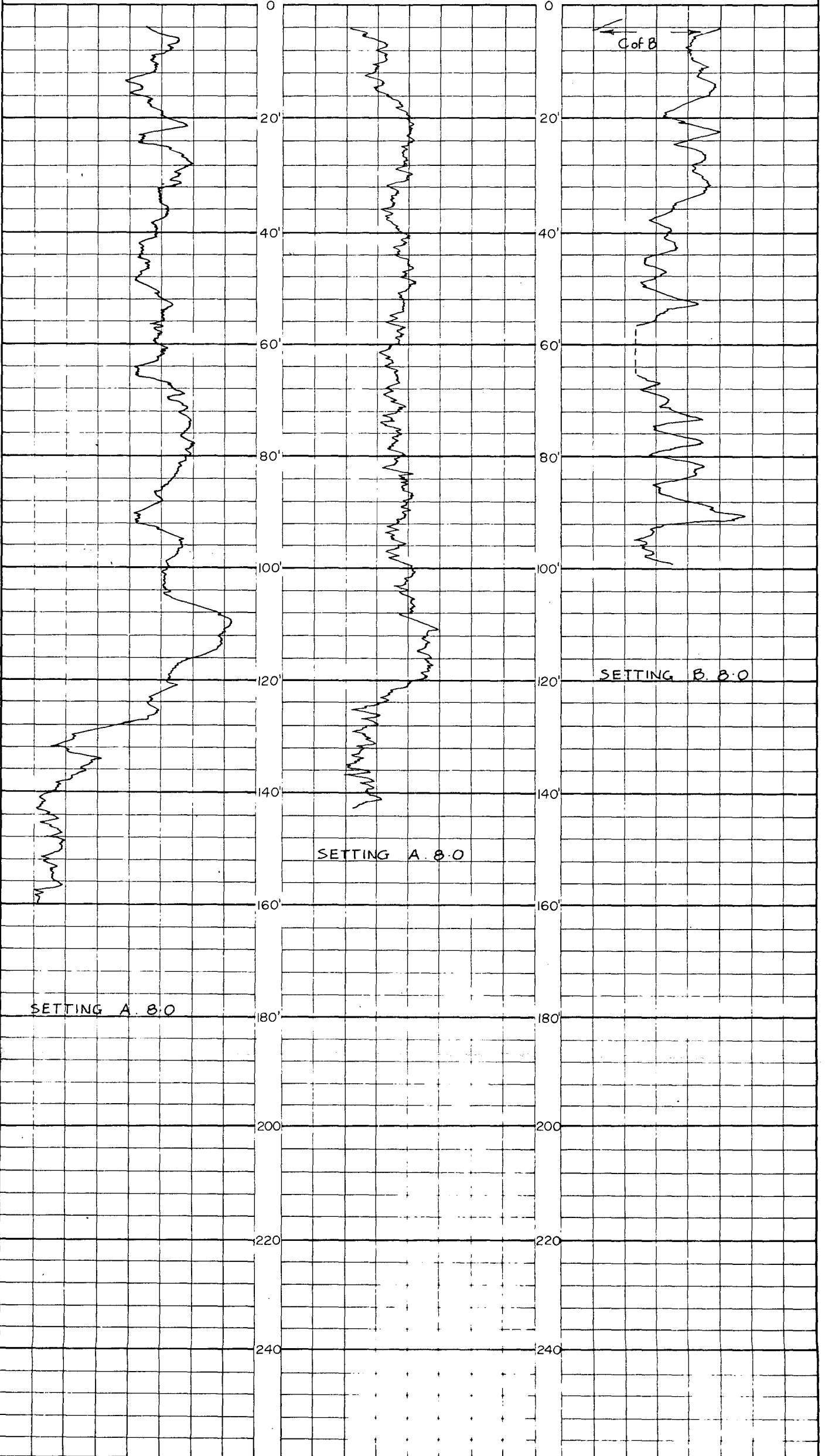
PROSPECTING AUTHORITY No. 1788

Instrument : Well Reconnaissance Geo-Logger

HOLE L7

HOLE L8

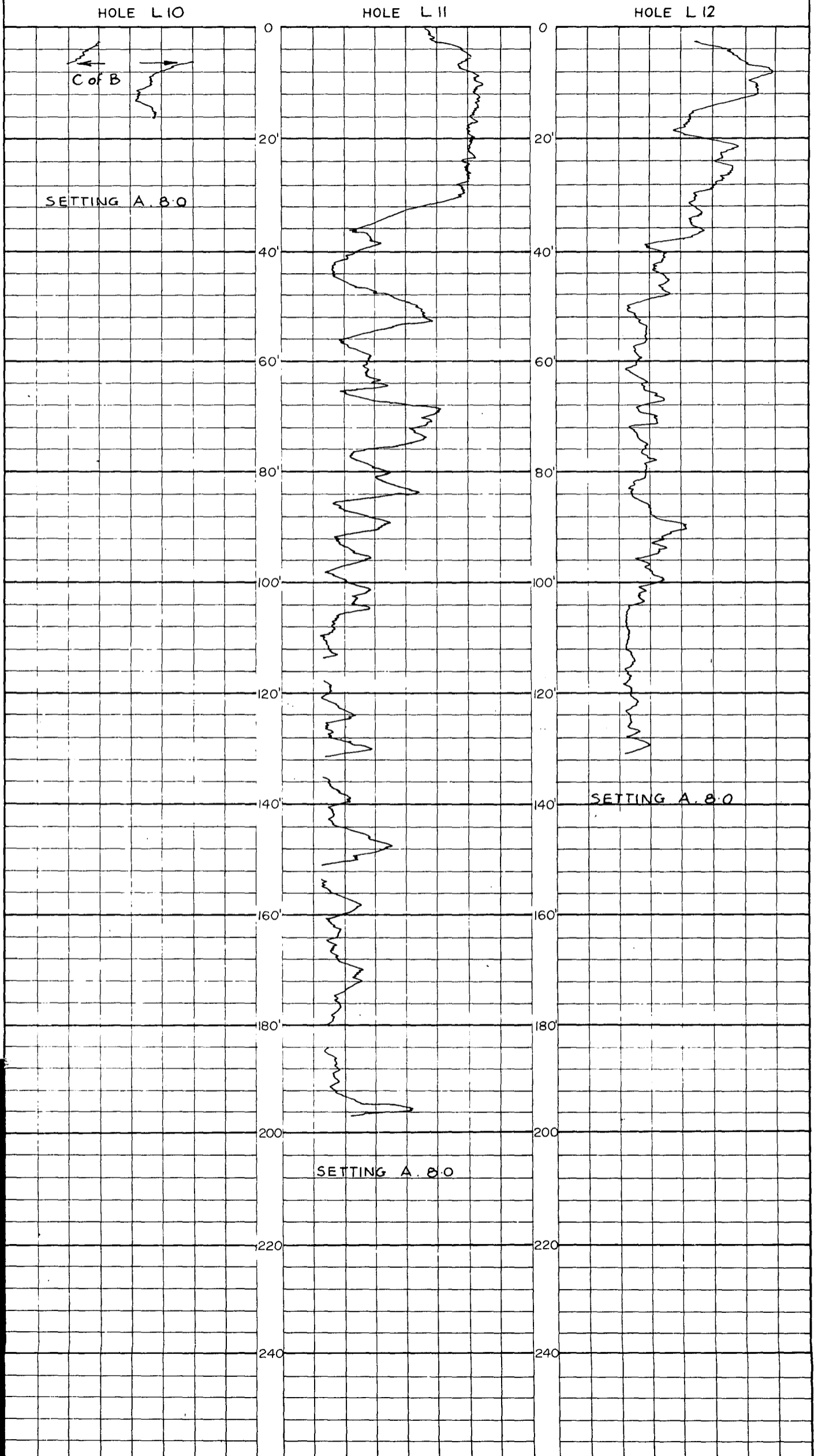
HOLE L9



GAMMA LOGS

PROSPECTING AUTHORITY No. 1788

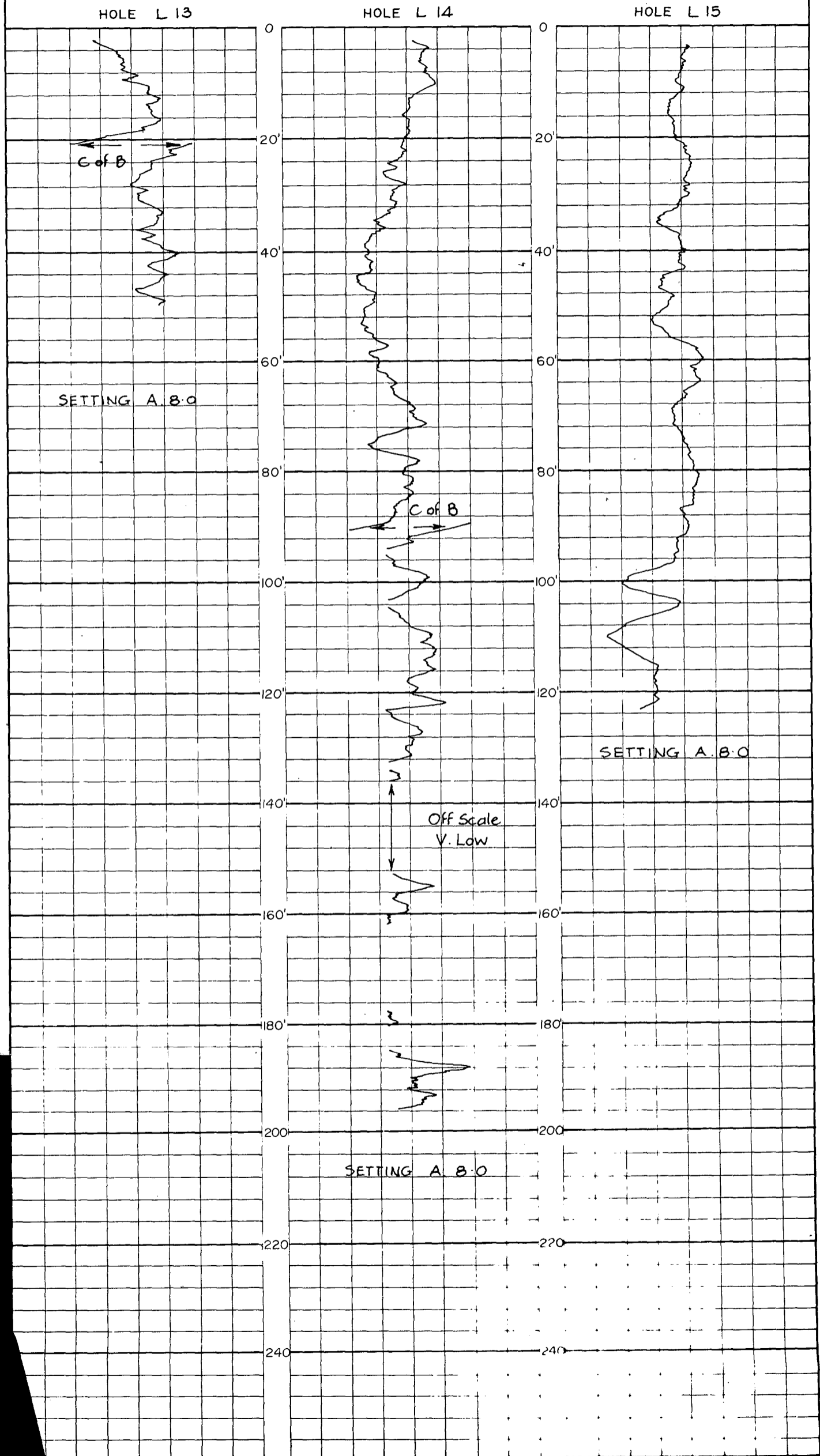
Instrument : Well Reconnaissance Geo-Logger



GAMMA LOGS

PROSPECTING AUTHORITY No. 1788

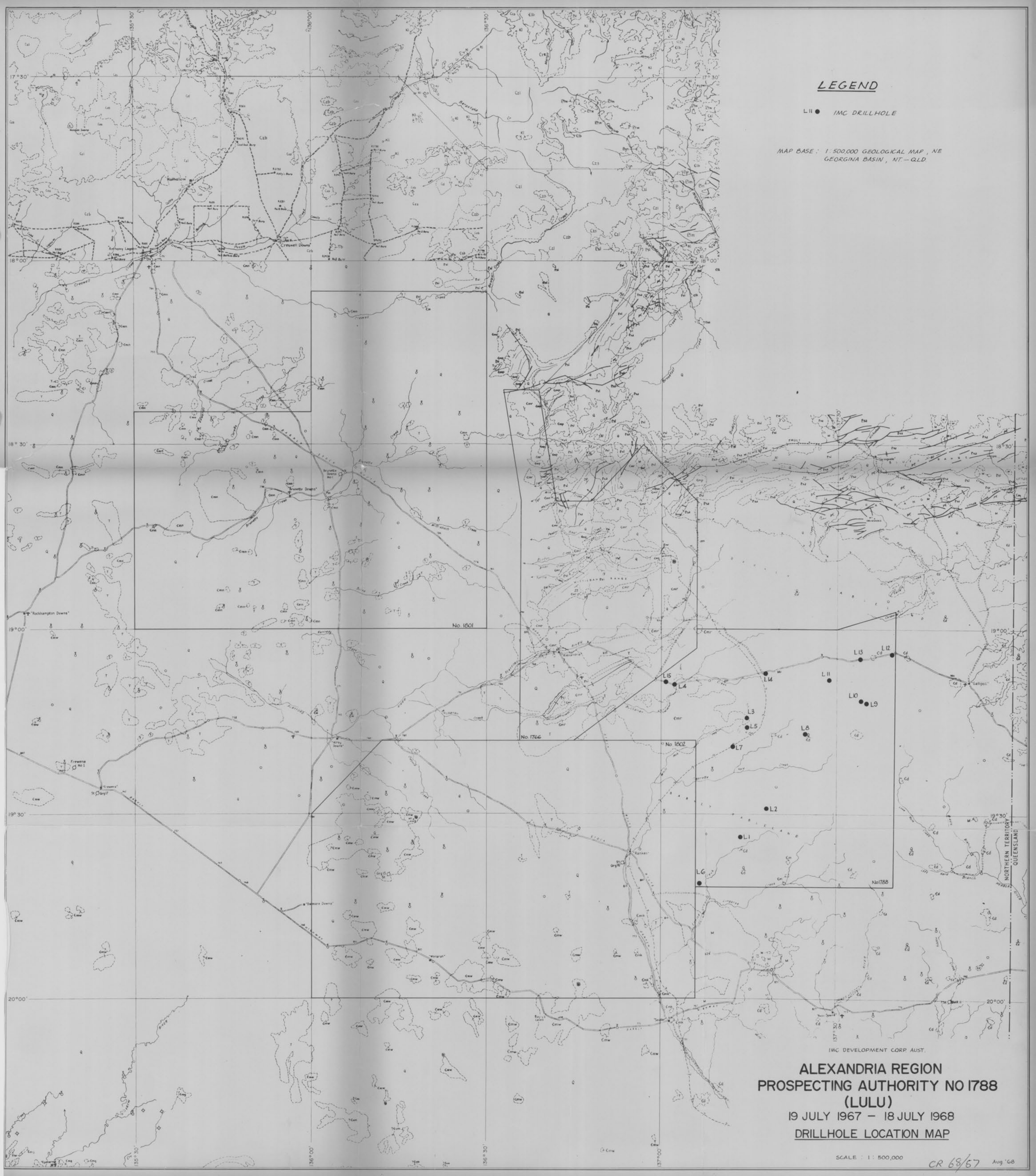
Instrument: Well Reconnaissance Geo-Logger



LEGEND

L II ● IMC DRILLHOLE

MAP BASE: 1:500,000 GEOLOGICAL MAP, NE
GEORGINA BASIN, NT-QLD



IMC DEVELOPMENT CORP. AUSTR.

**ALEXANDRIA REGION
PROSPECTING AUTHORITY NO 1788
(LULU)
19 JULY 1967 - 18 JULY 1968
DRILLHOLE LOCATION MAP**

SCALE: 1:500,000

CR 68/57 Aug '68