

AMOCO PRODUCTION COMPANY  
Tulsa, Oklahoma  
February 22, 1983

83053ART0078

FILE: Technical Service 825370PS  
TO: O. R. Hille, Denver Region  
ATTN: C. W. Sawyer  
SUBJECT: Calcareous Microfossil Identifications from Mississippian Core,  
Hugoton Embayment, Southwestern Kansas.

Attached is a list of Mississippian calcareous microfossils identified by P. L. Brenckle from nine wells in the Hugoton area. The Kansas Geological Survey supplied all the core for this study with the provision that Amoco provide microfossil identifications for any material used. The enclosed list contains identifications only of literature taxa and no confidential Amoco paleo data are included. Transmission of the identifications to the Kansas Survey would be appropriate.

ERIC R. MICHAELIS

By Charles F. Upshaw  
Charles F. Upshaw

PLB:sdg  
Attachment

cc: J. A. Babcock  
L. C. Babcock  
W. S. Davis, Denver Region  
H. R. Lane  
A. R. Ormiston  
J. W. Parks, Denver Region  
R. W. Sherwood, Denver Region

83042ART0110

AMOCO PRODUCTION COMPANY  
Tulsa, Oklahoma  
February 11, 1983

TO: K. C. Sawyer, Denver

SUBJECT: Processing of Conodont Samples - Deep Hugoton Project

The following wells associated with the deep Hugoton project have been processed for conodonts. This memorandum serves as a summary of my work on this project to date. Appropriate information contained herein may be extracted at your discretion and sent to the Kansas Geological Survey in fulfillment of our agreement with them to provide conodont identifications.

3. Locality 12434 - Superior No. 68A4, H. L. Tucker, Sec. 4, T29S, R42W, Stanton Co., Kansas.

<u>Footage</u>	<u>Sample No.</u>	<u>Taxon No.</u>	<u>Conodont</u>	<u>Count</u>
6253	1	3072	<u>Drepanodus</u> sp.	4
		2865	<u>Panderodus</u> sp.	2
		24178	<u>Plectodina</u> <u>furcata</u>	2
6323	2	2961	<u>Belodina</u> sp.	2
		2865	<u>Panderodus</u> sp.	3
6421	3	2932	Indet. sample core	1

4. Locality 12435 - Anadarko No. 1, Low G, Sec. 6, T33S, R40W, Morton Co., Kansas.

<u>Footage</u>	<u>Sample No.</u>	<u>Taxon No.</u>	<u>Conodont</u>	<u>Count</u>
5061.3-62	1	0501	Barren of conodonts	
5409	2	20512	<u>Neoprioniodus</u> n.sp.	1
5473.6	2	0501	Barren of conodonts	

5. Locality 12436 - Anadarko No. 1-B Jones, Sec. 9, T33S, R41W, Morton Co., Kansas

One sample processed at 5066.1 feet in this well was found to be barren of conodonts.

6. Locality 12437 - ~~Anadarko No. 2-C Low, Sec. 17, T33S, R40W, Morton~~  
Co., Kansas.

<u>Footage</u>	<u>Sample No.</u>	<u>Taxon No.</u>	<u>Conodont</u>	<u>Count</u>
5719	1	2828	<u>Cavusgnathus</u> <u>unicornis</u>	1
	2	23003	<u>Cavusgnathus</u> <u>charactus</u>	1

Occurrence of this fauna is shown in

7. Locality 12441 - ~~Shallow Water No. 4 Maune, Sec. 31, T21S, R33W,~~  
Finney Co., Kansas.



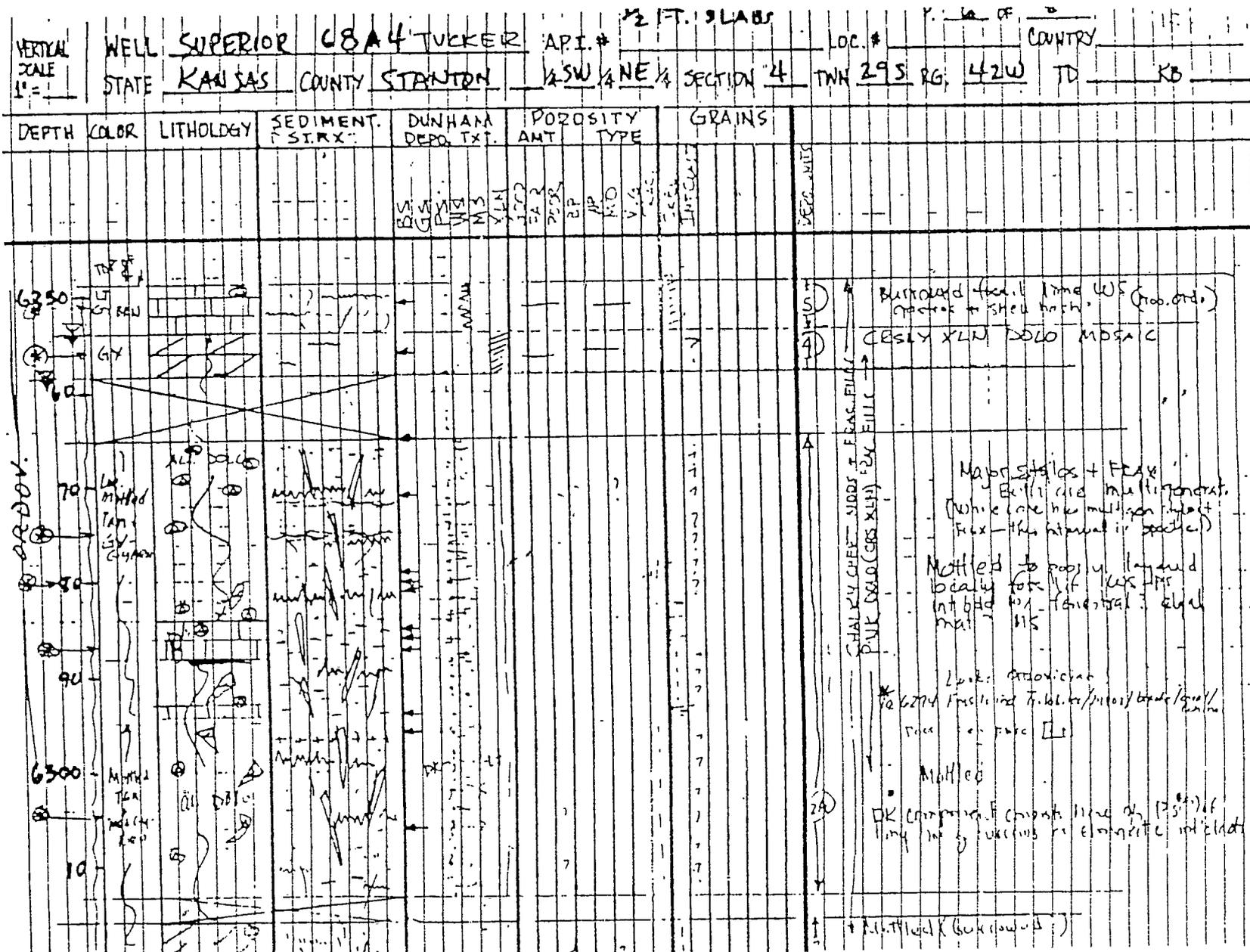


FIGURE 2A: LOCALITY 12434.

WELL SUPERIOR BOAT TUCKER  
 STATE KANSAS COUNTY STANTON  
 API # 2/FT. 9146  
 LOC # 8  
 T. 7 R. 8  
 SECTION 4 TOWN 29S RG. 42W TD KB  
 12014

DEPTH	COLOR	LITHOLOGY	SEDIMENT. STR.:	DUNHAM DEPO. TXT.						POROSITY AMT. TYPE		GRAINS
				BS	GS	RS	MS	LS	FS	FAIR	POOR	
63-20		Mottled tan & white										Mottled (burrowed) dol. MS - WS. indet. Scattered gpc - steel? non-steel.
65												Scatt 2mm - 2cm vugs → rd & wh calcite filled vugs. No fine (small) shells. Like #2 below except that dk component is lighter here.
68												* Crinoid stems - very good & well dev. well - whiffls (vugs) & trace shells.
70												Small shells (brachiopods) or mollusks + other indet. fossils.
72												Med gr. ss w/ dk zone → 2cm 1 ft. thick.
74												BRECCIA / contact & discont
76												Calcite filled 2cm vugs

FIGURE 2B: LOCALITY 12434



WELL: Anadarko Low C-2 SANTA FE TRAIL  
 STATE: Kan. COUNTY: Morton API.# \_\_\_\_\_ LOC.# \_\_\_\_\_  
 SECTION: 17 TOWN: 33S RANGE: 40W COUNTY: \_\_\_\_\_  
 TD: \_\_\_\_\_ KB \_\_\_\_\_

DEPTH	COLOR	LITHOLOGY	SEDIMENT. STR. X.	DUNHAM DEPO. TXT.	POROSITY		GRAINS					DEPTH UNIT	
					AMT.	TYPE	SHALTS	TH. FOSS.	CO. DS.	CONCH.	TRIL. LICH.		Pel. m. s.
5684													<p>SAVING TEND + ...</p> <p>Fossiliferous dolite - as below</p> <p>Probably to non ...</p> <p>with ampl. ...</p>
5700													<p>Thin dolomite ...</p> <p>with ...</p> <p>... ..</p>
5800													<p>Fossiliferous dolite</p> <p>... ..</p>
40													
51													

FIGURE 3: LOCALITY 12437

AMOCO PRODUCTION COMPANY  
Tulsa, Oklahoma  
February 22, 1983

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TO: O. R. Hille, Denver Region  
ATTN: C. W. Sawyer  
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Hugoton Embayment, Southwestern Kansas.

Attached is a list of Mississippian calcareous microfossils identified by P. L. Brenckle from nine wells in the Hugoton area. The Kansas Geological Survey supplied all the core for this study with the provision that Amoco provide microfossil identifications for any material used. The enclosed list contains identifications only of literature taxa and no confidential Amoco paleo data are included. Transmission of the identifications to the Kansas Survey would be appropriate.

ERIC R. MICHAELIS

By Charles F. Upshaw  
Charles F. Upshaw

PLB:sdg  
Attachment

cc: J. A. Babcock  
L. C. Babcock  
W. S. Davis, Denver Region  
H. R. Lane  
A. R. Ormiston  
J. W. Parks, Denver Region  
R. W. Sherwood, Denver Region

January 31, 1983

Palynological analysis has been completed on the following seven cores from the Kansas Geological Survey collection. The sample interval and raw data listings per sample are provided as previously requested. As analyses on the other cores are completed, similar data will be provided to the Kansas Geological Survey

*Carol Ann Dawson*  
Carol Ann Dawson

CAD/df

K. C. Sawyer

Superior Oil  
Tucker 68 A-4  
4-29S-42W  
Morton Co., Kansas

<u>Sample depth</u>	<u>Species present</u>
5246-47'	<u>Crassispora kosankei</u> (Potonié & Kremp) Bharadwaj 1957 <u>Calamospora</u> sp. Schopf, Wilson Bentall 1944 <u>Densosporites sphaerotriangularis</u> Kosanke 1950 <u>Lycospora pellucida</u> (Wicher) Schopf, Wilson, Bentall 1944 <u>Densosporites intermedius</u> Butterworth and Williams 1958 <u>Dictyotriletes bireticulatus</u> (Ibrahim) Smith & Butterworth 1967 <u>Cristatisporites indignabundus</u> (Loose) Staplin & Jansonius 1964 <u>Triquitrites</u> cf. <u>angulatus</u> Kosanke 1950 <u>Florinites</u> sp. Schopf, Wilson, Bentall 1944 <u>Lycospora rotunda</u> Bharadwaj 1957 <u>Granulatisporites</u> sp. (Ibrahim) Potonié & Kremp 1954
5251'	<u>Densosporites intermedius</u> B. & W. 1958 <u>Densosporites anulatus</u> (Loose) Smith & Butterworth 1967 <u>Densosporites sphaerotriangularis</u> Kosanke 1950 <u>Laevigatosporites minor</u> Loose 1934 <u>Crassispora kosankei</u> (Potonié and Kremp) Bharadwaj 1957 <u>Dictyotriletes bireticulatus</u> (Ibrahim) Smith & Butterworth 1967 <u>Densosporites irregularis</u> Hacquebard & Barss 1957 <u>Cristatisporites indignabundus</u> (Loose) Staplin & Jansonius 1964 <u>Lycospora pellucida</u> (Wicher) Schopf, Wilson, Bentall 1944 <u>Calamospora</u> sp. Schopf, Wilson, Bentall 1944
5379-80'	<u>Potoniesporites</u> sp. Bharadwaj 1954 <u>Potoniesporites novicus</u> Bharadwaj 1954 <u>Lycospora pellucida</u> (W.) S.W.B. 1944 <u>Trinidulus diamphidios</u> Felix & Paden 1964 <u>Calamospora</u> sp. S.W.B. 1944 <u>Densosporites intermedius</u> B. & W. 1958 <u>Cirratriradites ornatus</u> Neves 1961 <u>Lycospora rotunda</u> Bharadwaj 1957

Sample depth

Species present

- 5379-80' (Cont.) Rugospora radiata Ravn & Fitzgerald 1982  
Densosporites irregularis H. & B. 1957  
Crassispora kosankei (P. & K.) Bharadwaj 1957  
Densosporites sphaerotriangularis Kosanke 1950  
Lophotriletes sp. (Naumova) Potonié & Kremp 1954  
Florinites visendus (Ibrahim) Schopf,  
Wilson, Bentall 1944  
Cingulizonates bialatus (Waltz) Smith &  
Butterworth 1967  
Densosporites anulatus (L.) S. & B. 1967  
Leiotrilites tumidus Butterworth & Williams 1958  
Acanthotriletes sp. (Naumova) Potonié and  
Kremp 1954  
Waltzispota polita (Hoffmeister, Staplin,  
Malloy) Smith & Butterworth 1958  
Knoxisporites dissidius Neves 1961  
Cirratriradites saturni (Ibrahim) Schopf,  
Wilson, Bentall 1944  
Granulatisporites sp. (I.) P. & K. 1954  
Savitrisporites asperatus Sullivan 1964  
Potoniesporites elegans (Wilson & Kosanke)  
Habib 1966
- 5385-86' Densosporites irregularis H. & B. 1957  
Lycospora pellucida (W.) S.W.B. 1944  
Knoxisporites dissidius Neves 1961  
Crassispora kosankei (P. & K.) Bharadwaj 1957  
Granulatisporites sp. (I.) P. & K. 1954  
Densosporites intermedius B. & W. 1958  
Waltzispota polita (H.S.M.) S. & B. 1958  
Calamospota sp. S.W.B. 1944  
Acanthotriletes sp. (N.) P. & K. 1954  
Cirratriradites ornatus Neves 1961  
Triquitrites cf. angulatus Kosanke 1950  
Potoniesporites novicus Bharadwaj 1954  
Densosporites sphaerotriangularis Kosanke 1950  
Raistrickia saetosa (Loose) Schopf, Wilson,  
Bentall 1944  
Densosporites spinosus Dybova & Jachowicz 1957  
Mooreisporites trigallerus Neves 1961  
Cirratriradites saturni (I.) S.W.B. 1944  
Colatisporites decokus (Bharadwaj and  
Venkatachala) Williams  
Lycospora rotunda Bharadwaj 1957  
Densosporites anulatus (L.) S. & B. 1967  
Cristatisporites indignabundus (L.) S. & J. 1964  
Florinites sp. S.W.B. 1944

Sample depthSpecies present

5390-91'

Potoniesporites novicus Bharadwaj 1954  
Lycospora pellucida (W.) S.W.B. 1944  
Densosporites intermedius B. & W. 1958  
Waltzisporea polita (H.S.M.) S. & B. 1958  
Densosporites irregularis H. & B. 1957  
Lycospora rotunda Bharadwaj 1957  
Crassispora kosankei (P. & K.) Bharadwaj 1957  
Granulatisporites sp. (I.) P. & K. 1954  
Cirratriradites ornatus Neves, 1961  
Acanthotriletes sp. (N.) P. & K. 1954  
Calamospora sp. S.W.B. 1944  
Raistrickia saetosa (L.) S.W.B. 1944  
Densosporites anulatus (L.) S. & B. 1967  
Lophotriletes sp. (N.) P. & K. 1954  
Trinidulus diamphidios Felix & Paden 1964  
Discernisporites irregularis Neves 1958  
Cingulizonates bialatus (W.) S. & B. 1967  
Potoniesporites elegans (W. & K.) H. 1966  
Cirratriradites saturni (I.) S.W.B. 1944  
Florinites visendus (I.) S.W.B. 1944  
Florites sp. S.W.B. 1944  
Densosporites sphaerotriangularis Kosanke 1950  
Densosporites spinosus D. & J. 1957  
Colatisporites decorus (B. & V.) Williams  
Cristatisporites indignabundus (L.) S. & J. 1964  
Lycospora noctuina B. & W. 1958  
Rugospora radiata R. & F. 1982  
Densosporites variabilis (Waltz) Potonié & Kremp 1956  
Ahrensisporites guerickei (Horst) Potonié & Kremp 1954  
Savitrissporites nux (Butterworth & Williams) Smith & Butterworth 1967

5397-98'

Lycospora pellucida (W.) S.W.B. 1944  
Densosporites irregularis H. & B. 1957  
Rugospora radiata R. & F. 1982  
Nexuosisporites comtus Felix & Burbridge 1967  
Potoniesporites novicus Bharadwaj 1954  
Savitrissporites nux (B. & W.) S. & B. 1967  
Densosporites intermedius B. & W. 1958  
Granulatisporites sp. (I.) P. & K. 1954  
Crassispora kosankei (P. & K.) B. 1957  
Cirratriradites saturni (I.) S.W.B. 1944  
Densosporites anulatus (L.) S. & B. 1967  
Lophotriletes sp. (N.) P. & K. 1954  
Cristatisporites indignabundus (L.) S. & J. 1964  
Florinites visendus (I.) S.W.B. 1944  
Florinites sp. S.W.B. 1944  
Densosporites variabilis (W.) P. & K. 1956

Sample depth

Species present

5397-98' (Cont.) Cirratriradites ornatus Neves 1961  
Cingulizonates bialatus (W.) S. & B. 1967  
Calamospora sp. S.W.B. 1944  
Remysporites eccentricus Mishell  
Secarisporites remotus Neves 1961  
Knoxisporites stephanophorus Love 1960  
Waltzispota polita (H.S.M.) S. & B. 1958  
Raistrickia saetosa (L.) S.W.B. 1944  
Lycospora rotunda Bharadwaj 1957  
Densosporites spinosus D. & J. 1957

5507-08' Lycospora rotunda Bharadwaj 1957  
Lycospora pellucida (W.) S.W.B. 1944

5509-10' Lycospora pellucida (W.) S.W.B. 1944

CAD/mlt  
020783  
RPT096

See Pan Am Black A-7, 18-30N-33W,  
Haskell Co., for full report



Amoco Production Company

Denver Region  
Amoco Building  
1670 Broadway  
Denver Colorado 80202  
303-830-4640

March 23, 1983

Mr. K. David Newell  
KANSAS GEOLOGICAL SURVEY  
1930 Avenue A, Campus West  
University of Kansas  
Lawrence, Kansas 66044

Dear David,

Enclosed are the calcareous microfossil data from Paul Brenckle's work. You received a rough copy of his data in my February letter. This enclosure represents a final copy.

Sincerely,

A handwritten signature in cursive script that reads "Chuck Sawyer".

Chuck Sawyer

CS:dh

Enclosure

AMOCO PRODUCTION COMPANY  
Tulsa, Oklahoma  
February 22, 1983

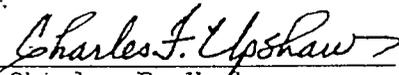
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By

  
Charles F. Upshaw

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H. R. Lane  
A. R. Ormiston  
J. W. Parks, Denver Region  
R. W. Sherwood, Denver Region

<u>Sample (depth in ft)</u>	<u>Identification</u>
	<u>inckopora minuta/pruvosti</u> , <u>Koninckopora tenuiramosa?</u>

Superior H. L. Tucker 68A4, 4-29S-42W, Stanton Co.

<u>Sample (depth in ft)</u>	<u>Identification</u>
5469	indet. Endothyridae.
5470	<u>Calcisphaera laevis</u> , indet. Endothyridae, indet. Archaediscidae.
5481	<u>Nodosarchaediscus</u> sp., <u>Calcisphaera laevis</u> , <u>Diplosphaerina</u> sp., indet. Aoujgaliaceae, <u>Stacheoides meandriformis</u> , indet. Stacheiinae?, <u>Endothyra</u> sp., indet. Archaediscidae.
5499	<u>Nodosarchaediscus</u> sp., <u>Planoarchaediscus?</u> sp., <u>Aoujgalia</u> sp., <u>Endostaffella</u> sp., indet. Aoujgaliaceae, <u>Stacheoides meandriformis</u> , <u>Endothyra</u> sp., <u>Eoendothyranopsis?</u> sp.
5505	<u>Calcisphaera laevis</u> , <u>Archaediscus</u> sp., <u>Diplosphaerina</u> sp., <u>Pseudoammodiscus?</u> sp., <u>Endothyra bowmani</u> sp.
5510	<u>Diplosphaerina</u> sp., <u>Aoujgalia?</u> sp., <u>Asphaltina?</u> <u>cordillerensis?</u>
5518	<u>Calcisphaera laevis</u> , indet. Endothyridae, <u>Archaediscus?</u> sp., <u>Diplosphaerina</u> sp., <u>Pseudoammodiscus</u> sp., indet. Salebriidae.
5523	<u>Nodosarchaediscus</u> sp., <u>Calcisphaera laevis</u> , indet. Endothyridae, <u>Archaediscus?</u> sp., <u>Pseudoammodiscus?</u> sp., indet. Salebriidae.
5541	<u>Nodosarchaediscus</u> sp., <u>Calcisphaera laevis</u> , indet. Endothyridae, <u>Archaediscus?</u> sp., <u>Diplosphaerina</u> sp., <u>Priscella?</u> sp.
5561	<u>Nodosarchaediscus</u> sp., <u>Calcisphaera laevis</u> , indet. Endothyridae, <u>Archaediscus</u> sp., <u>Earlandia?</u> sp., <u>Planoarchaediscus?</u> sp., <u>Diplosphaerina</u> sp., <u>Archaediscus pauxillus</u> .



WELL SUPERIOR 6844 TUCKER  
 STATE KANSAS COUNTY STANTON APT. # 1/2 FT. 9166  
 LOC. # 12011  
 TOWN 29S RG. 42W TD. KB  
 P. 7 OF 8

DEPTH	COLOR	LITHOLGY	SEDIMENT. STR. X.	DUNHAM DEPO. TXI		POROSITY AMT		POROSITY TYPE		GRAINS			
				MS	GS	PSI	MS	YLN	FAIR		POOR	BP	DP
67.20		Mottled thin bedded								Mottled (burrowed) sh. s. MS-lvs indet. scatt'd gas - steel? non-steel.			
30		Scatt'd 2mm-2cm vugs w/ calcite fill (vugs) like #2 below except that dk cont present & lighter here								Scatt'd 2mm-2cm vugs w/ calcite fill (vugs) like #2 below except that dk cont present & lighter here			
50		Calcite filled vugs								Calcite filled vugs			
60		Med gr. ss w/ dk 2mm-2cm pimples								Med gr. ss w/ dk 2mm-2cm pimples			
70		BRECCIA / correct & discont								BRECCIA / correct & discont			
78		Calcite filled vugs								Calcite filled vugs			

FIGURE 2B: LOCALITY 12434



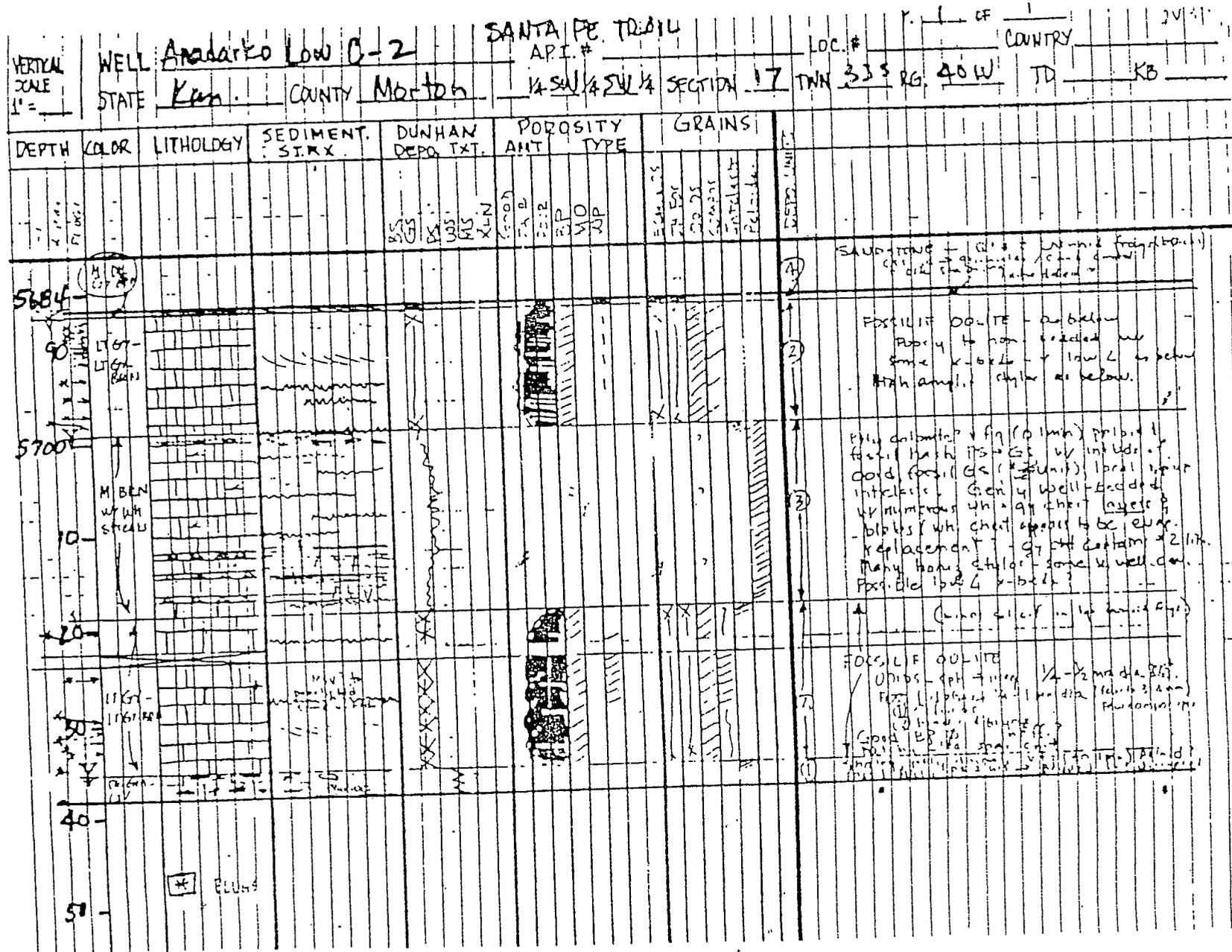


FIGURE 3: LOCALITY 12437

AMOCO PRODUCTION COMPANY  
Tulsa, Oklahoma  
February 11, 1983

83042ART0110

TO: K. C. Sawyer, Denver

SUBJECT: Processing of Conodont Samples - Deep Hugoton Project

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Footage	Sample No.	Taxon No.	Conodont	Count
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		2865	<u>Panderodus</u> sp.	2
		24178	<u>Plectodina</u> <u>furcata</u>	2
6323 <i>✓</i> <i>isla</i>	2	2961	<u>Belodina</u> sp.	2
		2865	<u>Panderodus</u> sp.	3
6421 <i>Arbouche</i>	3	2932	Indet. sample core	1

4. Locality 12435 - Anadarko No. 1, Low G, Sec. 6, T33S, R40W, Morton Co., Kansas.

Footage	Sample No.	Taxon No.	Conodont	Count
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5409	2	20512	<u>Neoprioniodus</u> n.sp.	1
5473.6	2	0501	Barren of conodonts	

*We don't have core in sample.*

5. Locality, 12436 - Anadarko No. 1-B Jones, Sec. 9, T33S, R41W, Morton Co., Kansas.

One sample processed at 5066.1 feet in this well was found to be barren of conodonts.

6. Locality 12437 - Anadarko No. 2-C Low, Sec. 17, T33S, R40W, Morton Co., Kansas.

Footage	Sample No.	Taxon No.	Conodont	Count
5719 <i>St. Louis?</i>	1	2828	<u>Cavusgnathus</u> <u>unicornis</u>	1
	2	23003	<u>Cavusgnathus</u> <u>charactus</u>	1

Occurrence of this form is common in the

7. Locality 12441 - Shallow Water No. 4 Maune, Sec. 31, T21S, R33W, Finney Co., Kansas.





A summary diagram illustrating correlations of these conodont faunas with the Mississippian and Early Pennsylvanian of the Las Animas Arch area are shown in Figure 5. That diagram is discussed in detail in a forthcoming Research Department report by myself and Mark Frye. Also, a copy of a report by me on Paleozoic conodont collections at the Kansas Geological Survey is also attached in the appendix.



H. Richard Lane

HRL:sdg  
Attachment

cc: Jack Babcock  
W. S. Davis  
O. R. Hille  
E. R. Michaelis  
Allen Ormiston  
J. W. Parks  
R. W. Sherwood  
C. F. Upshaw

# CONODONT ZONATION

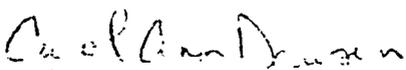
SYSTEM	STAGES EUR	SERIES NA	ZONES (of authors)	F.U.		
				LANE, 1977 & 82		
MISSISSIPPIAN	LOWER PENNSYLVANIAN	WEST.	<i>convexus</i>	21		
			<i>klapperi</i>	20		
			<i>sinuosis</i>	19		
			<i>bassleri</i>	18		
			<i>symmetricus</i>	17		
			<i>sinuatus-minutus</i>	16		
			<i>primus</i>	15		
		NAMURIAN	MORROWAN	<i>muricatus</i>	U 14 L 13	
				<i>C. unicornis</i>	12	
				<i>naviculus</i>	11	
				<i>u. bilineatus-C. altus</i>	10	
				<i>G. bilineatus-C. charactus</i>	9	
				<i>A. scalenus</i> <i>Carusgnathus</i>	8	
				<i>D. texanus</i>	7	
		TOURNAISIAN	VISEAN	MERAM, CHESTERIAN	<i>anchoralis</i>	6
					<i>latus</i>	5
					Upper <i>typicus</i>	4U
					Lower <i>typicus</i>	4L
					<i>isosticha</i>	3
					Upper <i>crenulata</i>	2
					Lower <i>crenulata</i>	1F
KINDERHOOKIAN	OSAGEAN		<i>sandbergi</i>	1E		
			Upper <i>duplicata</i>	1D		
			Lower <i>duplicata</i>	1C		
			<i>sulcata</i>	1B		
				1A		

*Neognathodus* A

*Gnathodus* B

January 31, 1983

Palynological analysis has been completed on the following seven cores from the Kansas Geological Survey collection. The sample interval and raw data listings per sample are provided as previously requested. As analyses on the other cores are completed, similar data will be provided to the Kansas Geological Survey.

  
Carol Ann Dawson

CAD/df

K. C. Sawyer

Superior Oil  
Tucker 68 A-4  
4-29S-42W  
Morton Co., Kansas

Sample depth

Species present

5246-47'

Crassispora kosankei (Potonié & Kremp)  
Bharadwaj 1957  
Calamospora sp. Schopf, Wilson Bentall 1944  
Densosporites sphaerotriangularis Kosanke 1950  
Lycospora pellucida (Wicher) Schopf,  
Wilson, Bentall 1944  
Densosporites intermedius Butterworth and  
Williams 1958  
Dictyotriletes bireticulatus (Ibrahim)  
Smith & Butterworth 1967  
Cristatisporites indignabundus (Loose)  
Staplin & Jansonius 1964  
Triguitrites cf. angulatus Kosanke 1950  
Florinites sp. Schopf, Wilson, Bentall 1944  
Lycospora rotunda Bharadwaj 1957  
Granulatisporites sp. (Ibrahim) Potonié &  
Kremp 1954

5251'

Densosporites intermedius B. & W. 1958  
Densosporites anulatus (Loose) Smith &  
Butterworth 1967  
Densosporites sphaerotriangularis Kosanke 1950  
Laevigatosporites minor Loose 1934  
Crassispora kosankei (Potonié and Kremp)  
Bharadwaj 1957  
Dictyotriletes bireticulatus (Ibrahim)  
Smith & Butterworth 1967  
Densosporites irregularis Hacquebard & Barss 1957  
Cristatisporites indignabundus (Loose)  
Staplin & Jansonius 1964  
Lycospora pellucida (Wicher) Schopf,  
Wilson, Bentall 1944  
Calamospora sp. Schopf, Wilson, Bentall 1944

5379-80'

Potoniesporites sp. Bharadwaj 1954  
Potoniesporites novicus Bharadwaj 1954  
Lycospora pellucida (W.) S.W.B. 1944  
Trinidulus diamphidios Felix & Paden 1964  
Calamospora sp. S.W.B. 1944  
Densosporites intermedius B. & W. 1958  
Cirratriradites ornatus Neves 1961  
Lycospora rotunda Bharadwaj 1957

Sample depth

Species present

- 5379-80' (Cont.) Rugospora radiata Ravn & Fitzgerald 1982  
Densosporites irregularis H. & B. 1957  
Crassispora kosankei (P. & K.) Bharadwaj 1957  
Densosporites sphaerotriangularis Kosanke 1950  
Lophotriletes sp. (Naumova) Potonié & Kremp 1954  
Florinites visendus (Ibrahim) Schopf,  
Wilson, Bentall 1944  
Cingulizonates bialatus (Waltz) Smith &  
Butterworth 1967  
Densosporites anulatus (L.) S. & B. 1967  
Leiotrilites tumidus Butterworth & Williams 1958  
Acanthotriletes sp. (Naumova) Potonié and  
Kremp 1954  
Waltzispota polita (Hoffmeister, Staplin,  
Malloy) Smith & Butterworth 1958  
Knoxisporites dissidius Neves 1961  
Cirratriradites saturni (Ibrahim) Schopf,  
Wilson, Bentall 1944  
Granulatisporites sp. (I.) P. & K. 1954  
Savitrisporites asperatus Sullivan 1964  
Potoniesporites elegans (Wilson & Kosanke)  
Habib 1966
- 5385-86'  
Densosporites irregularis H. & B. 1957  
Lycospora pellucida (W.) S.W.B. 1944  
Knoxisporites dissidius Neves 1961  
Crassispora kosankei (P. & K.) Bharadwaj 1957  
Granulatisporites sp. (I.) P. & K. 1954  
Densosporites intermedius B. & W. 1958  
Waltzispota polita (H.S.M.) S. & B. 1958  
Calamospora sp. S.W.B. 1944  
Acanthotriletes sp. (N.) P. & K. 1954  
Cirratriradites ornatus Neves 1961  
Triguitrites cf. angulatus Kosanke 1950  
Potoniesporites novicus Bharadwaj 1954  
Densosporites sphaerotriangularis Kosanke 1950  
Raistrickia saetosa (Loose) Schopf, Wilson,  
Bentall 1944  
Densosporites spinosus Dybova & Jachowicz 1957  
Mooreisporites trigallerus Neves 1961  
Cirratriradites saturni (I.) S.W.B. 1944  
Colatisporites decorus (Bharadwaj and  
Venkatachala) Williams  
Lycospora rotunda Bharadwaj 1957  
Densosporites anulatus (L.) S. & B. 1967  
Cristatisporites indignabundus (L.) S. & J. 1964  
Florinites sp. S.W.B. 1944

Sample depthSpecies present

5390-91'

Potoniesporites novicus Bharadwaj 1954  
Lycospora pellucida (W.) S.W.B. 1944  
Densosporites intermedius B. & W. 1958  
Waltzispota polita (H.S.M.) S. & B. 1958  
Densosporites irregularis H. & B. 1957  
Lycospora rotunda Bharadwaj 1957  
Crassispora kosankei (P. & K.) Bharadwaj 1957  
Granulatisporites sp. (I.) P. & K. 1954  
Cirratriradites ornatus Neves 1961  
Acanthotriletes sp. (N.) P. & K. 1954  
Calamospora sp. S.W.B. 1944  
Raistrickia saetosa (L.) S.W.B. 1944  
Densosporites anulatus (L.) S. & B. 1967  
Lophotriletes sp. (N.) P. & K. 1954  
Trinidulus diamphidios Felix & Paden 1964  
Discernisporites irregularis Neves 1958  
Cingulizonates bialatus (W.) S. & B. 1967  
Potoniesporites elegans (W. & K.) H. 1966  
Cirratriradites saturni (I.) S.W.B. 1944  
Florinites visendus (I.) S.W.B. 1944  
Florites sp. S.W.B. 1944  
Densosporites sphaerotriangularis Kosanke 1950  
Densosporites spinosus D. & J. 1957  
Colatisporites decorus (B. & V.) Williams  
Cristatisporites indignabundus (L.) S. & J. 1964  
Lycospora noctuina B. & W. 1958  
Rygospora radiata R. & F. 1982  
Densosporites variabilis (Waltz) Potonié & Kremp 1956  
Ahrensiporites guerickei (Horst) Potonié & Kremp 1954  
Savitrissporites nux (Butterworth & Williams) Smith & Butterworth 1967

5397-98'

Lycospora pellucida (W.) S.W.B. 1944  
Densosporites irregularis H. & B. 1957  
Rygospora radiata R. & F. 1982  
Nexuosisporites comtus Felix & Burbridge 1967  
Potoniesporites novicus Bharadwaj 1954  
Savitrissporites nux (B. & W.) S. & B. 1967  
Densosporites intermedius B. & W. 1958  
Granulatisporites sp. (I.) P. & K. 1954  
Crassispora kosankei (P. & K.) B. 1957  
Cirratriradites saturni (I.) S.W.B. 1944  
Densosporites anulatus (L.) S. & B. 1967  
Lophotriletes sp. (N.) P. & K. 1954  
Cristatisporites indignabundus (L.) S. & J. 1964  
Florinites visendus (I.) S.W.B. 1944  
Florinites sp. S.W.B. 1944  
Densosporites variabilis (W.) P. & K. 1956

Sample depth

Species present

5397-98' (Cont.) Cirratriradites ornatus Neves 1961  
Cingulizonates bialatus (W.) S. & B. 1967  
Calamospora sp. S.W.B. 1944  
Remysporites eccentricus Mishell  
Secarisporites remotus Neves 1961  
Knoxisporites stephanophorus Love 1960  
Waltzisporea polita (H.S.M.) S. & B. 1958  
Raistrickia saetosa (L.) S.W.B. 1944  
Lycospora rotunda Bharadwaj 1957  
Densosporites spinosus D. & J. 1957

5507-08' Lycospora rotunda Bharadwaj 1957  
Lycospora pellucida (W.) S.W.B. 1944

5509-10' Lycospora pellucida (W.) S.W.B. 1944

CAD/mlt  
020783  
RPT096

AMOCO PRODUCTION COMPANY  
Tulsa, Oklahoma  
February 22, 1983

*Tucker 68AY*

83053ART0078

FILE: Technical Service 825370PS

TO: O. R. Hille, Denver Region

ATTN: C. W. Sawyer

SUBJECT: Calcareous Microfossil Identifications from Mississippian Core,  
Hugoton Embayment, Southwestern Kansas.

Attached is a list of Mississippian calcareous microfossils identified by P. L. Brenckle from nine wells in the Hugoton area. The Kansas Geological Survey supplied all the core for this study with the provision that Amoco provide microfossil identifications for any material used. The enclosed list contains identifications only of literature taxa and no confidential Amoco paleo data are included. Transmission of the identifications to the Kansas Survey would be appropriate.

ERIC R. MICHAELIS

By *Charles F. Upshaw*  
Charles F. Upshaw

PLB:sdg  
Attachment

cc: J. A. Babcock  
L. C. Babcock  
W. S. Davis, Denver Region  
H. R. Lane  
A. R. Ormiston  
J. W. Parks, Denver Region  
R. W. Sherwood, Denver Region

<u>Sample (depth in ft)</u>	<u>Identification</u>
	<u>inckopora minuta/pruvosti</u> , <u>Koninckopora tenuiramosa?</u>

Superior H. L. Tucker 68A4, 4-29S-42W, Stanton Co.

<u>Sample (depth in ft)</u>	<u>Identification</u>
5469	indet. Endothyridae.
5470	<u>Calcisphaera laevis</u> , indet. Endothyridae, indet. Archaediscidae.
5481	<u>Nodosarchaediscus</u> sp., <u>Calcisphaera laevis</u> , <u>Diplosphaerina</u> sp., indet. Aoujgaliaceae, <u>Stacheoides meandriformis</u> , indet. Stacheiinae?, <u>Endothyra</u> sp., indet. Archaediscidae.
5499	<u>Nodosarchaediscus</u> sp., <u>Planoarchaediscus?</u> sp., <u>Aoujgalia</u> sp., <u>Endostaffella</u> sp., indet. Aoujgaliaceae, <u>Stacheoides meandriformis</u> , <u>Endothyra</u> sp., <u>Eoendothyranopsis?</u> sp.
5505	<u>Calcisphaera laevis</u> , <u>Archaediscus</u> sp., <u>Diplosphaerina</u> sp., <u>Pseudoammodiscus?</u> sp., <u>Endothyra bowmani</u> sp.
5510	<u>Diplosphaerina</u> sp., <u>Aoujgalia?</u> sp., <u>Asphaltina?</u> <u>cordillerensis?</u>
5518	<u>Calcisphaera laevis</u> , indet. Endothyridae, <u>Archaediscus?</u> sp., <u>Diplosphaerina</u> sp., <u>Pseudoammodiscus</u> sp., indet. Salebridae.
5523	<u>Nodosarchaediscus</u> sp., <u>Calcisphaera laevis</u> , indet. Endothyridae, <u>Archaediscus?</u> sp., <u>Pseudoammodiscus?</u> sp., indet. Salebridae.
5541	<u>Nodosarchaediscus</u> sp., <u>Calcisphaera laevis</u> , indet. Endothyridae, <u>Archaediscus?</u> sp., <u>Diplosphaerina</u> sp., <u>Priscella?</u> sp.
5561	<u>Nodosarchaediscus</u> sp., <u>Calcisphaera laevis</u> , indet. Endothyridae, <u>Archaediscus</u> sp., <u>Earlandia?</u> sp., <u>Planoarchaediscus?</u> sp., <u>Diplosphaerina</u> sp., <u>Archaediscus pauxillus</u> .

## Anadarko Low G-1, 6-33S-40W, Morton Co.

<u>Sample (depth in ft)</u>	<u>Identification</u>
5364	Barren
5369	Barren
5375.8	Barren
5379	Barren
5393.7	Barren
5404	Barren
5407	Barren
5407.1	Barren
5408	Calcivertellid.
5409.2	indet. foram
5410	Barren

*Paul Brenckle*

Paul L. Brenckle

PLB:sdg