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#11

April 24, 1980

TO: Husky/U. S. Geological Survey

RE: Husky/USGS
E. Simpson #2
Sec. 23, 19N/11W, U.B.M.
North Slope, Alaska

PALYNOLOGY REPORT

Introduction

Two hundred (200) samples from the subject well were processed and analyzed for palynological age determinations. The total consisted of 83 ditch, 22 sidewall core, and 95 core samples. The entire well from 90 feet to the total depth of 7504 feet was examined.

Two (2) charts illustrating the distribution of recognized palynomorph taxa are included. The summary of results is given below.

Summary of Results

90-930'

Gleicheniidites senonicus (R); scattered rare occurrences of Aequitriradites spinulosus, Camarozonosporites insignis, Appendicisporites cf. A. matesovae.

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90-930' (con't.)

Chatangiella ditissima (R-F), Isabelidinium acuminatum (R), Nelsoniella aceras (R-F), Odontochitina operculata (R).

AGE: Late Cretaceous. Santonian-Campanian (P-M14)

ENVIRONMENT: Marine

930-1088'

Aequitriradites spinulosus (R), Classopollis classoides (R).

Palaeoperidinium cretaceum (R), Oligosphaeridium complex (R), Odontochitina operculata (R).

AGE: Late Cretaceous (undifferentiated) (possibly P-M15?)

ENVIRONMENT: Marine

This thin interval is separated mainly on negative evidence and represents undifferentiated Late Cretaceous strata. These strata may be equivalent to the ?Turonian-?Coniacian, P-M15 interval.

1088-2410'±

Aequitriradites spinulosus (R), Cicatricosisporites hallei (R), Appendicisporites spp. (R).

Cyclonephelium distinctum (R), Odontochitina operculata (R), Oligosphaeridium complex (R), Cribroperidinium edwardsi (R), Luxadinium propatulum (R, sporadic), Genus "W" (R).

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1088-2410'± (con't.)

AGE: Early Cretaceous. Middle-Late Albian (P-M17)

ENVIRONMENT: Marine

The base of this interval is placed at the bottom sample of Core #1, which is essentially the basal occurrence of Genus "Y".

2410-6340'

Cleicheniidites senonicus (R), Cicatricosisporites hallei (R), Polycingulatisporites reduncus (R), Foveosporites sp. (R); numerous reworked Triassic spores.

Odontochitina operculata (R-C), Palaeoperidinium cretaceum (R-C), Oligosphaeridium complex (R-C), Pseudoceratium retusum (R), Gardodinium trabeculosum (R, scattered); numerous occurrences of reworked Neocomian to Triassic age dinocysts.

AGE: Early Cretaceous. Aptian-Early Albian (P-M18)

ENVIRONMENT: Marine to Marginal Marine

The most prolific marine assemblages through this section occurred between about 3100 feet and 5000 feet. The remainder of the section reflects much poorer marine conditions with less diverse assemblages.

6340-6660'?

Scattered occurrences of Aequitriradites spinulosus, Classopollis classoides, Vitreisporites pallidus;

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6340-6660'? (con't.)

Taeniaesporites sp. (single, reworked), Semiretisporis sp. (single, reworked).

Odontochitina operculata (R-A), Oligosphaeridium complex (F-A), Cyclonephelium distinctum (R-F), Gardodinium trabeculosum (R).

AGE: Early Cretaceous; possible Neocomian (P-M18a)

ENVIRONMENT: Marine

This interval shows a marked increase in dinocyst abundances common to the Neocomian strata of the region. The more age restrictive species are absent so only a tentative Neocomian age is assigned.

The top of this interval may extend up to the sidewall core 6330 feet wherein abundant sapropelic matter was present but lacked a dinocyst assemblage.

The lower limit of this P-M18a interval is placed questionably at the bottom of a ditch sample interval (6660 feet) where a significant decrease in occurrences of the Early Cretaceous dinocysts was observed. Due to the prolific assemblage of the P-M18a zonule the actual base of the unit may be masked by the downhole persistence of its constituents.

6660-6705'C

Lycopodiumsporites semimurus (single).

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6660-6705'C (con't.)

Micrhystridium spp. (F).

AGE: Early Jurassic(?) (P-M24?)
ENVIRONMENT: Marginal Marine

This interval has elements which are characteristic of the lowermost Jurassic strata in the region. Unfortunately, the exact in-hole depth placement is uncertain. It appears, however, that below the P-M18a zonule and above Core #4 there is at least some strata which corresponds to the Early Jurassic (P-M24) interval.

6705'C-6736'C

Ricciisporites tuberculata (F-C).

Sverdrupiella usitata (R-F), S. cf. S. spinosa (R-F).

AGE: Late Triassic. Norian (P-M26)
ENVIRONMENT: Marine

This Late Triassic assemblage was observed only in Core #4. The total extent of Late Triassic strata in this well is unknown due to the absence of any such evidence in the ditch samples examined.

6736'C-7167'C

Gleicheniidites senonicus (R), Densosporites spp. (R, reworked?), Taeniaesporites sp. (single), Cicatricosisporites australiensis (single).

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6736'C-7167'C (con't.)

Cretaceous dinocysts derived from uphole (C-A).

AGE: Indeterminate
ENVIRONMENT: Indeterminate

This interval is composed of ditch samples and bounded at the top and bottom by cores. The recovered palynomorphs are not sufficient to make any reliable age assignments. The presence of Taeniaesporites may be a reflection of Triassic strata within this interval, but rare occurrences of this genus were also scattered uphole and the single specimen here is judged to be unreliable.

7167'C-7504' T.D.

Densosporites spp. (F-A), Lycospora spp. (F-A), Simonozonotriletes varia (R-A), Alatisporites tessellatus (R-A), Reticulatisporites cf. R. cancellatus (R-A), Tripartites incisotrilobus (R-C).

AGE: Late Mississippian. Visean (P-T21)
ENVIRONMENT: Nonmarine

The uppermost depth at which the Late Mississippian spore assemblage appeared was in the core sample 7167 feet. The first evidence in the ditch cuttings appeared slightly lower at 7190-7280 feet. No evidence for argillite was observed in the palynological preparations.

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