1-4

# BELCO PETROLEUM CORPORATION OF PERU
# GEOLOGICAL LOG
## LITHOLOGICAL AND PALEONTOLOGICAL LOG
## WELL Z2A-21-592-D-LO6 (LO6-18)

WORKING FILE GEOSCIENCES

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PETRO-TECH PERUANA S.A. GEOLOGIST WELL FILE

WELL FILE

Nch

GEOLOGISTS: GEOPET J. Garcia / A. Velasquez
O. Concha / R. Morante

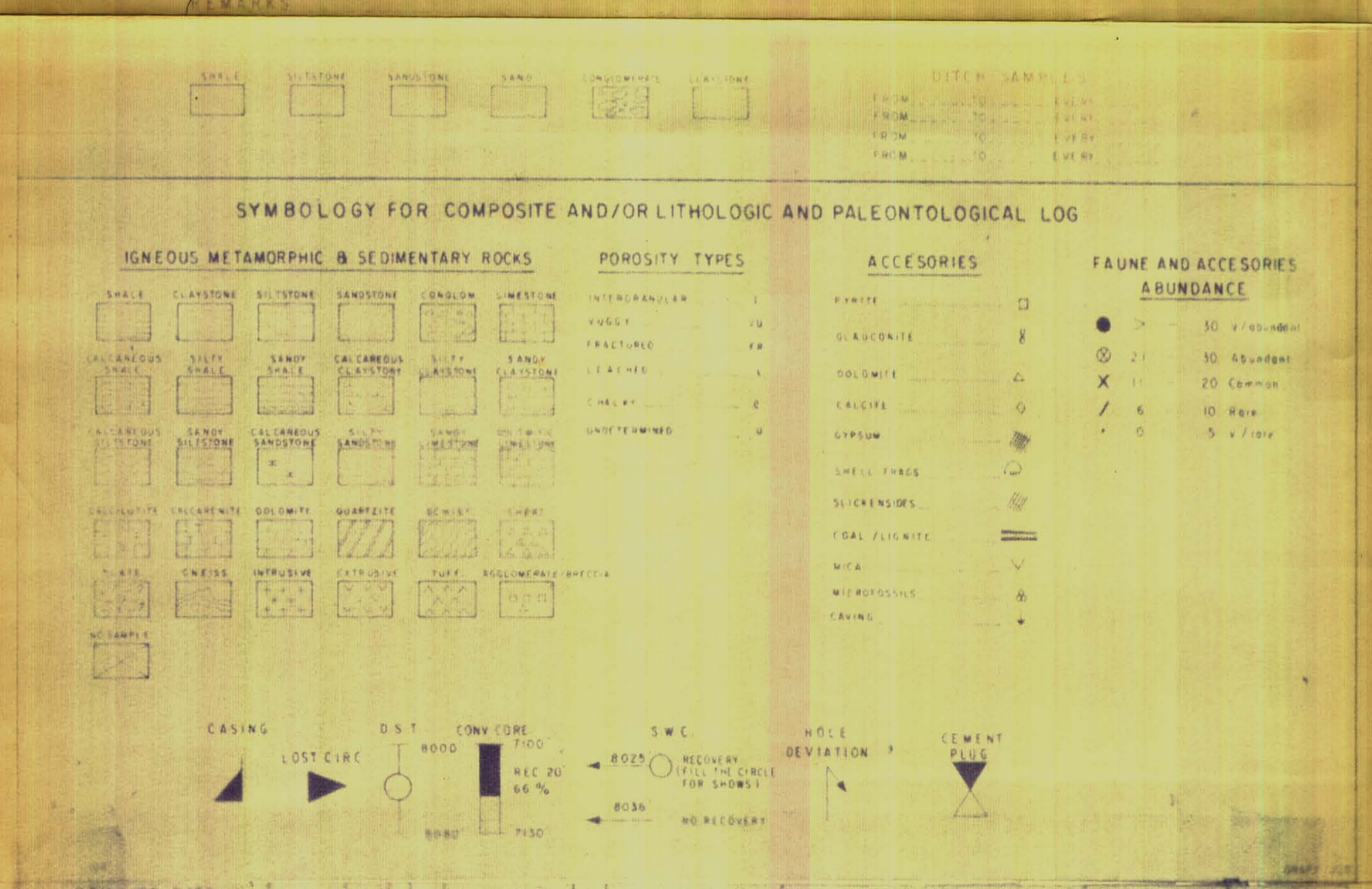
PALEONTOLOGIST:
PALINOLOGYST:

AREA: LOBITOS OFFSHORE
BLOCK: Z2A PARCEL: 21
PLATFORM: LO6
RIG CONTRACTOR: STORM II
TYPE OF WELL: DEVELOPMENT
SURFACE COORDINATES: N 1'598,635.22 m — E: 124,660.21 m
BOTTOM COORDINATES: N 1'599,446.29 m — E: 124,868.08 m
K.B.E. 50' G.L.E. — WATER DEPTH: -335'
AVERAGE DIRECTION: N 14°22'30"
AVERAGE OF VERTICAL ANGLE ON TARGET: 26°47'47"
TOTAL MEASURED DEPTH: 6254'
TOTAL VERTICAL DEPTH: 5439'
DRILLING COMMENCED: on November 22nd, 1984
DRILLING FINISHED: on December 12th, 1984
SURFACE CASING: 13 3/8" at 671'
INTER CASING: 9 5/8" at 1515'
PRODUCTION CASING:
ELECTRICAL SURVEYS: IEL-GR
REMARKS:

BELCO PETROLEUM CORP. OF PERU
DPTO. TECNICO
26 DIC. 1984
RECIBIDO

SCANNED
By Pelux
Date 1-8-03

| | | | | | | DITCH SAMPLES |
|---|---|---|---|---|---|---|
| SHALE | SILTSTONE | SANDSTONE | SAND | CONGLOMERATE | CLAYSTONE | FROM ___ TO ___ EVERY ___ |


SYMBOLOGY FOR COMPOSITE AND/OR LITHOLOGIC AND PALEONTOLOGICAL LOG
IGNEOUS METAMORPHIC & SEDIMENTARY ROCKS
SHALE
CLAYSTONE
SILTSTONE
SANDSTONE
CONGLOM
LIMESTONE
CALCAREOUS SHALE
SILTY SHALE
SANDY SHALE
CALCAREOUS CLAYSTONE
SILTY CLAYSTONE
SANDY CLAYSTONE
CALCAREOUS SILTSTONE
SANDY SILTSTONE
CALCAREOUS SANDSTONE
SILTY SANDSTONE
SANDY LIMESTONE
DOLOMITIC LIMESTONE
CALCILUTITE
CALCARENITE
DOLOMITE
QUARTZITE
SCHIST
CHERT
SLATE
GNEISS
INTRUSIVE
EXTRUSIVE
TUFF
AGGLOMERATE/BRECCIA
NO SAMPLE
POROSITY TYPES
INTERGRANULAR I
VUGGY VU
FRACTURED FR
LEACHED L
CHALKY C
UNDETERMINED U
ACCESORIES
PYRITE
GLAUCONITE
DOLOMITE
CALCITE
GYPSUM
SHELL FRAGS
SLICKENSIDES
COAL / LIGNITE
MICA
MICROFOSSILS
CAVING
FAUNE AND ACCESORIES ABUNDANCE
> 30 V/abundant
21 30 Abundant
11 20 Common
6 10 Rare
0 5 V/rare
CASING
LOST CIRC
D.S.T.
8000
8080
CONV CORE
7100
REC 20'
66 %
7150
S.W.C.
8025
RECOVERY (FILL THE CIRCLE FOR SHOWS)
8036
NO RECOVERY
HOLE DEVIATION
CEMENT PLUG

LITHOLOGICAL DESCRIPTIONS
LO6-18
0-500'

PALEONTOLOGICAL DETERMINATIONS

DRILLING SPUDDED ON NOVEMBER 22nd 1984

NON SAMPLE RETURNS DRILLING WITH SEA WATER

Sd: wh hy occ hy qtz grains, F-M 40%, M-C 60%, C-VC, subang occ blky.

SS: whgyish F60%, M30%, C10%, subang, sl fri, sl frm, sl calc w/micr pyr dism incl, dty, slch.

SS: whgyish F70%, M20%, C10%, subang, sl fri, sl frm, sl calc w/micr pyr dism, sl dty.

SLTST: whgyish w/ micr carb v. occ micr pyr dism, sl to mod frm, sl calc, sl dty, sdy slty.

SS: whgyish F80%, M20%, subang, sl fri, sl frm, sl calc w/ micr pyr dism occ micr carb incl, sl dty.

SLTST: whgyish, w/ micr carb v occ micr pyr dism, sl to mod frm, sl calc, sl dty, sdy slty.

SLTST: Same as above.

SH: Gy, brngyish w/ micr carb v. occ micr mica incl, sl frm, calc, sl rough surface, subblky.

SS: whgyish, whgnish in pt, F80%, M20% subang, sl fri, sl frm, calc w/ micr pyr dism v. occ micr carb incl, sl dty.

SLTST: whgyish, w/ micr carb v. occ micr pyr dism incl mod frm, sl calc, sl dty, sdy slty.

SLTST: whgyish w/ micr carb v. occ micr pyr dism, sl to mod frm, sl calc, sl dty, sdy slty.

SH: Gyish w/ micr carb v. occ micr mica incl, sl frm, sl calc, subblky.

SLTST: whgyish, Gyish w/ micr carb v occ micr pyr dism, sl to mod frm, sl calc, sl dty, sdy slty.

SH: Gyish w/ micr carb v. occ micr mica incl, sl frm, sl calc, subblky.

SH: Gyish w/ micr carb & occ micr mica incl, sl calc, subblky.

SH: Same as above.

SLTST: whgyish, Gyish w/ micr carb occ micr mica incl, sl to mod frm, sl calc, sl dty, sdy slty.

SH: incl, sl frm, sl calc, subblky. Brn sh in pt w/ micr pyr dism occ micr carb incl, sl frm, sl sft, calc, sl bent.

SH: Gyish w/ micr carb v. occ micr pyr dism incl, sl frm, sl calc, subblky, sl rough surface, sl dense.

SH: Same as above.

SLTST: whgyish w/ micr pyr dism v. occ micr carb incl, sl to mod frm, sl calc, sl dty, sdy slty.

SH: Gyish w/ micr carb occ micr mica incl, sl frm, sl calc, dty, sdy slty.

SLTST: whgyish w/ micr pyr dism v. occ micr mica incl, sl to mod frm, sl calc, dty, sdy slty.

SH: Gyish, Lt gyish w/ micr carb v. occ mica incl, sl to mod frm, sl calc, subblky.

SLTST: whgyish w/ micr pyr dism v. occ micr mica incl, sl to mod frm, sl calc, sl dty, sdy slty.

SH: Gy, Lt gyish w/ micr carb occ micr mica incl, sl frm, sl calc, subblky, sl rough surface.

SLTST: whgyish, Gyish w/ micr pyr dism v. occ micr mica incl, mod frm, calc, sl dty, sdy slty.

SH: Same as above.

SLTST: whgyish, gyish w/ micr carb v. occ micr mica incl, mod frm, sl calc, dty, sdy slty.

SH: Gy, Lt gyish w/ micr carb occ micr mica incl, sl to mod frm, sl calc, sl dense, subblky.

SH: Mostly gysh, micr mic, micr carb, firm, sl blky.

SH: Gy, micr mic, sl micr carb, firm, sl lam.
SLTST: Gysh, subang, w/dk grains.

SLTST: Gysh, subang, w/dk grains, sl calc, sl hd.
SH: Gy, micr mic, sl micr carb, firm, sl lam.

SH: Gy, micr mic, micr carb, firm, sl lam, brush sh in pt.

SH: Gy, micr mic, micr carb, firm, sl lam.

SH: Gysh, micr mic, sl micr carb, sl lam, firm.
SLTST: Gysh, micr mic, sl micr carb, sl hd, sl calc, sdy, wht mottle.

SH: Gysh, micr mic, sl micr carb, firm, sl lam.
SS: wh, F, subang, w/dk & fw qush grains, calc cmt, sl hd, mic incl, p por.

SH: Gysh, micr mic, sl micr carb, firm, blky.
SS: wh, F, subang, qtz, w/dk & qush grains, calc cmt, sl shy mtx, sl hd, mic incl, p por.
SD: wh, hy, qtz, subang, w/dk grains, fw qush grains, M-F.

SH: Gy, micr mic, micr carb, firm, sl lam.
SS: wh, F-M, subang, calc cmt, sl shy mtx, w/dk grains, mic & carb mat incl, p to fr por.
SD: wh, hy, qtz, subang, w/dk grains, M(80%), C(20%).

SH: Gysh, micr mic, micr carb, blky, firm.
SS: wh-lt gysh, F, subang, sl hd, calc cmt, sl shy mtx, w/dk & qush grains, mic & carb mat incl, p por.
SD: wh, hy, qtz, subang, w/dk & qush grains, VF-F, fw M-C.

SD: wh, hy, qtz, subang, w/dk & fw qush grains, M.
SS: wh-gy, F-M, subang, qtz, w/dk & qush grains, mic & carb mat incl, calc cmt, sl hd, p to fr por.
SH: Gy, micr mic, micr carb, firm, sl rough surf, blky.

SH: Gy, micr mic, sl micr carb, firm, blky.
SS: wh-sl gy, F, subang, w/dk & fw qush grains, sl hd, calc cmt, mic incl, p por.

SLST: Lt gysh, sl micr mica, sl micr carb, micr carb in pt, calc in pt, mod frm, gr VF grad to SS.

SS: wh w/dk gr, VF 30% F 30% F-M 30% M 10% sbang, cal cmt, p-fr vis por, p srtd, mod fri, slty in pt, w/occ carb & mica incl.

SD: wh, hy, occ dk gr, F 60% F-M 30% M 10% sbang, p srtd, qtz grains.

SLST: Lt gysh, gysh, sl micr mica, sl micr carb, occ abnt carb, calc in pt, mod frm, w/occ pyr incl, gr VF grad to SS.

SH: Brn, brngysh, occ gy, sl micr mica, sl micr carb, occ sl calc, mod frm, sb blky - sb plty, occ slty.

SLST: Lt gysh, sl micr mica, sl micr carb, calc in pt, mod frm, gr VF grad to SS, w/occ pyr incl.

SS: wh gysh, VF 40% F 30% F-M 30% sbang, cal cmt in pt, p-fr vis por, p srtd, mod fri - mod hd in pt, w/occ carb & mica & pyr incl.

SH: Brn, brngysh, occ gy, sl micr mica, sl micr carb, non calc, mod frm, occ slty, sb blky - sb plty.

SS: wh, Lt gysh, w/dk gr, VF 30% F 30% F-M 20% M 20% sbang, cal cmt, occ shy mtx, p-fr vis por, p srtd, mod fri, occ slty, w/occ carb & mica & pyr incl.

SLST: Lt gysh, sl micr carb, mod frm, gr VF grad to SS.

SH: Brn, brngysh, gy, sl micr mica, sl micr carb, non calc, mod frm, sb blky, sb plty, occ slty.

SS: wh, wh gysh w/dk gr, VF 30% F 30% F-M 20% M 20% sbang, cal cmt, p-fr vis por, p srtd, mod fri, occ shy mtx.

SLST: Lt gysh, gysh, sl micr mica, sl micr carb, occ abnt micr carb, calc in pt, mod frm, grad to SS.

SH: Brn, brngysh, gy, sl micr mica, sl micr carb, non calc, mod frm, sb blky, sb plty, occ slty.

SLST: Lt gy, gy, brnsh in pt, firm, sl fri, VF grs, grds to SS, rough surf, calc, sb blky / sb plty.

RUN GO WELL: IEL-GR