FIGURE F-8

HIGH RESOLUTION FORAMINIFERA DISTRIBUTION CHART

MICROPALEO CONSULTANTS

WELL NAME	:GULF SANDY RIVER FEDERAL NO.1	API NUMBER	:50-061-10001	KELLY BUSHING	:255 FEET		
PROJECT	:NORTH ALEUTIAN BASIN BIOSTRATIGRAPHY PROJECT	LOCATION	:SEC. 10, T46S/R70W SM	BASIN	:NORTH ALEUTIAN	DATE	:JUNE 2005
PALEONTOLOGIST	:MICHAEL B. MICKEY	TOTAL DEPTH	:13,068 FEET	STATE	:ALASKA	PROJECT	:25-104

RELATIVE ABUNDANCE KEY

- a = NOT PRESENT
- | = 1 TO 1 VERY RARE
- = 2 TO 4 RARE
- = 5 TO 25 FREQUENT
- = 26 TO 100 COMMON
- = 101 TO 999 ABUNDANT
- = 1000 TO 99,999 PROLIFIC

SPECIES LOCATION INDEX

[14] BARREN OF FORAMINIFERA
[28] BENTONITES
[4] BOLVINA CF. NUMEROSA
[18] CALCISPHERES
[25] COAL
[6] CRIBRONONION SP.
[11] DENTALINA? SP.
[15] DIATOMS
[5] ELPHIDIELLA AFF. SIBIRICA
[10] ELPHIDIELLA CF. HANNAI
[8] ELPHIDIUM BARTLETTI
[2] ELPHIDIUM CF. ORBICULARE
[13] ELPHIDIUM SP.
[20] FISH REMAINS
[27] GLAUCONITE
[12] GLOBULINA SP.
[9] HAPLOPHRAGMOIDES CF. TRULLISATA
[29] LCM
[21] MEGASPORES
[17] PLANT DEBRIS
[24] PYRITE
[16] PYRITIZED DIATOMS
[7] QUINQUELOCULINA BELLATULA
[3] QUINQUELOCULINA SP.
[19] SHELLS
[1] SIGMOMORPHINA? SP.
[23] TAR
[26] VOLCANIC GLASS SHARDS
[22] WELL CEMENT

FAUNAL DIVERSITY (FILLED)

0 5 10 15 20

CUMULATIVE FAUNAL PLOT (%)

TOTAL AGGLUTINATED
TOTAL CALC BENTHICS
TOTAL PORCELLANEOUS
TOTAL PLANKTICS
TOTAL RADIOLARIA

TOTAL FAUNA

0.8 10 100 1000

0 25 50 75 100

FORAMINIFERA

[1] SIGMOMORPHINA? SP.
[2] ELPHIDIUM CF. ORBICULARE
[3] QUINQUELOCULINA SP.
[4] BOLVINA CF. NUMEROSA
[5] ELPHIDIELLA AFF. SIBIRICA
[6] CRIBRONONION SP.
[7] QUINQUELOCULINA BELLATULA
[8] ELPHIDIUM BARTLETTI
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[10] ELPHIDIELLA CF. HANNAI
[11] DENTALINA? SP.
[12] GLOBULINA SP.
[13] ELPHIDIUM SP.
[14] BARREN OF FORAMINIFERA

MISC.

[15] DIATOMS
[16] PYRITIZED DIATOMS
[17] PLANT DEBRIS
[18] CALCISPHERES
[19] SHELLS
[20] FISH REMAINS
[21] MEGASPORES

ROCKS, MINS., ETC.

[22] WELL CEMENT
[23] TAR
[24] PYRITE
[25] COAL
[26] VOLCANIC GLASS SHARDS
[27] GLAUCONITE
[28] BENTONITES
[29] LCM

PALEOENVIRONMENTS

Nonmarine
Marginal Marine
Inner Neritic
Middle Neritic
Outer Neritic
Upper Bathyal
Middle Bathyal
Lower Bathyal
Distal
Marine (Undiff.)

AGE	STAGE/ZONE		SAMPLE DEPTH (FEET)	SAMPLE DEPTH (FEET)	WASHED LITHOLOGY DESCRIPTION
INDETERMINATE	INDETERMINATE	INDETERMINATE	0-90	0-90	DARK GRAY VOLCANIC OR VOLCANI-CLASTIC ROCK
			90-180	90-180	DARK GRAY VOLCANIC OR VOLCANI-CLASTIC ROCK
			180-270	180-270	DARK GRAY VOLCANIC OR VOLCANI-CLASTIC ROCK
			270-360	270-360	DARK GRAY VOLCANIC OR VOLCANI-CLASTIC ROCK
			360-450	360-450	DARK BROWNISH-GRAY VOLCANIC OR VOLCANI-CLASTIC ROCK
			450-540	450-540	DARK BROWNISH-GRAY VOLCANIC OR VOLCANI-CLASTIC ROCK
			540-630	540-630	DARK GRAY SANDY SHALE OR MUDSTONE
			630-720	630-720	DARK GRAY SANDY SHALE OR MUDSTONE
			720-810	720-810	DARK REDDISH AND BROWNISH-GRAY VOLCANIC OR VOLCANI-CLASTIC ROCK
			810-900	810-900	DARK REDDISH AND BROWNISH-GRAY VOLCANIC OR VOLCANI-CLASTIC ROCK
			900-990	900-990	DARK REDDISH AND BROWNISH-GRAY VOLCANIC OR VOLCANI-CLASTIC ROCK
			990-1080	990-1080	DARK REDDISH AND BROWNISH-GRAY VOLCANIC OR VOLCANI-CLASTIC ROCK
			1080-1170	1080-1170	DARK BROWNISH-GRAY VOLCANIC OR VOLCANI-CLASTIC ROCK
			1170-1260	1170-1260	DARK BROWNISH-GRAY VOLCANIC OR VOLCANI-CLASTIC ROCK
			1260-1350	1260-1350	DARK BROWNISH-GRAY VOLCANIC OR VOLCANI-CLASTIC ROCK
			1350-1440	1350-1440	DARK BROWNISH-GRAY VOLCANIC OR VOLCANI-CLASTIC ROCK
			1440-1530	1440-1530	DARK REDDISH-BROWN VOLCANIC OR VOLCANI-CLASTIC ROCK
			1530-1620	1530-1620	DARK REDDISH-BROWN VOLCANIC OR VOLCANI-CLASTIC ROCK
			1620-1710	1620-1710	GRAY FINE TO MEDIUM GRAINED SANDSTONE
			1710-1800	1710-1800	GRAY FINE TO MEDIUM GRAINED SANDSTONE
			1800-1890	1800-1890	DARK BROWNISH-GRAY FINE TO MEDIUM GRAINED SANDSTONE
			1890-1980	1890-1980	DARK BROWNISH-GRAY FINE TO MEDIUM GRAINED SANDSTONE
			1980-2070	1980-2070	DARK BROWNISH-GRAY MEDIUM GRAINED SANDSTONE
			2070-2190	2070-2190	DARK BROWNISH-GRAY MEDIUM GRAINED SANDSTONE
			2190-2280	2190-2280	DARK BROWNISH-GRAY FINE TO MEDIUM GRAINED SANDSTONE
			2280-2370	2280-2370	DARK BROWNISH-GRAY FINE TO MEDIUM GRAINED SANDSTONE
			2370-2460	2370-2460	DARK BROWNISH-GRAY FINE TO MEDIUM GRAINED SANDSTONE
			2460-2550	2460-2550	DARK BROWNISH-GRAY FINE TO MEDIUM GRAINED SANDSTONE
			2550-2640	2550-2640	DARK BROWNISH-GRAY FINE GRAINED SANDSTONE
			2640-2760	2640-2760	DARK BROWNISH-GRAY FINE GRAINED SANDSTONE
			2760-2850	2760-2850	BROWNISH-GRAY MEDIUM GRAINED VOLCANIC SHARD-RICH SANDSTONE
			2910-3030	2910-3030	BROWNISH-GRAY MEDIUM GRAINED VOLCANIC SHARD-RICH SANDSTONE
			3090-3180	3090-3180	BROWNISH-GRAY FINE TO MEDIUM GRAINED SANDSTONE
			3180-3270	3180-3270	BROWNISH-GRAY FINE TO MEDIUM GRAINED MUDDY SANDSTONE
	PROBABLE PLIOCENE	UNDIFFERENTIATED	3270-3360	3270-3360	DARK BROWNISH-GRAY FINE GRAINED MUDDY SANDSTONE
			3360-3450	3360-3450	BROWNISH-GRAY SANDY SHALE OR MUDSTONE
			3450-3540	3450-3540	BROWNISH-GRAY FINE GRAINED MUDDY SANDSTONE
			3540-3630	3540-3630	BROWNISH-GRAY FINE GRAINED MUDDY SANDSTONE
			3630-3720	3630-3720	BROWNISH-GRAY FINE GRAINED MUDDY SANDSTONE
			3720-3840	3720-3840	BROWNISH-GRAY FINE GRAINED MUDDY SANDSTONE
			3840-3960	3840-3960	BROWNISH-GRAY FINE GRAINED MUDDY SANDSTONE
			3960-4080	3960-4080	BROWNISH-GRAY FINE GRAINED MUDDY SANDSTONE
			4080-4200	4080-4200	BROWNISH-GRAY SANDY SHALE OR MUDSTONE
			4200-4320	4200-4320	BROWN SLIGHTLY SANDY SHALE OR MUDSTONE
			4320-4440	4320-4440	BROWNISH-GRAY SLIGHTLY SANDY SHALE OR MUDSTONE
			4440-4560	4440-4560	BROWNISH-GRAY SLIGHTLY SANDY SHALE OR MUDSTONE
			4560-4680	4560-4680	BROWNISH-GRAY FINE TO MEDIUM GRAINED MUDDY SANDSTONE
			4680-4800	4680-4800	BROWNISH-GRAY SLIGHTLY SANDY SHALE OR MUDSTONE
			4800-4920	4800-4920	BROWNISH-GRAY SANDY SHALE OR MUDSTONE
			4920-5040	4920-5040	BROWNISH-GRAY COALY SANDY SHALE OR MUDSTONE
			5040-5160	5040-5160	DARK BROWNISH-GRAY MEDIUM GRAINED MUDDY SANDSTONE
			5160-5260	5160-5260	DARK BROWNISH-GRAY MEDIUM GRAINED MUDDY SANDSTONE
			5260-5350	5260-5350	DARK BROWNISH-GRAY MEDIUM GRAINED COALY MUDDY SANDSTONE
			5350-5470	5350-5470	DARK GRAY TO BLACK MEDIUM GRAINED VERY COALY SANDSTONE
TERTIARY	UNDIFFERENTIATED	UNDIFFERENTIATED	5470-5590	5470-5590	GRAY FINE GRAINED MUDDY SANDSTONE
			5590-5710	5590-5710	GRAY FINE GRAINED MUDDY SANDSTONE
			5710-5800	5710-5800	GRAY FINE GRAINED MUDDY SANDSTONE
			5800-5890	5800-5890	DARK GRAY TO BLACK FINE GRAINED VERY COALY SANDSTONE
			5890-5980	5890-5980	GRAY FINE TO MEDIUM GRAINED COALY SANDSTONE
			5980-6070	5980-6070	GRAY FINE TO MEDIUM GRAINED COALY SANDSTONE
			6070-6160	6070-6160	BROWNISH-GRAY FINE TO MEDIUM GRAINED COALY SANDSTONE
			6160-6250	6160-6250	BROWNISH-GRAY FINE TO MEDIUM GRAINED COALY SANDSTONE
			6250-6340	6250-6340	GRAY SANDY SHALE OR MUDSTONE
			6340-6430	6340-6430	GRAY SANDY SHALE OR MUDSTONE
			6430-6520	6430-6520	GRAY SANDY SHALE OR MUDSTONE
			6520-6610	6520-6610	GRAY SANDY SHALE OR MUDSTONE
			6610-6700	6610-6700	GRAY FINE GRAINED MUDDY SANDSTONE
			6700-6790	6700-6790	GRAY FINE GRAINED MUDDY SANDSTONE
			6790-6880	6790-6880	GRAY FINE GRAINED SANDSTONE
			6880-6970	6880-6970	GRAY FINE GRAINED SANDSTONE
			6970-7060	6970-7060	BROWNISH-GRAY FINE GRAINED SANDSTONE
			7060-7150	7060-7150	BROWNISH-GRAY FINE GRAINED SANDSTONE
			7150-7240	7150-7240	BROWNISH-GRAY FINE GRAINED SANDSTONE
			7240-7330	7240-7330	GRAY FINE TO MEDIUM GRAINED WELL INDURATED SANDSTONE
			7330-7420	7330-7420	GRAY FINE TO MEDIUM GRAINED WELL INDURATED SANDSTONE
			7420-7510	7420-7510	BROWNISH-GRAY FINE TO MEDIUM GRAINED SANDSTONE
			7510-7600	7510-7600	BROWNISH-GRAY FINE TO MEDIUM GRAINED SANDSTONE
			7600-7690	7600-7690	BROWNISH-GRAY SILTY SHALE OR MUDSTONE
			7690-7780	7690-7780	BROWNISH-GRAY SILTY SHALE OR MUDSTONE
			7780-7870	7780-7870	GRAY MEDIUM GRAINED SANDSTONE
			7870-7960	7870-7960	BROWNISH-GRAY FINE GRAINED SANDSTONE
			7960-8050	7960-8050	BROWNISH-GRAY FINE GRAINED SANDSTONE
			8050-8150	8050-8150	BROWNISH-GRAY FINE GRAINED SANDSTONE
			8150-8240	8150-8240	BROWNISH-GRAY SILTY SHALE OR MUDSTONE
			8240-8330	8240-8330	BROWNISH-GRAY MEDIUM GRAINED MUDDY SANDSTONE
			8330-8420	8330-8420	BROWNISH-GRAY MEDIUM GRAINED MUDDY SANDSTONE
			8420-8510	8420-8510	BROWNISH-GRAY MEDIUM GRAINED SANDSTONE
			8510-8600	8510-8600	BROWNISH-GRAY MEDIUM GRAINED SANDSTONE
			8600-8690	8600-8690	BROWNISH-GRAY FINE GRAINED SANDSTONE
			8690-8790	8690-8790	BROWNISH-GRAY FINE TO MEDIUM GRAINED SANDSTONE
			8790-8880	8790-8880	BROWNISH-GRAY FINE GRAINED MUDDY SANDSTONE
			8880-8970	8880-8970	BROWNISH-GRAY FINE GRAINED MUDDY SANDSTONE
			8970-9060	8970-9060	BROWNISH-GRAY FINE TO MEDIUM GRAINED MUDDY SANDSTONE
			9060-9150	9060-9150	BROWNISH-GRAY FINE TO MEDIUM GRAINED MUDDY SANDSTONE
			9150-9240	9150-9240	BROWNISH-GRAY FINE TO MEDIUM GRAINED MUDDY SANDSTONE
			9240-9330	9240-9330	BROWNISH-GRAY FINE TO MEDIUM GRAINED MUDDY SANDSTONE
			9330-9420	9330-9420	BROWNISH-GRAY MEDIUM GRAINED MUDDY SANDSTONE
			9420-9510	9420-9510	BROWNISH-GRAY MEDIUM GRAINED MUDDY SANDSTONE
			9510-9600	9510-9600	BROWNISH-GRAY FINE GRAINED MUDDY SANDSTONE
			9600-9690	9600-9690	BROWNISH-GRAY FINE GRAINED MUDDY SANDSTONE
			9690-9780	9690-9780	BROWNISH-GRAY FINE TO MEDIUM GRAINED MUDDY SANDSTONE
			9780-9870	9780-9870	BROWNISH-GRAY FINE TO MEDIUM GRAINED MUDDY SANDSTONE
			9870-9960	9870-9960	BROWNISH-GRAY FINE TO MEDIUM GRAINED MUDDY SANDSTONE
			9960-10050	9960-10050	BROWNISH-GRAY FINE TO MEDIUM GRAINED MUDDY SANDSTONE
			10050-10140	10050-10140	BROWNISH-GRAY SANDY MICACEOUS SHALE
			10140-10230	10140-10230	DARK BROWNISH-GRAY SANDY COALY SHALE
			10230-10320	10230-10320	BROWNISH-GRAY FINE GRAINED COALY SANDSTONE
			10320-10410	10320-10410	BROWNISH-GRAY FINE GRAINED COALY SANDSTONE
			10410-10500	10410-10500	BROWNISH-GRAY FINE GRAINED COALY SANDSTONE
			10500-10590	10500-10590	BROWNISH-GRAY FINE GRAINED COALY SANDSTONE
			10590-10680	10590-10680	BROWNISH-GRAY SANDY SHALE
			10680-10770	10680-10770	BROWNISH-GRAY SANDY COALY SHALE
			10770-10860	10770-10860	DARK GRAY SANDY COALY SHALE
			10860-10960	10860-10960	DARK GRAY SANDY COALY SHALE
			10960-11050	10960-11050	BROWNISH-GRAY FINE GRAINED MUDDY SANDSTONE
			11050-11140	11050-11140	BROWNISH-GRAY FINE GRAINED MUDDY SANDSTONE
			11140-11230	11140-11230	BROWNISH-GRAY FINE GRAINED MUDDY SANDSTONE
			11230-11320	11230-11320	DARK GRAY SLIGHTLY SANDY COALY SHALE
			11320-11410	11320-11410	DARK GRAY COALY SHALE OR SHALY COAL SEAM
			11410-11500	11410-11500	DARK BROWN-GRAY SANDY COALY SHALE W/ FREQ ORANGE-BROWN FE-ST SHALE
			11500-11590	11500-11590	DARK GRAY SLIGHTLY SANDY SHALE
			11590-11680	11590-11680	DARK GRAY SLIGHTLY SANDY SHALE
			11680-11770	11680-11770	DARK GRAY SANDY SHALE
			11770-11860	11770-11860	BROWNISH-GRAY FINE GRAINED MUDDY SANDSTONE
			11860-11950	11860-11950	BROWNISH-GRAY BENTONITIC SHALE
	LATE EOCENE TO EARLY OLIGOCENE	UNDIFF.	11950-12030	11950-12030	MEDIUM TO DARK BROWNISH-GRAY BENTONITIC SHALE
			12030-12120	12030-12120	MEDIUM TO DARK BROWNISH-GRAY BENTONITIC SHALE
			12120-12210	12120-12210	MEDIUM TO DARK BROWNISH-GRAY BENTONITIC SHALE
			12210-12300	12210-12300	BROWNISH-GRAY SANDY BENTONITIC SHALE
			12300-12390	12300-12390	BROWNISH-GRAY SANDY BENTONITIC SHALE
			12390-12480	12390-12480	GREENISH-GRAY FINE GRAINED MUDDY SANDSTONE
			12480-12570	12480-12570	GREENISH-GRAY FINE GRAINED MUDDY SANDSTONE
			12570-12660	12570-12660	GREENISH-GRAY FINE GRAINED LITHIC (VOLCANIC) SANDSTONE
INDET.	INDET.	INDET.	12600-12650 C	12600-12650 C	GREENISH GRAY FINE TO MEDIUM GRAINED LITHIC (VOLCANIC) SANDSTONE
			12650-12700 C	12650-12700 C	GREENISH GRAY FINE TO MEDIUM GRAINED LITHIC (VOLCANIC) SANDSTONE
			12660-12700	12650-12700	GREENISH-GRAY FINE GRAINED LITHIC (VOLCANIC) SANDSTONE
			12850-12880 C	12850-12880 C	GREENISH GRAY FINE TO MEDIUM GRAINED ALTERED VOLCANIC ASH SDST
			12890-12980	12890-12980	GREENISH-GRAY VERY FINE GRAINED LITHIC (VOLCANIC) SANDSTONE
			12980-13050	12980-13050	GREENISH-GRAY SANDY SHALE
			13020-13050 C	13020-13050 C	GREENISH GRAY FINE TO MEDIUM GRAINED ALTERED VOLCANIC ASH SDST