

Appendix C: Palynology data, in Furer, L.C., Fehlmann, R.H., Taylor, A.M., Self, G.W., and Amoco Oil Co., Data compilation of the 1971 field party, southeast Brooks Range and Fort Yukon, Alaska; Vol 1

Furer, L.C., and Amoco Oil Co.

GMC DATA REPORT 464C

This GMC data report from the Amoco Heritage collection has been made available through funding from the FY2018 USGS National Geological and Geophysical Data Preservation Program, Grant Number G18AP00054. This project report is presented in its original format and has not been reviewed for technical content or for conformity to the editorial standards of DGGs. It should not be used or cited as reviewed data.

2019
State of Alaska
Department of Natural Resources
Division of Geological & Geophysical Surveys
GEOLOGIC MATERIALS CENTER



PALYNOLOGY DATA, FORMS



Outcrop samples

Mr. Terry Cooper
Northwest District
BUILDING

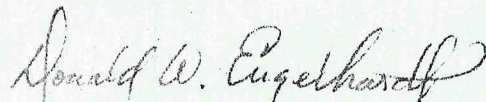
Attention: Mr. Lloyd Furer

Eight outcrop samples from the Fort Yukon Basin, Alaska, collected in 1971, were submitted for palynologic age determination and possible environmental interpretation.

The results of the analyses and pertinent comments are presented.

- | | |
|---------|---|
| GWS-228 | Barren, sample contained carbonized plant fragments. No age determination possible. |
| GWS-230 | Devonian (Frasnian), interpreted to be non-marine from the appearance of the plant fragments and lack of marine indicators. |
| GWS-231 | Devonian (Frasnian), interpreted to be questionable marginal marine from the appearance of plant fragments. No marine indicators were noted, however. |
| GWS-232 | Devonian (Frasnian), interpreted to be non-marine from the appearance of the plant fragments and lack of marine indicators. |
| ARO-206 | Devonian (Frasnian-Early?), interpreted to be marginal marine from the appearance of the organic material and the presence of some acritarchs and scolecodont fragments. |
| ARO-207 | Devonian?, poor preservation, interpreted to be marginal marine on the basis of the appearance of the organic material and the presence of some acritarchs and scolecodont fragments. |
| ARO-208 | Devonian (Frasnian-Early?), interpreted to be marginal marine on the basis of the appearance of the organic material and the presence of acritarchs and scolecodont fragments. |

There is a definite difference noted in the appearance of the organic material in the samples interpreted to be non-marine and marginal marine.

A handwritten signature in cursive script, reading "Donald W. Engelhardt". The signature is written in dark ink and is positioned above the printed name.

Donald W. Engelhardt

DWE:bd

cc: A. B. Shaw



Ch. Conrad
Sue. file

AMS
Amoco Production Company
Security Life Building
Denver, Colorado 80202

January 6, 1972

Re: Palynologic Age Determinations
Fort Yukon Basin, Alaska

Mr. G. F. Stansberry
Northwest District
Denver Office

Attention: Lloyd Furer

Dear Sir:

Forty-two outcrop samples collected during the 1971 field season in the Fort Yukon Basin, Alaska were submitted for palynologic age determinations. The results of the examinations were poor due to the poor sample recovery. All of the samples appeared to have been metamorphosed, as exemplified by the carbonized appearance of the organic material.

<u>Sample No.</u>	<u>Age Determination and Comments</u>
LCF 7	Barren - carbon debris.
LCF 10	Barren - carbon debris.
LCF 11	Barren - carbon debris.
LCF 17	Barren - carbon debris.
LCF 21	Barren - carbon debris.
LCF 30	Barren - carbon debris.
LCF 43	Barren - carbon debris.
LCF 44	Barren - carbon debris.
LCF 45	Barren - carbon debris.
LCF 104	Barren - carbon debris.
LCF 106	Barren - carbon debris.
LCF 207	Barren - carbon debris, outlines of palynomorphs.
LCF 208	Barren - carbon debris.
LCF 227	Barren - carbon debris.
LCF 243	Barren - carbon debris.
LCF 245	U. Devonian (Frasnian), carbonized spores.
LCF 262	Paleozoic - Devonian?, very poor.
LCF 263	Paleozoic - same as LCF 262.
LCF 265	U. Devonian (Frasnian), carbonized spores.

<u>Sample No.</u>	<u>Age Determination and Comments</u>
ARO 114	Barren - carbon debris.
ARO 206	Devonian, poor recovery.
ARO 207	Paleozoic - unidentifiable spores.
ARO 210	Paleozoic - scolecodonts present.
GWS 7	Barren - carbon debris.
GWS 33	Barren - carbon debris.
GWS 76	Paleozoic - carbon debris, very poor spores.
GWS 81P	Paleozoic - same as GWS 76.
GWS 95	Barren - carbon debris.
GWS 98	Barren - carbon debris.
GWS 215	Barren - organic debris.
GWS 228	Barren - carbon and organic debris.
GWS 230	U. Devonian (Frasnian)
✓GWS 267	Barren - carbon and organic debris.
GWS 285	Paleozoic - very poor spores.
FCH 751	Barren - carbon debris.
FCH 758	Barren - carbon debris.
FCH 772	Barren - carbon debris.
FCH 776	Barren - carbon debris.
FCH 779	Barren - carbon debris.
FCH 784	Barren - carbon debris.
HRL 2	Barren - carbon debris.
HRL 10	Barren - carbon debris.

Very truly yours,

D. W. Engelhardt
D. W. Engelhardt

DWE:sk



16/106
Amoco Production Company

Security Life Building
Denver, Colorado 80202

February 15, 1972

Re: Palynologic Age Determinations
Fort Yukon Basin, Alaska

Mr. G. F. Stansberry
Northwest District
Denver Office

Attention: Lloyd Furer

Dear Sir:

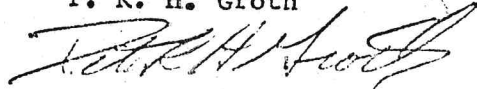
Sixty-four outcrop samples collected during the 1971 field season in the Fort Yukon Basin, Alaska were submitted for palynologic age determination. The results of the examinations were poor due to the paucity of identifiable palynomorphs recovered from the samples.

<u>Sample No.</u>	<u>Age Determination and Comments</u>
ARO-1 Bed 8	Indeterminate - few carbonized spores.
ARO-1 Bed 11	Indeterminate - few carbonized spores.
ARO-1 Bed 14	Barren, carbonized.
ARO-1 Bed 15	Barren, carbonized.
ARO-1 Bed 16	Barren, carbonized.
ARO-3	" "
ARO-4	" "
ARO-5	" "
ARO-7 ?	" "
ARO-83	" "
ARO-93	" "
ARO-101	" "
ARO-103	" "
ARO-115	" "
ARO-208	Upper Devonian-Frasnian; Contains Retusotriletes, Ancyrospora, Archaeoperisaccus, and Raistrickia.
HRL-14	Barren, carbonized.
HRL-15	" "
HRL-19	" "
HRL-20	" "
HRL-23	" "
HRL-30	" "
HRL-31	" "
GWS-80	" "
GWS-217	" "
GWS-220	" "

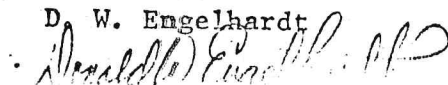
<u>Sample No.</u>	<u>Age Determination and Comments</u>
GWS-231	Upper Devonian-Lower Mississippian?, carbonized and essentially barren, corroded by pyrite crystals.
GWS-232	Same as sample GWS-231.
GWS-253	Upper Devonian-Frasnian; Contains two species of Ancyrospora, Retusotriletes, Hystricosporites, and Rhabdosporites. Similar to ARO-208.
GWS-264	Barren, carbonized.
GWS-271	" "
GWS-275	Essentially barren, carbonized; contains scolecodonts like LCF 267.
GWS-280	Indeterminate, essentially barren.
GWS-288	Barren, carbonized.
GWS-291	Indeterminate, essentially barren.
FCH-745	Barren, carbonized.
FCH-746	" "
FCH-753	" "
FCH-754	" "
LCF-15	Indeterminate, carbonized spores.
LCF-20	Barren, carbonized.
LCF-24	" "
LCF-25	" "
LCF-29	" "
LCF-36	" "
LCF-37	" "
LCF-41	" "
LCF-42	" "
LCF-73	" "
LCF-76	Indeterminate Paleozoic, carbonized spores.
LCF-77	Same as LCF-76.
LCF-204	Indeterminate, carbonized spores.
LCF-211	Barren, carbonized.
LCF-212	" "
LCF-221	" "
LCF-229	" "
LCF-231	" "
LCF-232	" "
LCF-235	Upper Albian, very good sample with Ascadinium verrucosum common.
LCF-236	Indeterminate, carbonized spores.
LCF-237	Barren, carbonized.
LCF-264	Devonian, carbonized spores.
LCF-266	Indeterminate, carbonized spores, corroded by pyrite crystals.
LCF-267	Essentially barren, common scolecodonts.
LCF-274	Barren, carbonized.

Very truly yours,

P. K. H. Groth



D. W. Engelhardt





Amoco Production Company

Security Life Building
Denver, Colorado 80202

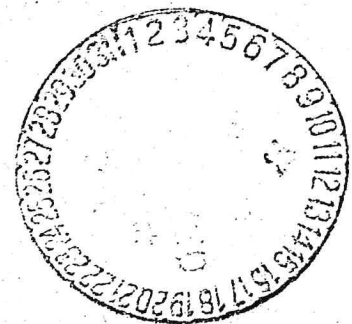
May 10, 1972

Mr. Terry Cooper
Building

Attention: Lloyd Furer

Dear Sir:

Subject: Paleozoic outcrop samples
Yukon Basin 1971



Five outcrop samples from the Yukon Basin collected during the 1971 field season were submitted for palynologic analyses. One sample also contained plant megafossils (LCF 66P). All of the palynologic preparations appeared to have been carbonized (Thermal index 4-5).

The results of the examination are:

<u>Field Number</u>	<u>Age Determination and Comments</u>
LCF 18	Barren, carbon debris
LWS 75	Paleozoic, carbonized, no other date possible.
LCF 242	Mississippian (Early?) very poor.
LCF 244	Mississippian (Early?) very poor.
LCF 66P	Barren, carbon debris.

LCF 66P did contain the megaflorea taxa Lepidophyllum and Cordaites. Both taxa have been reported in the Late Devonian but do not become abundant until the Carboniferous. The probable age for these specimens is Mississippian (Early?).

Very truly yours,

Donald W. Engelhardt

Donald W. Engelhardt

DWE:sk

cc? A. B. Shaw



Amoco Production Company

Security Life Building
Denver, Colorado 80202

March 29, 1972

Re: Micropaleontology
1971 Ft. Yukon Area,
Alaska

Mr. L. C. Furer

B U I L D I N G

Salmon Creek Rv.

Dear Sir:

The following is a summary of some random samples examined
from the subject area.

<u>Sample Number</u>	<u>Age</u>
LCF - 42	Permian
LCF - 43	Permian
LCF - 44	Permian
LCF - 45	Permian
LCF - 262	Barren
LCF - 263	Barren
LCF - 265	Barren
GWS - 76	Barren
GWS - 81	Barren
GWS - 230	Barren
LCF - 245	Barren
LCF - 227	Barren
ARO - 206	Barren
ARO - 207	Barren
ARO - 210	Barren
GWS - 285	Barren

Very truly yours,

Jim Parks

Jim Parks



Amoco Production Company
Security Life Building
Denver, Colorado 80202

November 12, 1971

Re: North Slope Outcrops

Mr. G. F. Stansberry

B U I L D I N G

ATTN: Mr. Lloyd Furer —

Dear Sir:

The following samples collected in 1971 in the North Slope have been analyzed for foraminifera.

<u>Sample</u>	<u>Determination</u>
LCF - 7	Barren
LCF - 204	Late Jurassic
LCF - 207	Late Jurassic
LCF - 208	Barren
LCF - 211, 212, 229, 231, 232, 235, 236, 237, FCH-745, 746, 751, 754, 758.	Barren

Very truly yours,

J. G. Watkins
J. G. Watkins



Amoco Production Company

Security Life Building
Denver, Colorado 80202

July 18, 1972

Mr. Terry Cooper
Northwest District
Denver Division

Attention: Robert Fehlmann

Dear Sir:

Subject: Palynologic Age Determinations North Slope
Alaska Outcrop Samples - 1971

One hundred nine (109) outcrop samples collected during the 1971 field season on the North Slope of Alaska were submitted for palynologic age determination. The results obtained were poor due to the carbonized state of the majority of the samples. The Thermal Index for all of the samples examined is 4 or 5.

The results of the analyses and pertinent comments ^{are} as follows:

<u>Sample Number</u>	<u>Comments</u>	<u>Thermal Index</u>
FCH 645	No date - outlines of spores.	5
FCH 647	Barren - carbon debris.	4-5
FCH 648	Barren - Recent contamination.	4-5
FCH 652	Barren - carbon debris.	5
FCH 671	Barren - carbon debris.	5
FCH 676	Barren - carbon debris.	5
FCH 679	Barren - carbon debris.	5
FCH 684	No date - outlines of spores.	4-5
FCH 685A	Barren - carbon debris.	5
FCH 685B	Devonian-Frasnian? Outlines of spores similar to 6056.	5
FCH 697	No date - outlines of spores.	4-5
FCH 707	Devonian-Frasnian - outlines of <u>Ancyrospora</u> and <u>Hystriochosporites</u> .	5
FCH 721	No date - few outlines of spores.	5
FCH 722	No date - few outlines of spores.	5
FCH 724	Barren - carbon debris.	5
FCH 727	No date - outlines of spores.	4-5
FCH 741	Mississippian - very poor preservation.	4

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Mr. Terry Cooper

<u>Sample Number</u>	<u>Comments</u>	<u>Thermal Index</u>
6004	Barren - carbon debris.	5
6007	Devonian-Frasnian - outlines of spores.	4-5
6009	Barren - carbon debris.	5
6010	Barren - carbon debris.	5
6014	Devonian-Fammanian? - outlines of spores.	4-5
6015	Devonian-Frasnian? - outlines of spores.	5
6017	Devonian-Frasnian? - very poor recovery but contains <u>Hystriochosporites</u> .	5
6018	No date - outlines of spores.	4
6019	No date - outlines of spores.	4-5
6022	Devonian-Frasnian? - outlines of spores.	5
6024	Devonian-Frasnian? - outlines of spores.	4-5
6025	No date - outlines of spores.	5
6026	Devonian-Frasnian? - contains <u>Ancyrospora</u> .	5
6027	No date - outlines of spores.	5
6028	Devonian-Frasnian? - outlines of spores.	4-5
6030	No date - outlines of few spores.	5
6031	Devonian-Frasnian? - outlines of spores.	4-5
6037	Devonian-Frasnian? - contains <u>Ancyrospora</u> .	4-5
6040	Devonian-Frasnian? - looks the same as 6056.	5
6042	Devonian-Frasnian? - contains <u>Ancyrospora</u> and <u>Hystriochosporites</u> .	4-5
6046	Devonian-Frasnian? - similar to 7012.	4-5
6048	Devonian-Frasnian? - outlines of spores.	4-5
6050	Barren - carbon debris.	4-5
6051	Barren - carbon debris.	5
6056	Devonian-Frasnian? - outlines of spores.	4-5
6060	Devonian-Frasnian - contains <u>Ancyrospora</u> and <u>Hystriochosporites</u> .	4-5
6078	Barren - carbon debris.	5
6081	Barren - carbon debris.	5
6086	Barren - carbon debris.	5
6087	Barren - carbon debris.	5
6088	Barren - carbon debris.	5
6089	Barren - carbon debris - few outlines.	5
6090	Barren - carbon debris.	5
6093	No date - spore outlines.	4-5
6095	Barren - carbon debris.	5
6096	Barren - carbon debris, Recent contamination.	5
6097	No date - spore outlines.	5
6102	Barren - carbon debris.	5
6104	No date - spore outlines.	5
6103	No date - few spore outlines.	5
6115	Barren - carbon debris, Recent contamination.	4-5
6117	Barren - carbon debris, Recent contamination.	5
6118	Barren - carbon debris.	4-5
6120	Barren - carbon debris.	5

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Mr. Terry Cooper

<u>Sample Number</u>	<u>Comments</u>	<u>Thermal Index</u>
6121	Barren - carbon debris.	5
6123	Barren - carbon debris.	5
6149	Permian - similar to T.D. in Topogruk #1.	4
6151	No date - few spore outlines.	4-5
6154	No date - very few spore outlines.	5
6155	Barren - carbon debris.	5
6157	Barren - carbon debris, Recent contamination.	5
6158	Barren - carbon debris.	4-5
6162	No date - few spore outlines.	4-5
6166	Barren - carbon debris.	4
6178	No date - few outlines.	4-5
6180	No date - very few spore outlines.	5
6181	No date - few spore outlines.	5
6182	Barren - carbon debris.	5
6183	No date - few spore outlines.	5
6202	Barren - carbon debris.	5
6204	Barren - carbon debris.	4-5
6209	Barren - carbon debris.	4
6210	Barren - carbon debris.	5
6215	Barren - carbon debris.	4-5
6238	Barren - carbon debris.	5
6239	Barren - carbon debris.	5
6240	Barren - carbon debris.	4-5
7009	No date - few spore outlines.	5
7010	Devonian-Frasnian? - spore outlines similar to 7012.	5
7011	No date - few spore outlines.	4-5
7012	Devonian-Frasnian? - spore outlines.	4-5
7014	No date - few spore outlines.	4
7015	Barren - carbon debris.	4
7019	Barren - carbon debris.	5
7027	No date - few spore outlines.	4-5
7028	Barren - carbon debris - Recent contamination.	5
7029	Barren - carbon debris - Recent contamination.	4-5
7030	Barren - carbon debris - Recent contamination.	4-5
7033	Barren - carbon debris - Recent contamination.	5
7035	Barren - carbon debris.	4-5
7053	Barren - carbon debris.	5
7059	No date - spore outlines.	4-5
7072	Barren - carbon debris.	5
7075	Barren - carbon debris.	5
8002	Barren - carbon debris.	5
8049	Barren - carbon debris.	5
8050	Barren - carbon debris.	5
8052	Barren - carbon debris.	5
8055	Barren - carbon debris.	4-5

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Mr. Terry Cooper

<u>Sample Number</u>	<u>Comments</u>	<u>Thermal Index</u>
8083	Barren - carbon debris.	5
8084	Barren - carbon debris.	5
8036	No date - few spore outlines.	5

Very truly yours,

D. W. Engelhardt

D. W. Engelhardt

DWE:sk