Amoco Production Company

Surface Log

Name SOUTH OLD CAMP SECTION (AO-1-71)

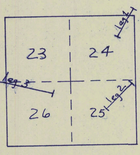
COUNTY _____ **STATE** _____

LOCATION SE ¼ °N ____ °W **Sec.** 21 **TWN** 27N **RNG** 27E

MEASURED BY A. Ormiston, F. Bankinson, L. Furer, G. Self **DATE** 7/24/71

INTERVAL Dev.-Permian

REMARKS This section was measured in four segments along the Porcupine River from SE Section 13 at base of section to NW Section 21 at top of section.



Faulted or badly folded above this point.

Permian — LCF81 — ~~lg,med gry,silty,fmed gry,sh~~ Siltstn,med.gry,calc.w/bryozoams,corals and brachiopods-some calc. sh.

E.Permian — LCF80 — skeletal wackestone — LEG 4

LCF79 — Dip BOOW @ 19°

Break in section to next outcrop on north bank river 300-500' Sect. covered.

Blk. sh. outcrops in trees

LEG 3

AA

Mostly covered, few blk. sh. outcrops and ironstn. conc. in float.

AA

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AA

AA

Permian — LCF76 — Sh,dk gry w/abndt thin dk gry silty ls, layers

L.Paleo. — LCF77 — Interbeds dk gry and argill siltstn w/abndt ironstn conc. Most of covered part of sect prob dk sh.

Interbed dk gry sh and argill siltstn w/ironstn conc.

L.Paleo. — LCF76 — Siltstn, dk gry.

Siltstn, dk gry, poorly exposed.

E.Perm. — LCF75 (Float) — Dip S 70 W @ 40° — sli silty skeletal wackestone — LEG 3

Perm. Penn — About 250' covered

Moved to north side river to continue Permian section

Gry,fissile shale w/infrequent siltstn beds — LEG 2

Penn. — AO-1-71-Bed 16,70'up — AO-1-71-Bed 16,60'up — AO-1-71-Bed 16,60'up

Penn. — AO-1-71-Bed 16,Base

Covered

Dk fissile shales w/calcareous concretions up to 3" in diameter. Float nautiloids-unidentifiable

Penn. — AO-1-71-Float — Forams Late Penn-but prob. Perm.

E.Atokan — AO-1-71-Bed 15-Base — AO-1-71-Bed 14-90'up — Base marked by resistant, buff weathering calcisiltite, resistant, 30'thick at base of first of two large exposures. Overlain by Interbedded sh & th calcisiltites.

E.-Mid. Penn Cong. — AO-1-71-Bed 14-30'up — AO-1-71-Bed 14-30'up — skeletal wackestone — Dark shale interbedded w/dark gray, med bedded calcisiltites, weas. grey.

Shale,med.gray,fissile,base of unit marked by limonite weathering. Clay-poor exposures. At 40' up siltstone beds show large Zoophycltus markings.

Black fissile shale w/rare mudstone beds.

Penn. Miss. — Ches.or Penn — AO-1-71-Bed 11-10' up — Burrowed calc. siltstn.

AO-1-71-Bed 11-Base — Pebbly calcarenite w/A-Bedding,thick bdd, gry, bruchs and clams.

Ches.or Penn. — AO-1-71-Bed 10-Base — Dark gray calcisiltite, blocky,med.bedded,scattered cht stringers & blobs rare bruchs

Black shale interbdd w/blocky blk mudstn & siltstn

L.Ches. Cong. — AO-1-71-Bed 8-Base — Cnty.calc,mudstn,blocky,gry,w/stgers of calcarenite containing bruchs Bed 7. — LEG 2

AO-1-71-Bed 7,10'up — Sizal lt.is gry.calc.sdstn,above are interbdd buff siltstn&sh,th cht layers above cht.

AO-1-71-Bed 6-Base — Pebly,mdy calc.w/cht.pebls,th.bdd.lg gry,one layer sm.cht.nods. abndt, fossil,contains clams bryzoa, etc.

Zn 18 — AO-1-71-Bed 5,7'up — Ls,dk gry packstone,lenses & stringers of blk chert, contains recovered bruchs

AO-1-71-Bed 4,35'up — Ls,dk gry packstn,vy abnt cannonball cht conc.up to 1'dia.,bdd blk cht w/ellipsoidal strus.

L.Ches. Cong. — AO-1-71-Bed 4,Base — Ns,med gry,med x-stalline,packstn,abnt blk cht nods&lens,cannonball concretions are circ. to ellipsoidal,concentric ring strus. off cht,around 4',s th-thick bedded,abnt bruchs,also clams & ostracods

AO-1-71-Bed 3 — Ns,dk gry,med xstalline,bruchiopodal,med bedd,highly fossil.Raw no Paulsidia.

AO-1-71-Bed 2 — Ls,ab.algal mats(?),crinoidal debris

AO-1-71-Bed 1 — Ls,med gry,mic.-f-x/all w/gastropods,ostracods,mud-cracks.thinbeds and stringers of med-g. qtz.ss.

Ches. Penn — AR013 — Ls,med gry,micritic-f-xyall w/bedded cht and stripolite chert.

L.Mer.or Ches. — AR012 — Sh, blk

Sh,brn,med-g,w/carb. debris and plant frags.

(?) — AR011 (unconf. w/relief) — Sh,blk,plant bearing w/ls lenses that contain ostrocods

Dol,med-dk gry,calc,f-xyall,abnt algal heads.

Dol, w/amphipora, ab

Dol, w/amphipora,ab

Mid.Ord. cong. — AR009 — Dol, med-dk gry, calc. f-xyall, wackstn, amphipora bearing

E. Dev. cong. — AR008 — Interbedded dk gry argill ls and coaly blk sh. Ls contains bearing,rose low grade coal — LEG 1

**(Break section to other side river,however strike & lith suggest the two sections tie together very well)

(see sketch #4)

South Old Camp Section

This section was measured in four well exposed segments along the bank of the Porcupine River across from, and downstream from, Old Camp. The section contains rocks from Early Devonian through Permian. A significant unconformity exists at the top of the Ordovician where it is overlain by Late Mississippian nearshore sandstone, shale, and limestone. Another unconformity probably explains the apparent absence of Late Pennsylvanian rocks.

The top of the Devonian is faulted out in this section where Ordovician carbonates are faulted onto Early Devonian shales and limestones. The top of the Ordovician is an unconformity with minor relief in this one outcrop.

The Ordovician is overlain by 490' of Late Mississippian nearshore sands and shales that grade upward to very cherty brachiopodal limestones. The limestones are overlain by black fissile shale.

At least 600' of Early Pennsylvanian shales and silty limestones are present. All are probably Early to Middle Pennsylvanian. They were most likely deposited in a nearshore to lagoonal environment. The contact with the overlying Permian is within a covered interval.

At least 1100' of Early Permian shales with thin interbedded limestones are present. The section is very silty at the base. Much of the middle part of this section is covered.

The very silty limestone and the ironstone concretions in the shale are suggestive of an environment with restricted water circulation (lagoonal?)