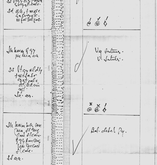

3-6

STRATIGRAPHIC LOG

BELCO PETROLEUM CORP.

WELL: OFFICIAL 22A-21-5B4-CO-LOG
BELCO 106-17

GENERAL DATA
Lobitos Offshore
106-21, 106-16, 106-13X
PALEO-PALY THROUGHT THE WELL
R. Levaggi
T. Gadea T
GEOPET

PROGNOSIS TOPS
M. CHAVEZ
Talara .... AT SURF
Chacra .... 3060'
Rio Bravo Sdy...... 3950'
Rio Bravo Shy...... 6650'
TD .... 6850'

WORKING FILE GEOSCIENCES

SYMBOLS

FINAL STRATIGRAPHY

PALEO
Conf.
E. Saucedo G.
May. 85

PETRO-TECH PERUANA S.A.
GEOLOGIST WELL FILE

STRATIGRAPHY SECTION
(GEOLOGY DEPARTMENT)

LITHOLOGICAL DESCRIPTION | DEPTH | LITHOLOGY | POROSITY | PALYNOLOGY | FORAMS

WELL SPUDDED ON OCTOBER 22th, 1984

HELICO FM

SS: Wh gysh, m; wh hy, smky & gysh qtz grains, calc cmt, some bk min.
SD: Wh hy, mky wh, gn & smky qtz grains; c, vc, sbang to sbrnd, g sort bk min.
SS: Wh gysh, m, w/bk & gysh min, ocass w py incl. calc cmt. SD: As above.
SS: Wh gysh, m, w/bk min some gysh min, calc cmt.
SD: Wh hy, mky wh, smky & some gysh qtz grains, also bk grains (volc and chert) c, vc.
Continue same lithology as above (Helico sdyfc)

Barren

Barren

Barren

Barren

Cibicides grimsdalei

LOBITOS FM

SH: Gy, vsft, bent, sl mic carb, sl lam.
SS: Wh gysh, m, w/bk min, calc cmt.

Rica zone traces

SH: Gy, sft, bent, sl mic mic, sl mic carb, massive. Lt brn, sl comp, sl mic mic, mic carb, sbbky.
SS as above, SD: Traces

Tritaxilina colei · Rhabdammina sp (py)
Bathisiphon white · Clavigerinella columbiana
Robulus articulatus
Bathisiphon brn ·
Cibicides petersoni
Rica zone vp-p

SH: Gy, vsft, bent, sl mic carb, sl lam. Lt brn, sl comp, sl mic mic, mic carb, sl sbbky (40%)
SS: Wh gysh, f-m, bk min, calc cmt. SD: Traces

Cibicides grimsdalei · Rhabdammina sp (py)
Hastigerinella eocenica · Clavigerinella columbiana ·
Cibicides perlucidus · Tritaxilina colei
Bathisiphon brn /
Bathisiphon white ·
Rica zone poor

SH: Gy & lt brn as above
SS: Whitish & lt gysh, sl gush, w/bk min and gush grains, f-m, calc cmt (Helico type).
SD: Wh hy, c, vc, sbang to sbrnd.

Bathisiphon white ·
Bathisiphon brn /
Tritaxilina colei ·
Tooth fish
Asterigerina crassaformis
Cibicides perlucidus
Rica zone fauna vp-p

SH, SS & SD as above

Tritaxilina pupa · Cibicides perlucidus,
Bathisiphon brn · Hastigerinella eocenica
Bathisiphon white ·
Tritaxilina colei ·
Gyroidina girardana
Cibicides grimsdalei
Robulus articulatus ·
Rica zone poor-

NO SAMPLES AT THE OFFICE

SH: Gy, sft, bent, sl mic mic, mic carb, sl lam.
SS: Wh gysh, f-m, m, w/bk min, calc cmt, sl dty in pt

Bathisiphon brn / · Bulimina jacksonensis
Bathisiphon white ·
Clavigerinella columbiana ·
Robulus articulatus ·
Hastigerinella eocenica ·
Cibicides grimsdalei
Rica zone fauna vp-p

~~SH: Gy & lt brn as above~~
SS: Wh gysh, f-m, m, mst m, wh hy qtz grains, bk min, gush min, ocass sl dty, calc cmt.
SD: Wh hy, ocass gush & smky qtz grains, c, vc, sbang to sbrnd.

~~Clavigerinella columbiana / Discorbis berry~~
Bulimina brachicostata ·
Robulus articulatus
Tritaxilina colei
Bathisiphon brn ·
Bulimina jacksonensis ·
Hastigerinella eocenica
Rotalia compressa ·
Rica zone fauna p

NO SAMPLES AT THE OFFICE

SH: Gy, sft, bent, sl mic mic, mic carb, sl lam.
SS: Wh gysh, f-m, w/bk min ocass gush min, calc cmt.

Bathisiphon brn ·
Bathisiphon white ·
Hastigerinella eocenica ·
Clavigerinella columbiana ·
Rica zone fauna vp

SH: As above
SS: Wh gysh, f-m, w/bk min & ocass gush min, calc cmt.
SD: Wh hy, m, c, sbang to sbrnd.

Cibicides perlucidus
Rotalia compressa
Clavigerinella columbiana ·
Discorbis berry (bad presv)
Rica zone vp

SH: Increase of lt brn, sl comp, mic mic, mic carb, sl sbbky.
SS & SD as above.

Elipsobulimina oviformis /
Rotalia compressa (bad preserved)
Clavigerinella columbiana ·
Rica zone vp

SH: Lt brn, sl comp, sl mic mic, mic carb, sbbky.
SS: Wh gysh, f-m, w/bk & gush min, calc cmt.

Bathisiphon brn · Clavigerinella columbiana
Bathisiphon white · Spiroplectammina sp (bad presv)
Elipsobulimina oviformis /
Rotalia compressa
Discorbis berry ·
Rica zone poor
Quemada zone traces

SH: Lt brn, sl comp, sl mic mic, mic carb, sbbky. Trc of gy, vsft, mic mic, mic carb, sl lam.
SS: As above.

Robulus sp · Trochammina samanica ·
Bathisiphon white · Rotalia compressa ·
Radiolaria (py) · Chilostomella polsoni (py)?
Clavigerinella columbiana · Discorbis berry
Rhabdammina sp (py)
Rica + Quemada fauna vp

SH As above
SS: Wh gysh, f-m, wh hy qtz grains, bk min, calc cmt.
SH: Lt brn, sl comp, sl sbbky. Gy, vsft, mic mic, mic carb, sl lam.

Elipsobulimina oviformis / Chilostomella polsoni (py)?
Bulimina jacksonensis · Trochammina samanica
Bulimina brachicostata
Discorbis berry

Same fauna as above

SH: Gy, vsft, bent, mic carb, sl lam (80%). Lt brn, sl mic mic, mic carb, sl sbbky

Bathisiphon white · Discorbis berry
Rotalia compressa · Elipsobulimina oviformis /
Trochammina samanica

SH: Gy, vsft, bent, mic carb, sl lam (70%). Lt brn, sl comp, sl mic mic, mic carb, sl sbbky (30%)
SS: Wh gysh, f-m, wh & smky grains, w/bk min, calc cmt.

Trochammina samanica /
Rotalia compressa ·
Asterigerina crassaformis
Elipsobulimina oviformis ·
Clavigerinella columbiana
Rica + Quemada fauna vp-p

Continue the same lithology as above

Trochammina samanica · Valvulineria suturalis ||
Robulus articulatus
Elipsobulimina oviformis ·
Hastigerinella eocenica
Rica + Quemada fauna vp

SH: Gy, vsft, bent, mic carb, sl lam. Lt brn, sl comp, sl mic mic, mic carb, ocass w/mic py incl sl sbbky.

Robulus articulatus · Valvulineria suturalis ||
Trochammina samanica
Asterigerina crassaformis
Bulimina quemadana
Rica + Quemada fauna vp-p

SH: Lt brn, sl comp, sl mic mic, mic carb sl sbbky (60%). Gy, vsft, mic carb, bent, ocass w/py scattered, sl lam.
SS: Wh gysh, f-m, wh & smky grains w/bk min, calc cmt.

Bathisiphon white
Bathisiphon brn
Rotalia compressa
Decrease of Rica fauna

NO SAMPLES AT THE NEGRITOS OFFICE

NO REPRESENTATIVE SAMPLES (OTAWA SANDS)

SH: Brn, ochre brn, sl comp, micmic, mic carb, ocass w/mic py incl. sbbky.
SS: Wh gysh, wh & smky qtz grains, f-m, also bk & gush min, calc cmt.

Valvulineria suturalis |
Virgulina restinensis ·
Bulimina punctato-costata
Ptuk CC fauna vp

SH: Continue brn, ochre brn, comp, mic mic, mic carb, ocass w/mic py incl. sbbky.
SS: As above.

Valvulineria suturalis ·
Virgulina restinensis ·
CC Ptuk fauna vp

Same lithology as above

Valvulineria suturalis ·
Virgulina restinensis /
CC Ptuk fauna vp-p

NO SAMPLES AT THE OFFICE

NO SAMPLES AT THE OFFICE

SH: Brn, ochre brn, rg, comp, mic mic, mic carb, ocass w/py scattered & mic py incl. sbbky.
SH: Same as above

Valvulineria suturalis ·
Virgulina restinensis
CC Ptuk VP

SS: Wh gysh, f-m, sl dty, wh, smky qtz grains, w/bk min, calc cmt.

Valvulineria suturalis T X
Robulus multiseptae /
Virgulina restinensis ·
CC Ptuk fauna poor

SH: Brn, ochre brn, rg, comp, mic mic, mic carb, ocass mic py incl, sbbky
SS: As above

Valvulineria suturalis T X
Valvulineria suturalis

SH: Brn, sl comp, sl mic mic, mic carb, w/mic py sbbky
SS: Whitish, wh hy, sl smky qtz grains, f-m, w/some bk min & mic incl. calc cmt.

Virgulina restinensis
Valvulineria suturalis T
Valvulineria suturalis
Ptuk CC fauna vp

SH: Same as above
SS: Wh gysh, f-m, sl dty w/bk min, calc cmt.

Valvulineria suturalis T ·

TEREBRATULA FM

CC Ptuk fauna vp
(By lit. characteristics)

SD: Wh hy and mky, c, vc qtz grains, sbang, w/some bk grains (volcanic).
SS: Whitish & wh gysh, f-m, m, sl dty in pt, w/bk min, calc cmt.

Valvulineria suturalis
Valvulineria suturalis T X
Robulus multiseptae
Robulus midwayensis
CC Ptuk p-c

SS: Whitish & wh gysh, f-m, m, wh & smky qtz grains, w/bk min, ocass py incl, calc cmt.
SD: Same as above

Valvulineria suturalis
Valvulineria suturalis T ·
Desinobulimina expansa (py)
CC Ptuk p

SS: Whitish, f-m, m, mst m, wh & smky qtz grains, clean f vis por, clean w/bk min calc cmt, ocass w/py incl.

Desinobulimina expansa (py)
Valvulineria suturalis T · CC Ptuk fauna p
Valvulineria suturalis
Virgulina restinensis

SH: Brn gysh, ochre brn, comp, mic mic, mic carb, sbbky.
SD: Wh hy, sl mky wh, smky in pt, c, vc, sbang to sbrnd, good sort qtz grains, bk min (volcanic)
SS: Continue as above

Valvulineria suturalis T X
Robulus multiseptae
Valvulineria suturalis ·
Desinobulimina expansa (py)
Virgulina restinensis |
CC Ptuk fauna p-com

SH: Brn gysh, ochre brn, comp, mic mic, mic carb, w/ocass py scattered, sbbky
SS: Whitish, f-m, m, sl dty, wh qtz grains and bk min, calc cmt.

Valvulineria suturalis · Planctonics /
Valvulineria suturalis T /
Robulus multiseptae
Virgulina restinensis

CHACRA FM

LW CC fauna abnt

SH & SS as above
V very abnt Valvulineria suturalis and Virgulina restinensis.

Valvulineria suturalis
Robulus multiseptae /
Desinobulimina expansa
Virgulina restinensis
LW CC fauna abnt

SH: Brn, ochre brn, dol, comp, mic mic, mic carb w/ocass py scattered, sbbky
SS: Wh gysh, f-m, m, mst f-m, dty mst, calc cmt.

Valvulineria suturalis · Planctonics /
Desinobulimina expansa X
Robulus multiseptae /
Virgulina restinensis
LW CC fauna abnt

Shale and SS as above

Robulus multiseptae /
Desinobulimina expansa
Valvulineria suturalis
Virgulina restinensis
LW CC fauna abn

SH: Brn, brn gysh, comp, rg, dol, sl mic mic, sl mic carb, sbbky

Desinobulimina expansa / Planctonics ·
Virgulina restinensis
Robulus multiseptae
Valvulineria suturalis
LW CC fauna abnt

SH: Mostly brn gysh, comp, rg, mic mic, mic carb, ocass w/mic py incl, sbbky.
SS: Wh gysh, f-m, sl dty, bk min & ocass mic incl, calc cmt.

Desinobulimina expansa · Mulinia sp |
Robulus multiseptae
Valvulineria suturalis T ·
Turritella sp
Virgulina restinensis /
Valvulineria suturalis
CC fauna poor
Py Ptuk fauna tr

SH: Brn gysh (CC type) gy, vsft, v mic mic, mic carb, sl lam (10%)
SS: Wh gysh, f, f-m, sl dty w/bk min, calc cmt.

Valvulineria suturalis · Mulinia sp ||
Valvulineria suturalis T ·
Robulus multiseptae
Virgulina restinensis /
CC fauna poor
Py Ptuk fauna traces

SH Brn (CC type) as above and gy, sft, v mic mic, mic carb, sl lam (10%)
SS: Increasing (As above)

Valvulineria suturalis T · Mulinia sp |
Valvulineria suturalis ·
Virgulina restinensis ·

SH: Brn (CC type) & gy as above
SS: Wh gysh, f-m, sl dty, bk min calc cmt.

Valvulineria suturalis · Mulinia sp |
Virgulina restinensis ·

SH & SS as above
v abnt calcite

Valvulineria suturalis · Mulinia sp (?)
Virgulina restinensis ·
Valvulin. compressa /
Valv. suturalis T ·
CC fauna p
Py Ptuk trc

SH: Brn, comp, rg, mic carb mic mic, sbbky (CC Type)
SS: Wh gysh, f-m, sl dty w/bk min, calc cmt.

Valvulineria suturalis · Mulinia sp
Virgulina restinensis ·
Valvulineria compressa ·
Robulus multiseptae
Valvulineria suturalis T

SH: Brn Chacra type as above.
SS: Continue decreasing (As above)

Valvulineria suturalis · Mulinia sp
Virgulina restinensis /

SH: Brn, brn gysh, rg, comp, mic mic, mic carb, ocass w/py scattered, sbbky.
SS: Wh gysh, f-m, sl hd, w/bk min, calc cmt.

Valvulineria suturalis T / Mulinia sp (py)
Valvulineria suturalis · Valvulineria palegredensis
Robulus multiseptae ·
CC fauna vp w/Py Ptuk fauna tr-vp

Continue same lithology as above

Valvulineria suturalis T · Mulinia sp
Valvulineria suturalis

No sample at the office

No sample at the office

SH: Brn, brn gysh, comp, mic mic, mic carb, sbbky
SS: Wh gysh, f-m, w/bk min, mic incl, calc cmt

Valvulineria suturalis · Chilostomella polsoni || (py)
Robulus multiseptae · Mulinia sp
Desinobulimina expansa
Planktonics ·
CC fauna w/Py Ptuk vp

SH: Brn, comp, rg, mic mic, mic carb, ocass w/mic py incl sbbky.
SS: wh gysh as above

Robulus multiseptae · Chilostomella polsoni (py) |
Valvulineria suturalis · Mulinia sp ·
Virgulina restinensis ||

R.B.

SS: Wh gysh & lt gy f-m mst, m, w/bk min, mic incl, calc cmt.
SD: Hy wh, smky, c-vc, sbang to sbrnd, few dk min (volc)

Valvulineria suturalis T · Chilostomella polsoni (py) ||
Valvulineria suturalis ·
Robulus multiseptae ·
Virgulina restinensis ||
CC fauna vp w/Py Ptuk trc

SD: Hy wh, mky & smky in pt, c, vc, sbang to sbrnd w/few gn & dk grains (volc & chert).
SS: Same as above

Valvulineria suturalis · Robulus wygegeisti |
Robulus multiseptae ·
Frondicularia capitata (fragm) |
Virgulina restinensis |

Robulus multiseptae ·
Valvulineria suturalis

SS: Wh gysh, sl yelsh in pt, mst f-m, m, w/bk min, mic & carb incl, ocass ⊙ incl, calc cmt.
SD: Hy wh, mky & smky in pt, c, vc, sa to sr, w/some dk grains (volc & chert)

CC fauna vp

Virgulina restinensis
Valvulineria suturalis

SS: Wh gysh & yellsh, f-m, ocass m, w/bk min, mic & carb incl, ocass mic py incl, calc cmt.
SD: Continue as above.

CC fauna trc-vp

Valvulineria suturalis T ·

SS: Continue as above
SD: Hy wh, mky & smky in pt, c, vc, sa to sr, w/few dk grains (chert & volc).

CC fauna tr-vp

Valvulineria suturalis T
Valvulineria suturalis

SS: Wh gysh, yellsh in pt, f-m, w/bk min, mic & carb incl, calc cmt.
SD: As above

Robulus multiseptae ·
Valvulineria suturalis T ·
Virgulina restinensis

SD: Hy wh, sl mky & smky in pt qtz grains, c, vc, sa to sr, w/p-com dk grains (chert & volc)
SS: Same as above

Chacra fauna vp

SS: Wh gysh, sl yellsh in pt, f-m, w/bk min, mic incl, carb incl, calc cmt.
SD: As above.

Valvulineria suturalis ·
Virgulina restinensis ||
Microgastropod

Valvulineria suturalis

SS: Same as above
SD: Hy wh, mky wh, smky & gn in pt qtz grains, c, vc sa to sr, few dk min (chert & volc).

Chacra fauna trcs

SS: Wh gysh, f-m, mic & carb incl, (as above)
SD: Same as above.

Valvulineria suturalis T |
Echinoidea spine

Valvulineria suturalis

SS: Wh gysh, f-m, w/bk min, mic incl, g sort, calc cmt
SD: Hy wh, sl mky, smky in pt, c, vc, sa-sr,
SH: Brn, comp, rg, mic mic mic carb, w/mic py incl, sbbky
SS & SD as above

Chacra fauna trcs

Valvulineria suturalis
Robulus multiseptae ·
Echinoidea spine
Virgulina restinensis ||
CC fauna tr-vp

SS: Wh gysh, yelsh in pt, f-m, w/bk min, mic incl, py incl, calc cmt.
SD: Decreasing, hy wh, sl mky, smky in pt qtz grains, c, vc, few dk grains (chert, volc).
SS: Continue as above.

①

Valvulineria suturalis (bad presv)
Desinobulimina expansa
Robulus multiseptae.

CC fauna vp

Virgulina restinensis.
Valvulineria suturalis T.
Val. compresa.

SS: Wh gysh & yellsh, f-m, w/bk min, mic & carb incl, ocass py incl, calc cmt.
Traces of SH & SD

Valvulineria suturalis (bad presv)
Robulus multiseptae " "

Same lithology as above

Valvulineria suturalis ·
Valvulineria suturalis T
Robulus multiseptae

②

Brn & gy sh
SS: Wh gysh, f-m, w/bk min, mic & py incl ocass. carb incl, calc cmt.

Valvulineria suturalis · Chilostomella polsoni |
Robulus multiseptae ·
Val. compresa.

CC fauna vp w/Py Ptuk traces

SS: Wh gysh, ocass yelsh, f-m, w/bk min, mic incl, calc cmt.

R3.

Robulus multiseptae · Chilostomella polsoni |
Valvulineria suturalis

SS: Wh gysh, f, f-m mst, clean, w/bk min, mic & py incl, calc cmt.

③

Valvulineria suturalis T · Valvulineria palegredensis |
Robulus multiseptae (Bad presv)
CC fauna w/Py Ptuk vp

~~Sh brn gy [illegible]~~
Ss lt gy sl dty [illegible] calc cmt cal. sl sty.

Robulus multiseptae.

Ss lt gy, whitsh [illegible] calc. w/bk min incl. calc.
Sd [illegible]

P. Barren

Sh brn bky comp [illegible] calc sl cal. [illegible]
Ss lt gy dty [illegible] calc.
Sd wh [illegible] w few [illegible]

Barren

Sh brn & gy [illegible] aa
Ss lt gy sl dty [illegible] calc [illegible]
Sd aa.

Vg restinens.
V. sutur.

Sh brn bky [illegible] sl calc [illegible] sl calc.
Ss aa.

Bul. detel Py.

Sh brn bky comp [illegible] sl cal. [illegible]
Ss lt gy sl dty [illegible] cal. [illegible]

Robulus sp.
V. sutur.
Vug. restinens

Sh & Ss aa
Silt lt gy sl dty. mic [illegible].

Barren.

Sh gy [illegible] sl mic [illegible] sl cal. & brn [illegible] dolomite.
Ss aa.

Barren

R.Bo.Sty.

Sh [illegible] sl dk brn bky comp [illegible] calc sl cal.
Ss & Sd [illegible] TRC.

V. sutur.
P. Barren

SH: Brn, comp (Chacra Type)
SS:

Valvulineria suturalis
Trcd [illegible] Vg restinens

SS: wh gysh, f-m mst, m, w/bk min, w/mic, carb & ocass py incl, also yelsh, w/⊙ incl. calc cmt.
SD: Hy wh,

④

SS: wh gysh & yelsh (20%) f-m mst, m, w/bk min, mic, carb & ocass py incl, calc cmt.
SD: As above

⑤

Valvulineria suturalis T.
Virgulina restinensis (fragm) ||
Lo Sello sp.
CC fauna tr-vp

WELL STOPPED ON NOVEMBER 16th, 1984