C L BREDIN HOLDINGS LTD
GEOLOGICAL CONSULTING

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WELLSITE GEOLOGICAL REPORT
FOR

PARAMOUNT RESOURCES LTD.

PARAMOUNT ET AL CAMERON B-25

WELL SUMMARY

Well Name: Paramount et al Cameron B-25

Location: 60° 10' N 117° 30' W

Elevation: Ground 754.3m KB 757.7m

Total Depth: Driller 1649.0m Logger 1644.2m

Operator: Paramount Resources Ltd.

Contractor: Sierra Drilling Rig #3

Geologist: Colin Bredin

Drilling Supervisor: Phil Christie

Logs Run: Phasor-SFL, BHC Sonic, CNL-LDT-DAC, Microlog

Drill Stem Tests: #1 1360-1386m Lower Slave Point BHC

Core Cut: None

Surface Casing: 244.5mm landed @ 393.4m KB

Production Casing: 139.7mm landed @ 1646.0m KB

Spud Date: 90-03-20
ran surface

Rig Release: 91-02-10

Status: Potential Sulfur Point Gas

Colin Bredin BSc. P.Geol

COLIN BREDIN BSc PGeol

WELL NAME: Paramount et al Cameron B-25 GR 754.3

LOCATION: 60° 10' N 117° 30' W KB 757.7

FORMATION	DEPTH	SUBSEA
Wabamun	533.5m	+224.2
Fort Simpson	726.0m	+ 31.7
Twin Falls	839.0m	- 81.3
Hay River	998.0m	-240.3
Muskwa	1325.5m	-567.8
Slave Point	1351.0m	-593.3
Fort Vermillion	1382.5m	-624.8
Watt Mountain	1398.0m	-640.3
Sulfur Point	1400.0m	-642.3
Muskeg	1419.5m	-661.8
Keg River	1527.0m	-769.3
Chinchaga	1601.0m	-843.3
Granite Wash	1623.5m	-865.8
Precambrian	1636.3m	-878.6
Total Depth	1649.0m	-891.3

COLIN BREDIN BSc PGeol

DRILL STEM TEST REPORT

WELL NAME Paramount et al Cameron B-25

DATE 91-02-03 (yr mo day) TEST # One KB 757.7m TD 1386m

FORMATION Lower Slave Point INTERVAL 1360 TO 1386

TYPE Bottom Hole Conventional WTS - min

GTS - min

FLOWTIMES 10 / 60 / 45 / 120 OTS - min

BLOW DESCRIPTION

Preflow 20 bubbles then dead

Valve Open 10 bubbles then dead

PRESSURES

PF	414	–	534
HP	15534	–	15172
FP	741	–	879
SIP	8244	–	7965

RECOVERY

Total 85m

85m drilling mud and inhibitor

REMARKS

Tool opened near bottom, picked up cushion. Reopened tool after FSI, a few bubbles then dead

This DST does not appear to reflect what was indicated by the samples or drilling break

SAMPLE DESCRIPTION

1295

No Sample, LCM

1300

SHALE light to medium grey, light brown, medium brown calcareous

1305

SHALE light to medium grey

1310

SHALE light to medium grey, trace of LIMESTONE medium grey, argillaceous

1315

SHALE light to medium grey, medium grey, dark brown calcareous

1320

SHALE light to medium grey, calcareous, light to medium grey

1325

SHALE as above, trace of LIMESTONE white to light grey, litho to crypto, tight

1330

SHALE light to medium grey, LIMESTONE light grey, tight argillaceous

1335

as above

1340

SHALE light to medium grey calcareous, minor LIMESTONE white to light grey, argillaceous, tight

1345

as above

1350

as above, LIMESTONE light, medium, dark brown, cryptocrystalline, mudstone, no stain, no flourescence, no Ø

1355

LIMESTONE light brown, medium brown, cryptocrystalline, mudstone, no stain, no flourescence, no Ø

1360

LIMESTONE light brown, medium brown, crypto-microcrystalline, mudstone-wackstone, no stain, **trace of pinpoint Ø streaming yellow-green wet cut flourescence, slight petroliferous odor**

1365

as above

1370

as above, LIMESTONE light brown, medium brown, crypto crystalline, tight

1375

LIMESTONE light brown wackstone as above, minor LIMESTONE medium brown, microcrystalline, slightly dolomitic, packstone, **minor pinpoint Ø streaming yellow-green wet cut flourescence, trace of vuggy Ø, trace of residual oil, fair petroliferous odor**

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1380

LIMESTONE light, medium brown, cryptocrystalline, mudstone, no stain, no flourescence, no Ø

1385

LIMESTONE as above, ANHYDRITE white

1390

LIMESTONE medium brown, dark brown, cryptocrystalline, mudstone, abundant cavings

1395

LIMESTONE light to medium brown, medium brown, crypto-crystalline, mudstone-wackstone, no stain, no flourescence, no Ø, abundant cavings

1400

LIMESTONE as above, trace of ANHYDRITE, trace of SHALE medium to dark green, abundant cavings

1405

LIMESTONE white to light grey, mudstone, minor LIMESTONE medium brown, cryptocrystalline, tight, minor LIMESTONE white to light brown, crypto to microcrystalline, wack-stone, no stain, no flourescence, no Ø

LOST CIRCULATION: samples from here to TD taken from trough on mud tank and may not be representative.

1410

trace of LIMESTONE light grey-white, medium brown, crypto-crystalline, mudstone, no stain, no flourescence, trace of LIMESTONE light grey-white, medium brown, finely crystalline, packstone, some sucrosic, trace of large calcite crystals, no stain, **intercrystalline, pinpoint, small and large vuggy Ø, faint streaming yellow-green wet cut flourescence**

1415

as above

1420

LIMESTONE light to medium brown, cryptocrystalline, mud-stone, no stain, no flourescence, no Ø, minor ANHYDRITE trace of DOLOMITE

1425

DOLOMITE light, medium, dark brown, cryptocrystalline, microcrystalline, some sucrosic, mudstone, wackstone, packstone, trace pinpoint, trace intercrystalline Ø, no stain, no flourescence

1430

DOLOMITE as above, DOLOMITE medium brown, microcrystalline, **grainstone, trace of light oil stain, spotty faint yellow wet cut flourescence, trace of intercrystalline and vuggy Ø**

1435

as above

1440

ANHYDRITE white, light grey, light brown

1445

1445

ANHYDRITE white, light brown, minor DOL cavings

1450

as above

1455

ANHYDRITE white, light grey, light brown, trace of DOL
as above

1460

as above

1465

as above

1470

ANHYDRITE white, light grey, light brown

1475

as above

1480

as above

1485

ANHYDRITE white, light grey, light brown

1490

as above

1495

as above, minor DOLOMITE light brown, medium brown, dark brown, crypto-microcrystalline, mudstone to packstone, some sucrosic, no stain, **faint streaming yellow wet cut flourescence, trace of intercrystalline Ø**

1500

DOLOMITE as above, no stain, no flourescence, no Ø
minor ANHYDRITE

1505

ANHYDRITE white light brown, light grey, minor DOLOMITE light, medium brown, crypto-microcrystalline, mudstone to packstone, no stain, no flourescence, no Ø

1510

as above

1515

as above

1520

ANHYDRITE white, light brown, trace DOLOMITE as above

1525

as above

1530

DOLOMITE light to medium brown, cryptocrystalline, micro-crystalline, mudstone to packstone, some sucrosic, no stain, no flourescence, no Ø

1535

1535

DOLOMITE light, medium brown, crypto to microcrystalline mud to packstone, some sucrosic, no stain, **faint streaming yellow wet cut flourescence, trace of intercrystalline Ø** minor ANHYDRITE

1540

DOLOMITE light brown, medium brown, crypto to microcrystalline, wackstone to packstone, no stain, no flourescence, no apparent Ø

1545

DOLOMITE light, medium brown, crypto to finely crystalline, wackstone to packstone, no stain, no flourescence, **trace of pinpoint and vugggy Ø**

1550

DOLOMITE light, medium, dark brown, crypto to microcrystalline, wackstone, no stain, no flourescence, no Ø

1555

DOLOMITE light, medium brown, crypto to microcrystalline, wackstone, no stain, no flourescence, no Ø

1560

DOLOMITE medium, dark brown, crypto to microcrystalline, wackstone, no stain, **faint streaming yellow wet cut flourescence,** no visual Ø

1565

DOLOMITE light, medium brown, crypto to finely crystalline, mud to packstone, no stain, no flourescence, minor **vuggy and intercrystalline Ø**

1570

as above

1575

DOLOMITE dark brown-black carbonaceous, crypto to microcrystalline, mudstone to wackstone, no stain, no flourescence, no Ø

1580

LIMESTONE light, medium grey argillaceous, mudstone tight, minor DOLOMITE as above, trace of SHALE dark grey to black carbonaceous

1585

LIMESTONE as above, medium to dark brown, cryptocrystalline, slightly argillaceous, mudstone to wackstone, tight

1590

as above, LIMESTONE light grey-white, slightly argillaceous tight

1595

as above

1600

1600
LIMESTONE as above, LIMESTONE medium to dark brown, cryptocrystalline, mudstone, tight
1605
as above, trace of ANHYDRITE
1610
ANHYDRITE light grey-white, minor LIMESTONE as above
1615
ANHYDRITE light grey-white, light brown
1620
as above
1625
as above
1630
ANHYDRITE light grey-white, light brown, trace of DOLOMITE medium, dark brown, cryptocrystalline, mudstone, tight
1635
GRANITE quartz and feldspars, trace of free washed quartz
1640
GRANITE quartz and feldspars
1645
as above
1649
TD

C.L. BREDIN HOLDINGS LTD.
GEOLOGICAL CONSULTING

Well Name: Paramount et al Cameron B-25 — Ground Elev. 754.3

Location: 60° 10' N 117° 30' W — K.B. Elev. 757.7

Spud Date: 90-02-30 set surface

Rig Release: 91-02-10 — Finish Drilling 91-02-09

Total Depth: 1649.0 — Logger 1644.2

Status: Potential Sulfur Point

Casing: Surface 244.5 @ 393.4m

Production 139.7 @ 1646.0m

Operator: Paramount Resources Ltd.

Contractor: Sierra Drilling Rig #3

Supervision: Geologist Colin Bredin

Engineer Phillip Christie

Logs Run: Phasor-SFL, BHC Sonic, CNL-LDT, Microlog

FORMATION TOPS

Formation	Top	Subsea
Wabamun	533.5	+224.2
Ft Simpson	726.0	+ 31.7
Twin Falls	839.0	- 81.3
Hay River	998.0	-240.3
Muskwa	1325.5	-567.8
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Keg River	1527.0	-769.3
Chinchaga	1601.0	-843.3
Granite WS	1623.5	-865.8
Precambrian	1636.3	-878.6
TD	1649.0	-891.3

CORE AND DRILL STEM TEST SUMMARY

Nº	INTERVAL	RECOVERY	FORMATION
#1	1360-1386m	85m DM and Inh	Lower Slave

SHOWS: Excellent, Good, Fair, Poor

SORTING: W Well, M Medium, P Poor

POROSITY: G Intergranular, XL Intercrystalline, SV Small Vuggy, LV Large Vuggy, E Earthy, F Fracture, PP Pinpoint

ROUNDING: A Angular, a Sub-angular, r Sub-round, R Round

LIMESTONE: Crystalline

DOLOMITE: Crystalline

EVAPORITES: Anhydrite, Salt/Potash

CLASTICS: Shale, Siltstone, Sandstone, Conglomerate, Coal, Arkose

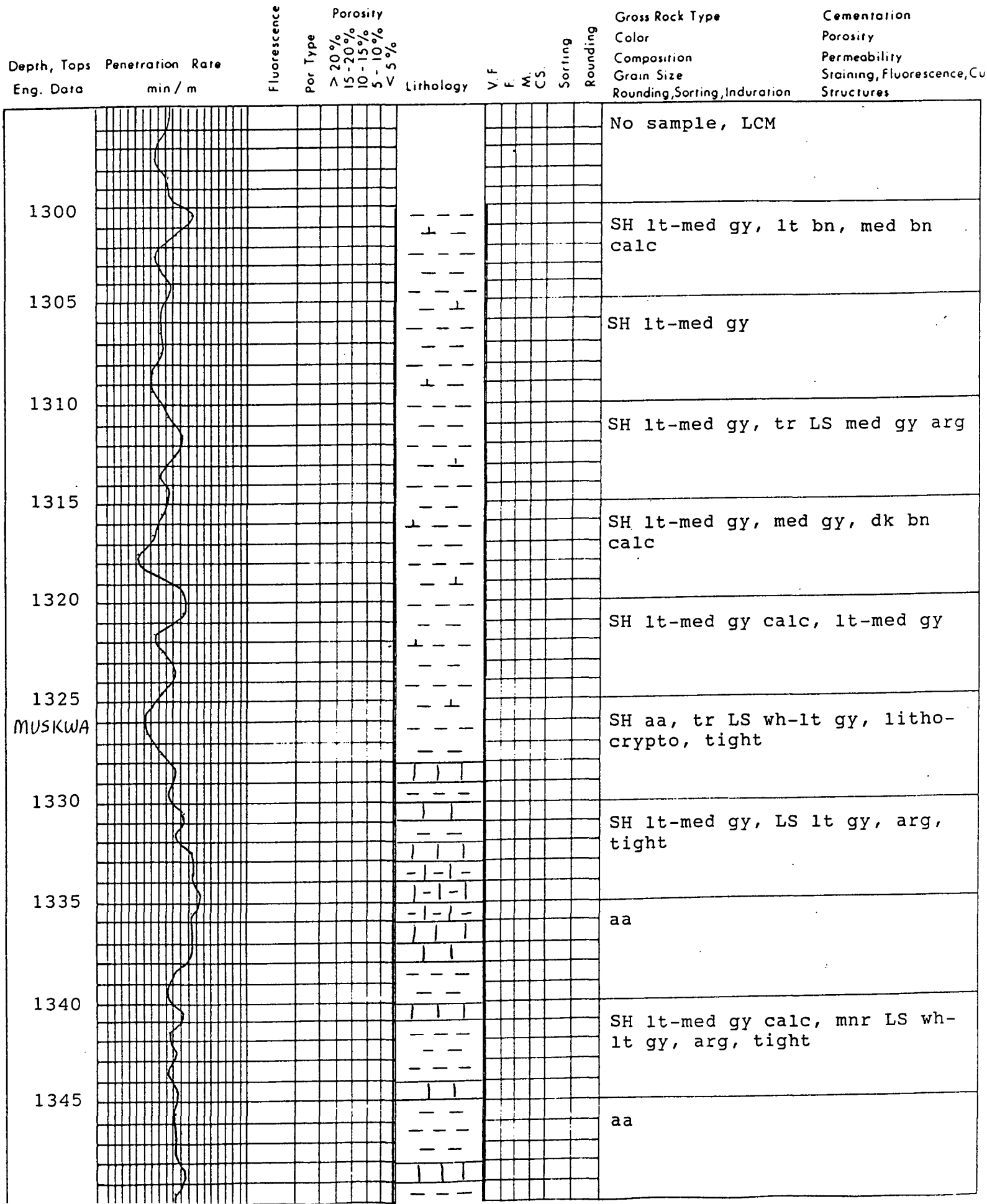
IGNEOUS-METAMORPHIC: Granite, Metamorphic, Volcanic

Pelletoidal, Bioclastic - Fragmental, Oolitic, Reefal, Crinoidal, Chalky, Anhydritic, Calcite Crystal, Dolomite Crystal

Bentonite, Earthy, Sandy, Silty, Argillaceous, Bituminous, Chert - Siliceous, Glauconite, Calcareous

Dolomitic, Siderite, Pyrite, Fracture, Fossil, Brachiopod, Bryozoa, Coral, Gastropod, Ostracod

Paramount et al Cameron B-25

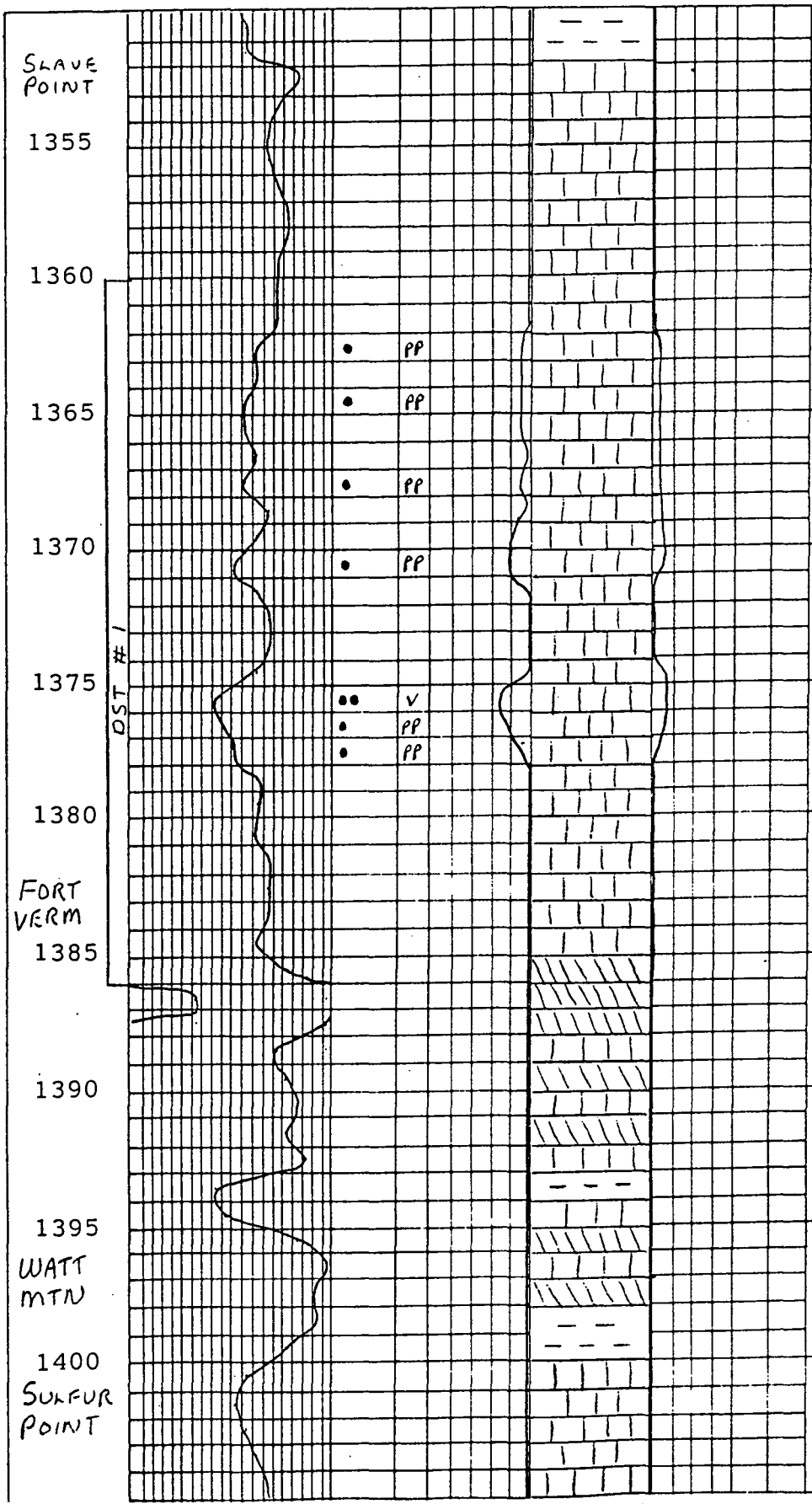


Paramount et al Cameron B-25

LITHOLOGY

Rock Description Procedure

Gross Rock Type — Cementation
Color — Porosity
Composition — Permeability
Grain Size — Staining, Fluorescence, Cu
Rounding, Sorting, Induration — Structures



aa LS lt, med, dk bn, crypto, mud, no st, no flour, no Ø

LS lt bn, med bn, crypto, mud, no st, no flour, no Ø

LS lt, med bn, crypto-micro., mud-wack, no st, wet cut flour, tr pp Ø, slig petro odor

aa

aa LS lt, med bn, crypto, tight

LS lt bn, wack, aa, LS med bn, micro, slig dol, pack, tr oil, wet cut flour, mnr pp Ø, tr vuggy Ø, fair petro odor

LS lt, med bn, crypto, mud, no st, no flour, no Ø

LS aa, ANH wh

LS med, dk bn, crypto, mud, tight, abt cvngs

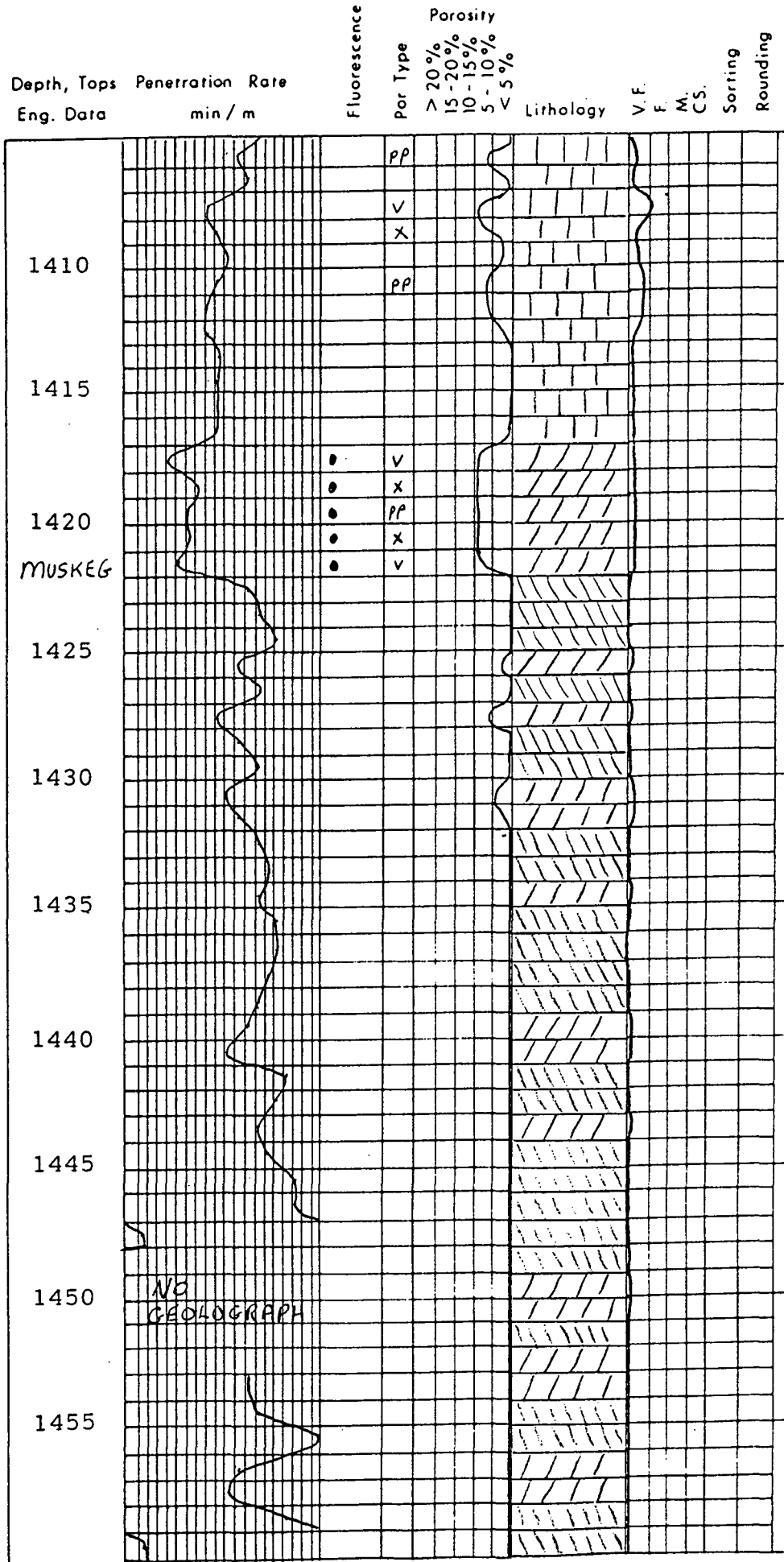
LS lt-med bn, med bn, crypto, mud-wack, no st, no flour, no Ø, abt cvngs

LS aa tr ANH, tr SH med-dk grn abt cvngs

Paramount et al Cameron B-25

LITHOLOGY

Rock Description Procedure



Gross Rock Type
Color
Composition
Grain Size
Rounding, Sorting, Induration

Cementation
Porosity
Permeability
Staining, Fluorescence, Cut
Structures

LS wh-lt gy, mud, mnr LS med bn, crypto, tight, mnr LS wh-lt bn, crypto-micro, wack, no st, no flour, no Ø

~~LOST CIRCULATION~~

tr LS lt gy-wh, med bn, tight, tr LS lt gy-wh, med bn, fine xstal, pack, sucr, tr calc xstal, intxstal, pp, vuggy Ø

faint wet cut flour

aa

LS lt-med bn, crypto, mud, no st, no flour, no Ø, mnr ANH, tr DOL

DOL lt, med, dk bn, crypto, micro, mud-wack, pack, some sucrosic, no st, no flour, tr pp and intxstal Ø

DOL aa DOL med bn, micro, gnst tr lt oil st, faint wet cut flour, tr intxstal and vuggy Ø

aa

ANH wh, lt gy, lt bn

aa mnr DOL cvngs

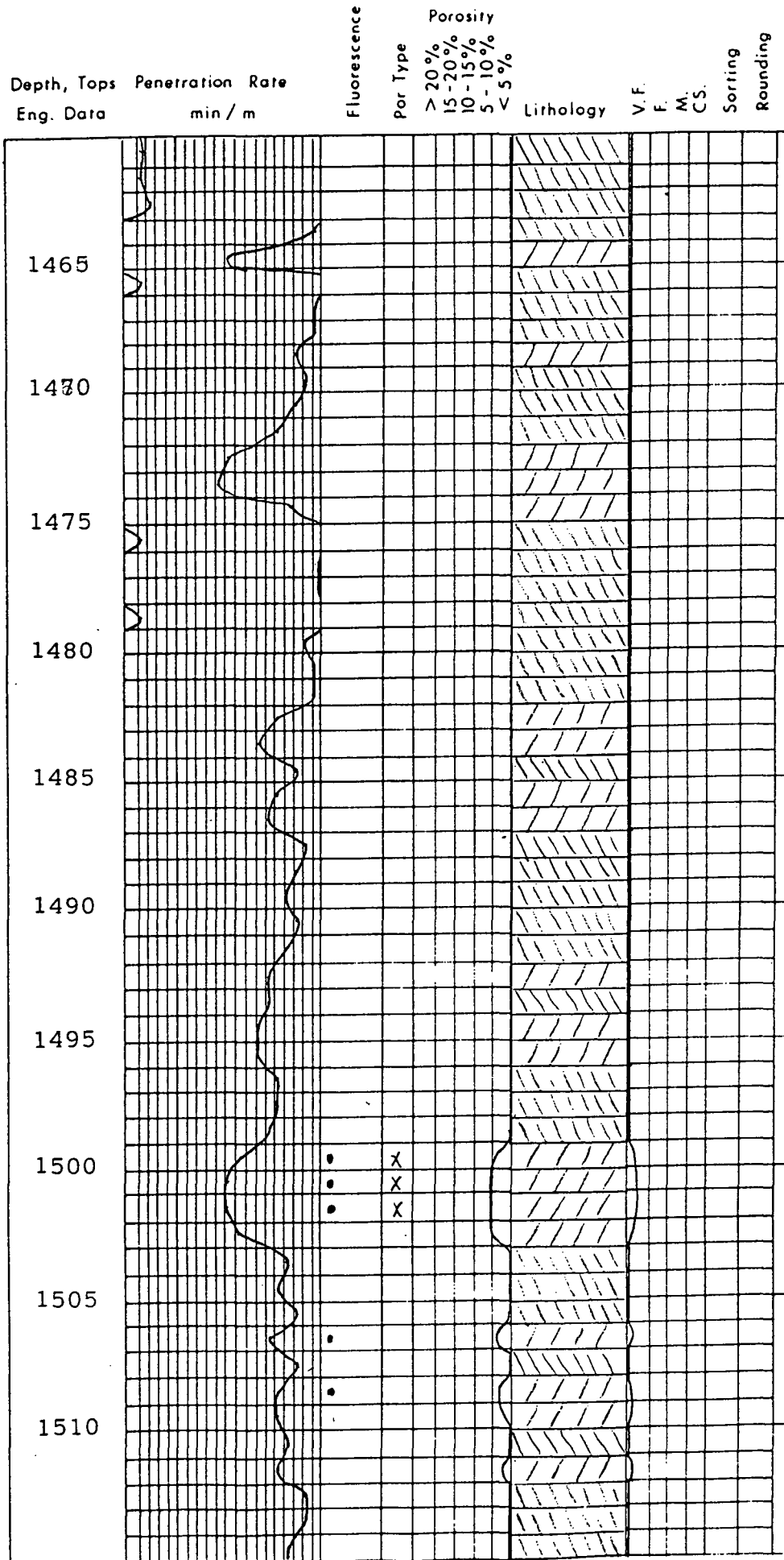
aa

ANH wh, lt gy, lt bn, tr DOL

Paramount et al Cameron B-25

LITHOLOGY

Rock Description Procedure



Gross Rock Type | Cementation
Color | Porosity
Composition | Permeability
Grain Size | Staining, Fluorescence, Cu
Rounding, Sorting, Induration | Structures

ANH wh, lt gy, lt bn tr DOL

aa

ANH wh, lt gy, lt bn

aa

aa

ANH wh, lt gy, lt bn

aa

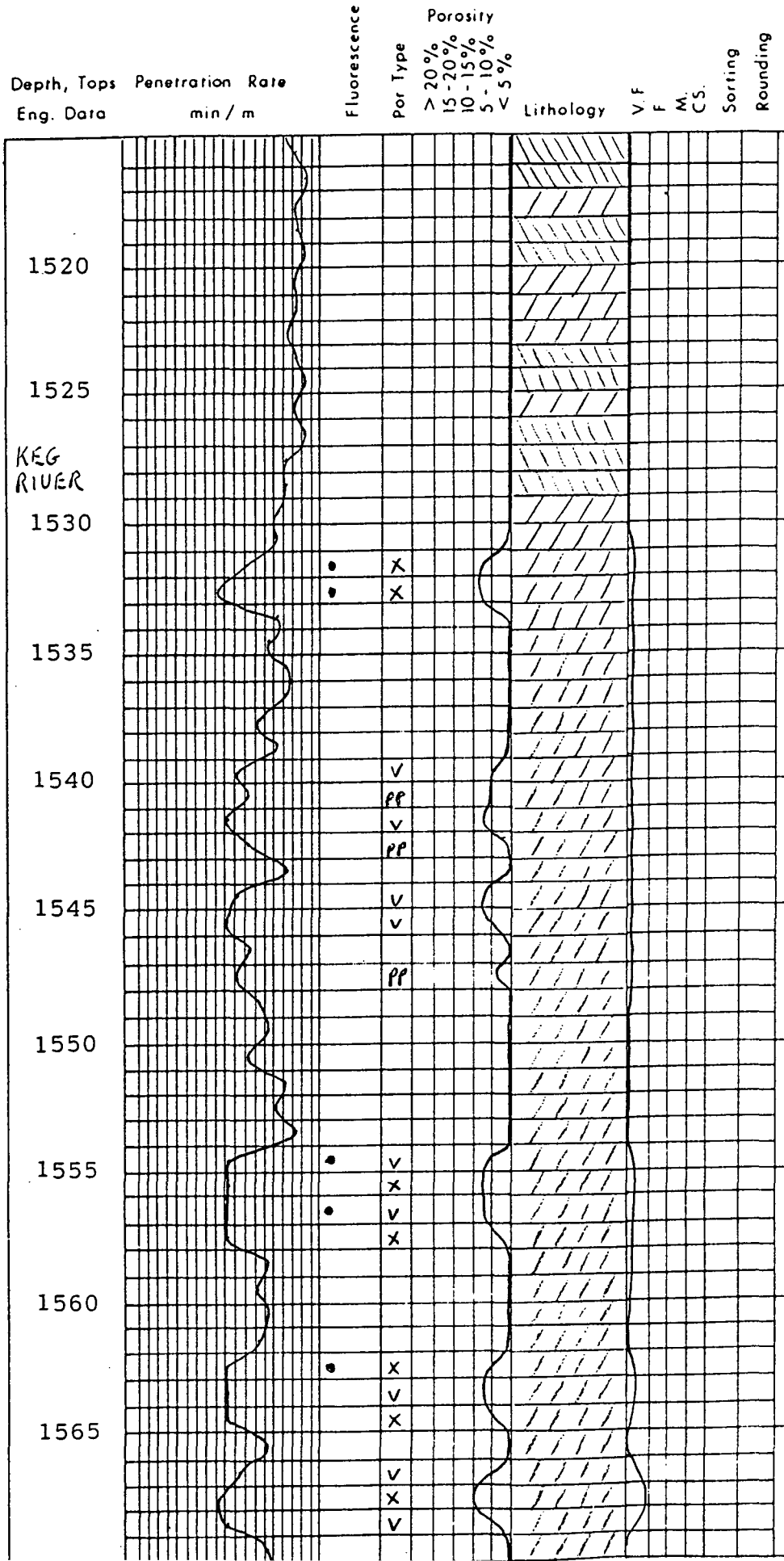
aa mnr DOL lt bn, med bn, dk bn, crypto-micro, wack-pack, some sucrosic, no st, faint wet cut flour, tr intxstal Ø

DOL aa no st, no flour, no Ø, mnr ANH

ANH wh, lt bn, lt gy, mnr DOL aa

aa

Paramount et al Cameron B-25



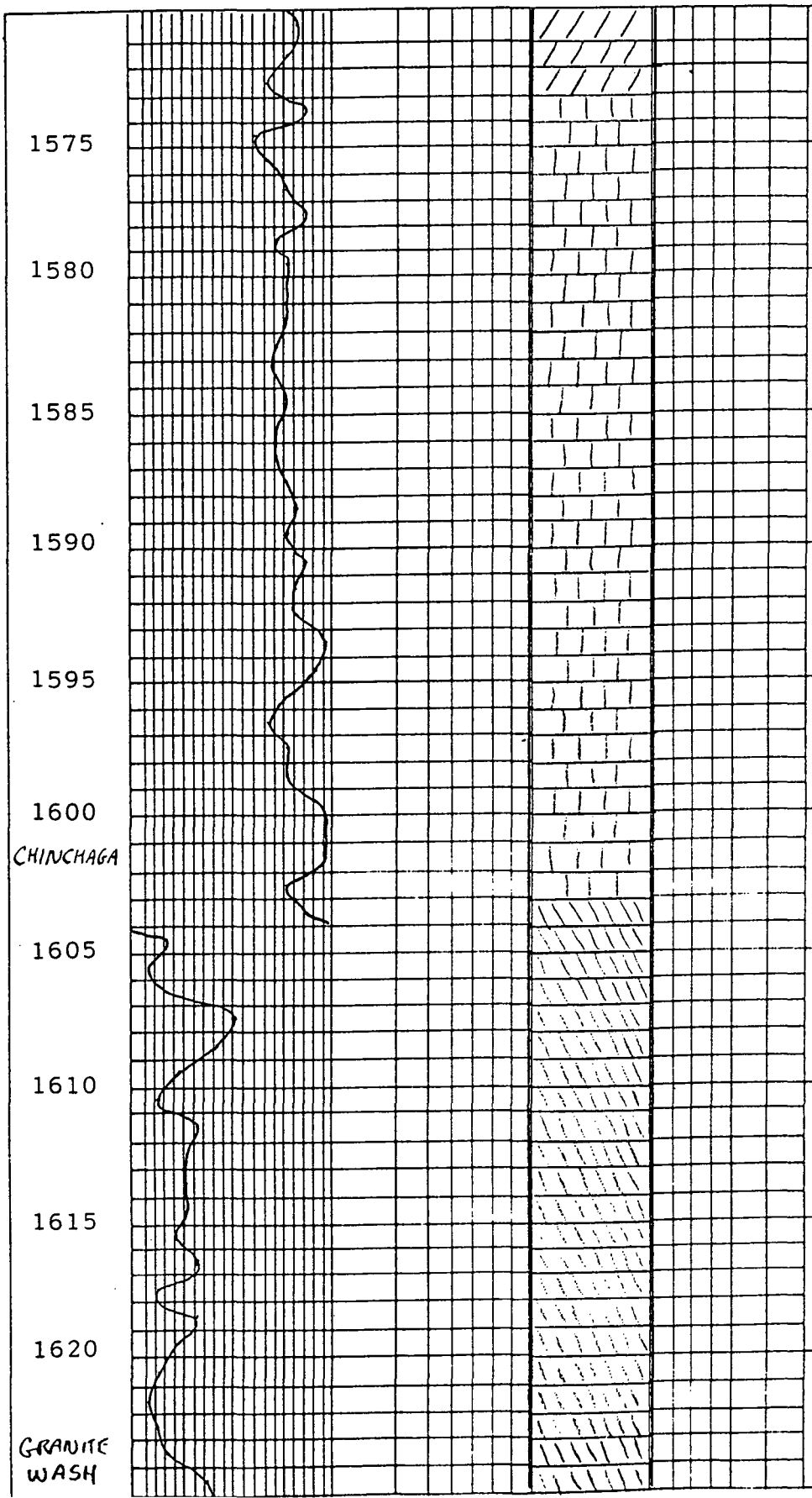
Paramount et al Cameron B-25

LITHOLOGY

Rock Description Procedure

Gross Rock Type | Cementation
Color | Porosity
Composition | Permeability
Grain Size | Staining, Fluorescence, Cu
Rounding, Sorting, Induration | Structures

Depth, Tops Eng. Data | Penetration Rate min / m | Fluorescence | Por Type | Porosity > 20% 15-20% 10-15% 5-10% < 5% | Lithology | V.F. F. M. C.S. | Sorting | Rounding



1575

DOL lt, med bn, crypto-finely xstal, mud-pack, no st, no flour, mnr vuggy and intxstal Ø

1580

DOL dk bn-blk carb, crypto-micro, mud-wack, no st, no flour, no Ø

1585

LS lt-med gy, arg, mud, tight, mnr DOL aa, tr SH dk gy to blk carb

1590

LS aa, med-dk bn, crypto, slig arg, mud-wack, tight

1595

aa LS lt gy-wh, slig arg, tight

1600

aa

CHINCHAGA

1605

LS aa, LS med-dk bn, crypto, mud, tight

1610

aa tr ANH

1615

ANH lt gy-wh, mnr LS aa

1620

ANH lt gy-wh, lt bn

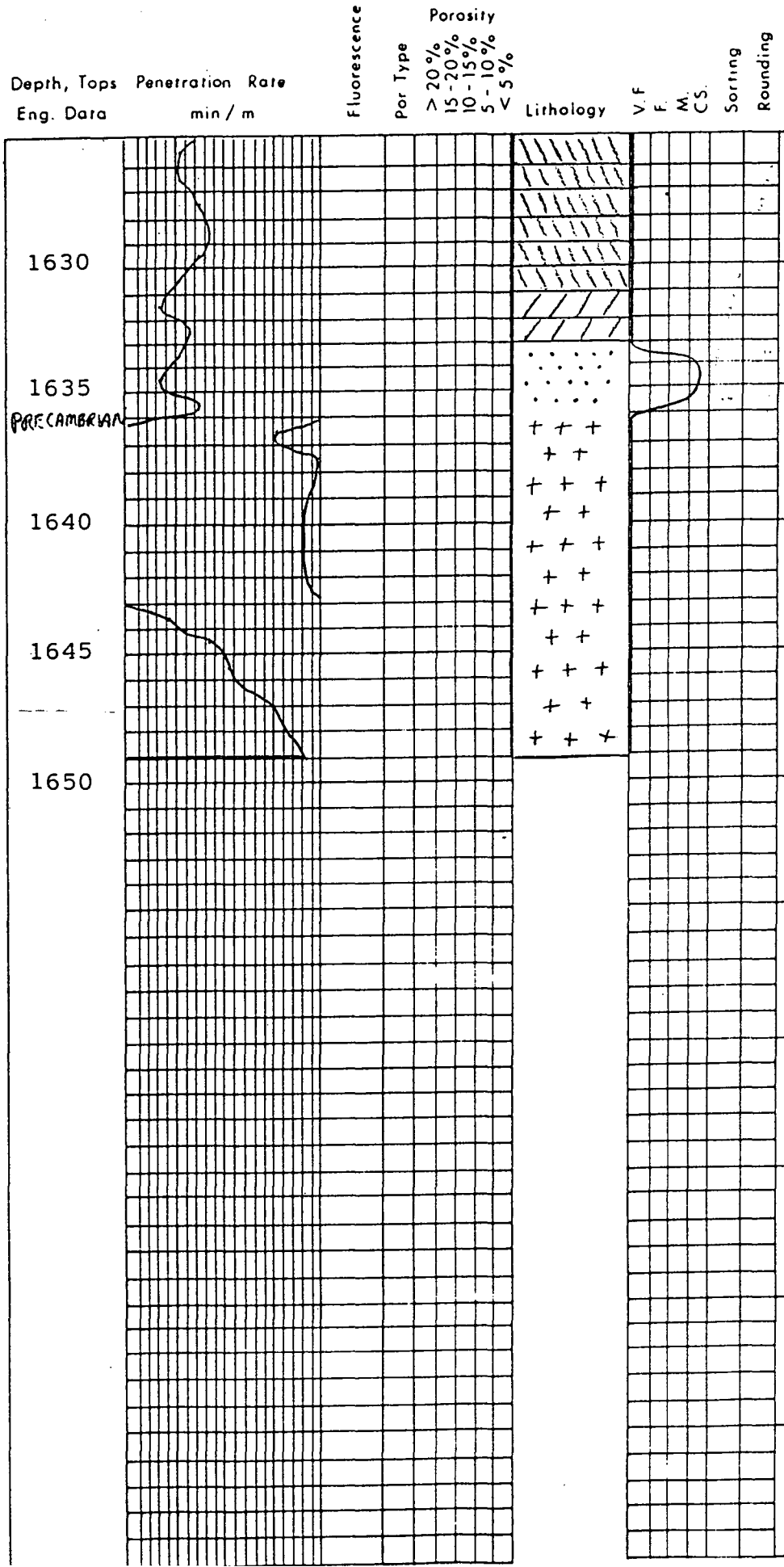
GRANITE WASH

aa

Paramount et al Cameron B-25

LITHOLOGY

Rock Description Procedure



Gross Rock Type
Color
Composition
Grain Size
Rounding, Sorting, Induration

Cementation
Porosity
Permeability
Staining, Fluorescence, Cu
Structures

ANH lt gy-wh, lt bn

ANH lt gy-wh, lt bn, tr DOL med, dk bn, crypto, mud, tight

GRANITE qtz and feldspars, tr free washed qtz

GRANITE qtz and feldspars

aa