Volume 9. Chemistry and Microbiology

Principal Investigators' Reports
for the Year Ending March 1976
Environmental Assessment of the Alaskan Continental Shelf

Volume 9. Chemistry and Microbiology

Fourth quarter and annual reports for the reporting period ending March 1976, from Principal Investigators participating in a multi-year program of environmental assessment related to petroleum development on the Alaskan Continental Shelf. The program is directed by the National Oceanic and Atmospheric Administration under the sponsorship of the Bureau of Land Management.

ENVIRONMENTAL RESEARCH LABORATORIES / Boulder, Colorado / 1976
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ANNUAL REPORT

Assessment of Potential Interactions of Microorganisms and Pollutants Resulting from Petroleum Development on the Outer Continental Shelf in the Beaufort Sea

April 1, 1976

Submitted by: Ronald M. Atlas
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Prepared for: Outer Continental Shelf Energy Assessment Program
National Atmospheric and Oceanographic Administration
Fairbanks Project Office
Fairbanks, Alaska
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Dr. Ronald M. Atlas, Principal Investigator
  Project Coordinator - Hydrocarbon biodegradation

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Mr. George Roubal, Research Assistant - Hydrocarbon degradation

Dr. Lois Cronholm, Co-principal Investigator - Potential human pathogens

Two part-time technicians
Microorganisms are essential components of all ecosystems. Changes in microbial populations may greatly alter the characteristics of an ecosystem. Human activities often modify the environment for microorganisms. In some cases microorganisms respond to such changes in a way that lessens the human impact. For example, microorganisms are capable of biodegrading many pollutants that man adds to various ecosystems, often maintaining environmental quality in such situations. In some cases, microorganisms are unable to biodegrade polluting materials and undesirable accumulations of the pollutants occur. In still other situations, microorganisms carry out transformations of the pollutants that produce undesirable toxic products. Microorganisms also carry out metabolic activities essential for ecologic balance. Human modification of an environment may alter the ability of microorganisms to carry out key elemental cycling activities. Some microorganisms cause disease in man or other organisms. Human activities may change the populations of such pathogenic microorganisms, altering the incidence of a particular disease.

This project was designed to investigate the potential interactions of microorganisms and pollutants that may result from development of petroleum resources in the outer continental shelf of the Beaufort Sea. Knowledge about the naturally occurring microorganisms is essential for such an assessment. Studies have been begun on establishing a baseline description of microbial communities in the Beaufort Sea. This baseline description includes quantitative information on the occurrence of different physiological groups of microorganisms and on the qualitative taxonomic
characteristics of dominant species of microorganisms. It includes information on the ability of the indigenous microorganisms to transform petroleum hydrocarbons that might enter the ecosystem from outer continental shelf petroleum development.
MATERIALS AND METHODS

Literature Review

A review of existing literature on microorganisms in the Beaufort Sea including microorganisms related to petroleum pollutants was conducted using the computer search facilities OASIS and the Lockheed database. Data bases searched include National Technical Information Service, Biological Abstracts, BioResearch Index, Oceanic Index, Selected Water Research Abstracts and Chemical Titles. Abstracts were reviewed and appropriate articles obtained from NTIS or the original source.

Sample Collection

Water and sediment samples were collected during August and September in the Beaufort Sea. Samples were collected from the USGS Beaver aircraft and with small craft. Due to adverse ice conditions sampling was done nearshore, including within Elson Lagoon and Prudhoe Bay. Water samples were collected with a Niskin sterile water sampler. Sediment samples were collected with a mud snapper. Surface ice samples were collected with aseptically with a spatula. A total of 3 ice, 39 water, and 33 sediment samples were collected (Table I). The locations of sample collections are shown in Table II and Figure I.

Abiotic Sample Parameters

Salinity and temperature determinations were made with a Yellow Springs Instrument Salinometer. Aliquots of samples were filtered through glass filters, placed in acid-washed bottles, rapidly frozen with dry ice
and sent to Dr. Vera Alexander for analysis of phosphate, ammonium, nitrate and silicate concentrations.

**Enumeration of Microbial Populations**

**Direct counts from water and sediment.** Aliquots of water samples were immediately preserved upon collection by addition of formaldehyde 1:1 v/v. For sediment samples an aliquot was weighed and dried for determination of wet wt./dry wt. conversion factors. A second aliquot was diluted with sterile water and preserved with formaldehyde.

One-tenth to five-tenth milliliters of sample was mixed with one milliliter of 0.1% acridine orange in sterile tris buffer pH 7. One minute after mixing, the stained sample was filtered through a 0.22 µm Sartorius black filter. The filters were immediately viewed with an Olympus epi-fluorescence microscope, with a BG 12 plus blue exciter filter and a 480 nm blue barrier filter. Cells fluorescing orange or green were counted. Ten fields were counted for each aliquot filtered. Two aliquots from each sample were counted. Counts were converted to number per ml for water samples and to number per gram dry wt. for sediment samples.

**Indirect plate counts from water and sediment.** Viable microorganisms were enumerated as different physiological groups using different microbiological media and incubation conditions. Two non-selective media, marine agar 2216 and MSWE, were used for enumeration of total viable microorganisms. Several selective media were also used for enumeration of different groups of microorganisms. TCBS agar was used for enumeration of *Vibrio* species. Pseudosel agar was used for enumeration of *Pseudomonas* species.
SS agar was used for presumptive enumeration of Salmonella-Shigella species. Saboraud dextrose agar was used for enumeration of fungi. Oil agar (Bushnell Haas Agar plus 0.5% Prudhoe crude oil plus marine salts) was used for enumeration of oil-utilizing microorganisms. Counts of oil-degrading microorganisms were corrected for organisms that could grow on Bushnell Haas agar without added oil. These media were either incubated at 5C for enumeration of viable psychrophilic and psychrotrophic microorganisms or at 20C for enumeration of viable mesophilic microorganisms.

Depending on the concentrations of microorganisms in the samples counts were either from surface-spread plates of serial dilutions or from Millipore-filtered (0.45 µm) samples. Counts for 20C plates were done after 10 days of incubation; counts for 5C plates were done after 21 days of incubation. Triplicate plates were used for all counts.

Qualitative Characterization and Identification of Microorganisms from Water and Sediment Samples

Colonies that developed on marine agar 2216 were restreaked for purification. Colonies isolated at 4C and 20C from different samples were selected at random for taxonomic studies. Colonies were also selected at random from 4C and 20C oil agar plates for characterization of range of hydrocarbon metabolism.

For taxonomic characterization an extensive series of tests were run on each organism. A complete list of tests being used is shown in Table III. Not all organisms are characterized with every test. The tests examine three broad areas: morphology, physiology and biochemistry, and nutritional. Tests from each broad area are needed to characterize and
classify a microorganism. Morphological tests include size, shape and specific morphological features. Some of these specific features are shown by staining reactions, the key taxonomic staining test being the gram stain. Other specific features, such as motility, presence of endospores, acid-fast stain reaction, arrangement of cells, etc., are keyed to classical bacterial taxonomy. Physiological and biochemical tests include realtions to oxygen, temperature, growth range, salt tolerance, presence of specific enzymes, sensitivity to antibiotics, presence of specific metabolic pathways, etc. These tests can be used both in taxonomic identification of the organisms and in understanding the ecological distribution and role within the ecosystem of these organisms. Nutritional tests included the ability to utilize many different substrates including the ability to metabolize different classes of compounds such as amino acids, carbohydrates, amines, carboxylic acids, alcohols, nucleic acids, and hydrocarbons. Extensive hydrocarbon utilization tests were run for organisms isolated from oil agar.

**Analysis of data.** In order to analyse the data generated from taxonomic testing, an agreement was made with Dr. Micah Krichevsky, National Institute of Health, for use of the NIH computer programs and facilities. The data is arranged in a searable form so that organisms with any tested characteristic of interest, e.g. ability to metabolize hydrocarbons, can be identified by source of isolation. When testing of organisms is completed, the programs allow for comparison to other organisms including known organisms with generation of similarity coefficients.
RESULTS AND DISCUSSION

Literature Review

A review of the literature showed that while a large number of studies have been reported on distribution of microorganisms in marine environments and on the microbial degradation of petroleum hydrocarbons, only a limited number of such studies have been conducted in or near the Beaufort Sea. A bibliographic listing of those reports directly applicable to the Beaufort Sea is shown in Table IV. Included in this listing are some reports on hydrocarbon biodegradation in soil under Arctic conditions which are relevant for studies on the Beaufort Sea. Table IV also includes a listing of major reviews of the fields of marine microbiology and petroleum microbiology.

An analysis of the literature shows that little is known about the offshore microbial communities in the Beaufort Sea. Studies that have been conducted have been restricted to nearshore regions. This is also true for studies on petroleum biodegradation in the Beaufort Sea.

Abiotic Sample Parameters

The temperatures and salinities of collected samples is shown in Table I. Most salinities were between 15 and 25‰, indicating the influence of terrestrial runoff and melting ice on the samples. The temperatures of all samples collected were less than 3°C and generally less than 1°C.

Nutrient analyses of the samples are shown in Table V. Phosphate levels in water samples collected near Barrow were significantly higher than those
from Prudhoe Bay. Most samples from near Barrow had greater than 4 µg at PO₄-P/l. Ammonium nitrogen was low in almost all samples, less than 1 µg at, NH₃-N/l. Nitrate-N concentrations were higher than ammonium concentrations. Levels of nitrate nitrogen were similar in most samples, approximately 1.5 µg at NO₃-N/l. There were no major differences in nitrogen levels between Prudhoe Bay and Barrow samples. Levels of silicate were generally higher however in Prudhoe Bay samples, greater than 10 µg at SiO₃-Si/l, than in Barrow samples, generally less than 10 µg at SiO₃-Si/l. Water samples 9, 10, and 41 from Elson Lagoon showed higher levels of silicate and nitrate than other samples from that area.

Enumeration of Microorganisms

**Direct counts.** Direct counts of total microorganisms in ice samples showed about 10⁶ organisms/ml (Table VI). Water samples showed similar counts to ice samples, 10⁵-10⁶ organisms/ml. There were no significant differences in direct counts of total microorganisms in water samples collected near Barrow or in Prudhoe Bay. Direct counts from sediment samples were higher than from water samples, of the order 10⁷/gm dry wt. As with the water samples there was no significant difference between direct counts of Prudhoe Bay and Barrow sediment samples.

**Indirect plate counts.** Enumeration of total viable aerobic heterotrophic microorganisms showed higher counts on marine agar 2216 (Tables VII, VIII) than on modified sea water yeast extract medium (Tables IX, X). In ice samples, counts of mesophilic heterotrophic microorganisms (Table VII) were lower than counts of psychrotrophic-psychrophilic organisms. In water and sediment samples counts of heterotrophic mesophiles and psychrophiles-
psychrotrophs were not significantly different. Counts in ice and water samples from comparable areas were not significantly different. Counts from sediment samples were generally one order of magnitude higher than from water samples. Counts from water collected in Prudhoe Bay were higher than from water. This difference was most pronounced in the mesophilic counts.

Counts of viable "fungi" (Table XI, XII) were much lower than counts of total heterotrophs. Fungal counts from ice samples were higher than from water samples and were of the same magnitude as fungal counts from sediment samples. Counts of psychrophilic-psychrotrophic fungi from ice samples were higher than comparable mesophilic counts. Fungal counts in water were generally 1-2/ml. Sediment samples generally showed counts of 10-100/gm dry wt. It should be noted that some bacteria are able to grow on the media used to select for fungi and that some bacteria may be included in the "fungal" counts.

Counts of Pseudomonas spp. from ice and water samples were low, less than 10/ml except from one ice sample (Table XIII). Counts of Pseudomonas spp. from sediment samples were all less than 1/10 ml. Counts of "Salmonella-Shigella" species (Table XIV) showed similar patterns as the Pseudomonas. Only one ice sample showed high counts of "Salmonella-Shigella" species. Counts of Vibrio spp. on the other hand were in excess of 100/ml from most ice and water samples. Vibrio counts were very low in the ice sample that had the high "Salmonella-Shigella" and Pseudomonas counts. Counts of psychrophilic-psychrotrophic Vibrio were significantly higher than counts of mesophilic Vibrio.

Counts of oil-utilizing psychrophiles-psychrotrophs were higher in sediment
samples than in water samples (Table XVII). In water concentrations of psychrophilic-psychrotrophic oil-utilizing microorganisms were generally less than 1/10 ml. Counts from Prudhoe Bay water samples were higher on the average than from water samples collected near Barrow. Counts of mesophilic oil-utilizing microorganisms (Table XVIII) were higher than counts of psychrophilic-psychrotrophic oil-utilizing microorganisms. There was no significant difference in mesophilic oil-utilizing counts between samples collected in Prudhoe Bay and near Barrow. Except for one water and one ice sample oil-utilizing microorganisms were isolated from every 10 ml water or ice and 1 g sediment sample.

Qualitative Characterization of Microbial Isolants

A total of 552 microbial isolants have been characterized with respect to their nutritional and physiological characteristics. Most morphological characteristics of these isolants have not yet been examined. The sources of isolation for these organisms are shown in Tables XIX and XX. The sources of the isolants were closer to include stations near Barrow, in Prudhoe Bay, and from an intermediate location.

Summaries of some key characteristics of these organisms are shown in Tables XXI-XXIII. These tables show the total number of strains by type of sample and incubation temperature which had a particular characteristic. With respect to the morphological characteristic of pigment color, an easily recognized characteristic, only a low percentage of all organisms produced diffusible pigments. About half of the isolants produced pigments that were not diffusible and about half produced non-pigmented gray colonies.

Physiological characterization showed the ability of the isolants to
tolerate various temperatures, salinities, and pH levels. Greater than 95% of all isolants were able to grow at temperatures of 10 and 15°C. Ninety-five percent of the 20°C isolants could grow at 5°C, making them psychrotrophs. Thirty-two percent of the 4°C isolants could not grow at 20°C, indicating that they were psychrophiles. Only 3% of all isolants were able to grow at 37°C, the temperature of warm-blooded animals. Such information should be valuable in predicting and detecting effects of heated pipelines. While 91% of all isolants could tolerate 3% NaCl, only 73% were tolerant to 5% NaCl and only 35% to 7.5% NaCl. Sediment isolants were more sensitive than water isolants. Brine influx from drilling operations would thus be deleterious to many of the indigenous microorganisms. Tests on the ability to tolerate different pH levels showed that most organisms could tolerate a decrease in pH from the normal 8.3 of seawater to an acidic pH of 6 but not to more acid conditions.

Examination of the nutritional characteristics of the isolants showed that 84% required growth factors. Vitamins were required by 56% of the isolants. Twenty-eight percent had more complex growth factors and 6% could only be cultured on complex media. Almost twice as many sediment isolants required yeast extract and amino acids as water isolants.

Carbohydrates were the most readily utilized class of components followed by amino acids, dicarboxylic TCA cycle intermediates, alcohols, and fatty acids. More water isolants were capable of utilizing these compounds than sediment isolants.

Only 2% of all isolants were able to utilize hydrocarbons. All but one of these isolants should be capable of metabolizing hydrocarbons at 5°C in the presence of 3% NaCl. Forty-three percent of all isolants were capable of
utilizing fatty acids which are intermediary metabolites of hydrocarbon biodegradation. Thus, following primary attack on the hydrocarbon, these organisms would be capable of utilizing the fatty acids formed. Thirty-four percent of the isolants could grow on acetate, a breakdown product of fatty acid metabolism. Less than 2% of all isolants were capable of utilizing benzoic and or phenol which may be intermediary metabolites of aromatic hydrocarbon metabolism.

Tables XXIV-XLIV show further summary data analysis by station. The general trends discussed above held for all stations, but on some specific tests at a given station, there was great variability. For example, organisms from near Barrow within Elson Lagoon (Station 2) were less tolerant of high NaCl concentration and low pH levels than organisms from offshore in that area (Station 10). In contrast, organisms offshore at Prudhoe Bay (Station 71) were less tolerant to high NaCl concentrations than organisms from nearshore (Station 55). Station 70 which was located between Stations 55 and 71 showed similar physiological characteristics as the nearshore location but intermediate nutritional characteristics compared to Stations 55 and 71.

With respect to hydrocarbon metabolism the highest percentage of hydrocarbon utilizers were found at Station 10, 7% of the total population. At several stations less than 20% of the total population was capable of hydrocarbon metabolism. The distribution of hydrocarbon-utilizing microorganisms was equally distributed between sediment and water.

Much more detailed tables showing which organisms had specific characteristics are included in an appendix to this report.
Future Work

During the remainder of the contract two more samplings are scheduled, one using helicopters and the other aboard an icebreaker. One of the samplings will begin April 1. Additionally, beach samples are being collected. These samples will be processed for enumeration of microorganisms and compared to the previous samples. Microorganisms will be isolated from these samples for taxonomic characterization. It is anticipated that taxonomic characterization should be completed on microorganisms isolated from the August-September samples as well as the April sampling by October 1, 1976. Isolants from the August 1976 cruise will not be completed by that date.

As planned, assays will be made during the forthcoming samplings for rates of hydrocarbon biodegradation and bioemulsification. Assay should be completed by October. A complete proposal for future work during a second-year contract is being prepared.
Fig. 1a. Locations of sampling sites in the Barrow area.
Fig. 1b. Locations of sampling sites near Prudhoe Bay.
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<td>71-21.46N</td>
<td>156-26.19W</td>
<td>02.3</td>
<td>-0.5</td>
</tr>
</tbody>
</table>

Table II (cont'd)
Table III

ATLAS QUESTION SET SEQUENTIAL

003001: Cells are spherical.
003005: Cells are pear-shaped.
003008: Cells are rod-shaped.
003011: Rod axis is curved in one plane.
003013: Rod axis is helical (spiral).
003015: Rods have tapered ends.
003017: Rods have rounded ends.
003018: Rods have square ends.
003023: Pleomorphic cells are characteristic.
003026: Longer axis of rod is less than twice the shorter axis (cocco-bacillary).
004011: Longest axis of each cell is less than 0.5 micrometer.
004012: Longest axis of each cell is 0.5 - 1 micrometer.
004013: Longest axis of each cell is 1.1 - 2.0 micrometers.
004014: Longest axis of each cell is 2.1 - 3.0 micrometers.
004015: Longest axis of each cell is 3.1 - 4.0 micrometers.
004016: Longest axis of each cell is 4.1 - 5.0 micrometers.
004017: Longest axis of each cell is 5.1 - 10 micrometers.
004018: Longest axis of each cell is 11 - 15 micrometers.
004019: Longest axis of each cell is 16 - 100 micrometers.
004021: Shortest axis of each cell is less than 0.5 micrometer.
004022: Shortest axis of each cell is 0.5 - 1 micrometer.
004023: Shortest axis of each cell is 1.1 - 2.0 micrometers.
004024: Shortest axis of each cell is 2.1 - 3.0 micrometers.
004025: Shortest axis of each cell is 3.1 - 4.0 micrometers.
004026: Shortest axis of each cell is 4.1 - 5.0 micrometers.
004027: Shortest axis of each cell is 5.1 - 10 micrometers.
004028: Shortest axis of each cell is 11 - 15 micrometers.
004029: Shortest axis of each cell is 16 - 100 micrometers.
005004: Poly beta-hydroxybutyric acid inclusions in the cell.
005006: Poly metaphosphate inclusions (volutin) in the cell.
006001: Endospores produced (any refractile intracellular body capable of germination into a new vegetative cell).
006007: Endospore(s) central in sporangium.
006008: Endospore(s), terminal.
006014: Endospores wider than the vegetative cell (sporangium swollen).
008001: Cells branch.
011001: Capsule is present.
012009: Cells are acid fast by Ziehl-Neelsen method.
012014: Sudan black B reveals intracellular lipids (fat bodies) (also see Sections 5 and 21).
012021: Gram positive.
012022: Gram negative.
012023: Gram variable.
013001: Cells motile.
013004: Cells demonstrate creeping or gliding motility on a solid surface.
013009: Cells have flagella.
013010: Flagella polar.
013022: Flagella peritrichous.
013023: Two or more flagella of distinctly different appearance in different locations on the cell.
015001: Cells occur singly.
015002: Cells occur in pairs.
015004: Cells arranged in angular fashion after division (snapping).
015005: Cells arranged in irregular aggregates.

24
<table>
<thead>
<tr>
<th>Table III (cont'd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>015006: Cells arranged in two-dimensional tetrads.</td>
</tr>
<tr>
<td>015007: Cells arranged in cubical packets (three-dimensional).</td>
</tr>
<tr>
<td>015017: Organisms filamentous, greater than 10 micrometers, if multicellular the organism has little or no indentation at each septum (For branched filaments also see Section 8).</td>
</tr>
<tr>
<td>016005: Agar macro-colonies are translucent.</td>
</tr>
<tr>
<td>016006: Agar macro-colonies are transparent.</td>
</tr>
<tr>
<td>016007: Agar macro-colonies are opaque.</td>
</tr>
<tr>
<td>016008: Agar macro-colony margin is entire.</td>
</tr>
<tr>
<td>016009: Agar macro-colony margin is erose.</td>
</tr>
<tr>
<td>016010: Agar macro-colony margin is filamentous (rhizoid).</td>
</tr>
<tr>
<td>016015: Agar macro-colony is convoluted.</td>
</tr>
<tr>
<td>016016: Agar macro-colony is flat (membranous).</td>
</tr>
<tr>
<td>016017: Agar macro-colony is raised but not convex.</td>
</tr>
<tr>
<td>016018: Agar macro-colony is umbonate.</td>
</tr>
<tr>
<td>016019: Colony swarming is exhibited on agar (dispersion of individual members of a population due to active motility).</td>
</tr>
<tr>
<td>016023: Colony consistency is viscid (mucoid).</td>
</tr>
<tr>
<td>016027: Colony surface is glistening.</td>
</tr>
<tr>
<td>016028: Colony surface is dull (matte).</td>
</tr>
<tr>
<td>016030: Colony surface is smooth.</td>
</tr>
<tr>
<td>016031: Colony surface is rough.</td>
</tr>
<tr>
<td>016043: Floccular growth in liquid culture.</td>
</tr>
<tr>
<td>016044: Ring growth on the wall of the tube in liquid culture.</td>
</tr>
<tr>
<td>016046: Pellicle in liquid culture.</td>
</tr>
<tr>
<td>016053: Growth takes place at an initial pH of 9.0.</td>
</tr>
<tr>
<td>016054: Growth takes place at an initial pH of 7.0.</td>
</tr>
<tr>
<td>016055: Growth takes place at an initial pH of 6.0.</td>
</tr>
<tr>
<td>016056: Growth takes place at an initial pH of 5.0.</td>
</tr>
<tr>
<td>016057: Growth takes place at an initial pH of 4.0.</td>
</tr>
<tr>
<td>016060: In 1.5-2.0% previously solidified agar, inoculated by stab, growth is confined to the surface or a depth from the surface of approximately no greater than 1 mm. (i.e., an obligate aerobe)</td>
</tr>
<tr>
<td>016062: In 1.5-2.0% previously solidified agar, inoculated by stab, growth begins BELOW THE SURFACE when incubated in air.</td>
</tr>
<tr>
<td>016063: In 1.5-2.0% previously solidified agar, inoculated by seeding or by stab, incubated in air, growth is largely confined to a linear dimension of approximately 5 cm from the bottom of the tube in a 16 x 150 mm tube filled with medium to a depth of 9-10 cm. (i.e., obligate anaerobe)</td>
</tr>
<tr>
<td>016136: Molecular nitrogen can be used as the sole source of nitrogen.</td>
</tr>
<tr>
<td>016137: Ammonium salts can serve as the sole source of nitrogen for growth.</td>
</tr>
<tr>
<td>016138: Nitrate can serve as the sole source of nitrogen for growth.</td>
</tr>
<tr>
<td>016139: Nitrite can serve as the sole source of nitrogen for growth.</td>
</tr>
<tr>
<td>016187: Growth takes place at an initial pH of 8.0.</td>
</tr>
<tr>
<td>016190: Turbidity of liquid culture is evenly dispersed.</td>
</tr>
<tr>
<td>016192: Maximum turbidity in liquid cultures is slight.</td>
</tr>
<tr>
<td>016207: Maximum turbidity in liquid cultures is moderate.</td>
</tr>
<tr>
<td>016208: Maximum turbidity in liquid cultures is heavy.</td>
</tr>
<tr>
<td>016212: At least one vitamin (growth factor) is required for growth.</td>
</tr>
<tr>
<td>016249: Urea can be used as the sole source of nitrogen.</td>
</tr>
<tr>
<td>016347: Urea can be used as the sole source of carbon and nitrogen.</td>
</tr>
<tr>
<td>016357: Isolated agar colonies are less than 1 mm. diameter within ten days.</td>
</tr>
<tr>
<td>016358: Isolated agar colonies are 1-2 mm diameter within ten days.</td>
</tr>
<tr>
<td>016359: Isolated agar colonies are 2-6 mm diameter within ten days.</td>
</tr>
<tr>
<td>016361: Agar macro-colony margin is lobate.</td>
</tr>
</tbody>
</table>
Table III (cont'd)

016362: Agar macro-colony margin is undulate.
016363: Colony spreading is exhibited on agar (growth extends several millimeters or more beyond the point of inoculation).
016369: Gelling agent (eq., agar) is required for growth.
017011: Growth at 0 C.
017012: Growth at 10 C.
017013: Growth at 15 C.
017014: Growth at 25 C.
017015: Growth at 37 C.
017016: Growth at 5 C.
017037: Growth at 20 C.
017045: Growth at 43 C.
018003: Growth in the presence of 0.5% NaCl.
018004: Growth in the presence of 3% NaCl.
018006: Growth in the presence of 5% NaCl.
018008: Growth in the presence of 10% NaCl.
018009: Growth in the presence of 15% NaCl.
018022: Growth in the presence of 7.5% NaCl.
018028: Added NaCl is required for growth.
019001: Sensitive to ampicillin concentration (disc) 2 1gm.
019021: Sensitive to bacitracin concentration (disc) 2 units.
019043: Sensitive to chloromycetin (chloramphenicol) concentration (disc) 5 1gm.
019044: Sensitive to chloromycetin (chloramphenicol) concentration (disc) 30 1gm.
019063: Sensitive to chlorotetracycline (chlortetracycline) concentration (disc) 30 1gm.
019064: Sensitive to colistin concentration (disc) 2 1gm.
019065: Sensitive to colistir concentration (disc) 10 1gm.
019084: Sensitive to 2,4-diamino-6,7-diisopropylpteridine (O/129 vibriostat) crystals on agar.
019085: Sensitive to erythromycin (ilotycin) concentration (disc) 2 1gm.
019086: Sensitive to erythromycin (ilotycin) concentration (disc) 15 1gm.
019105: Sensitive to kanamycin concentration (disc) 5 1gm.
019106: Sensitive to kanamycir concentration (disc) 30 1gm.
019129: Sensitive to nalidixic acid concentration (disc) 30 1gm.
019148: Sensitive to neomycin (mycifradin) concentration (disc) 5 1gm.
019149: Sensitive to neomycin (mycifradin) concentration (disc) 30 1gm.
019168: Sensitive to nitrofurantoin concentration (disc) 100 1gm.
019169: Sensitive to nitrofurantoin concentration (disc) 300 1gm.
019188: Sensitive to novobiocin (albarycin) concentration (disc) 30 1gm.
019208: Sensitive to oxytetracycline (tetramycin, terramycin) concentration (disc) 30 1gm.
019210: Sensitive to penicillin G concentration (disc) 2 units.
019211: Sensitive to penicillin G concentration (disc) 10 units.
019230: Sensitive to polymyxin B (aerosporin) concentration (disc) 50 units.
019231: Sensitive to polymyxin B (aerosporin) concentration (disc) 300 units.
019233: Sensitive to streptomycirin concentration (disc) 2.0 1gm.
019235: Sensitive to streptomycin concentration (disc) 10 1gm.
019274: Sensitive to tetracycline (achromycin) concentration (disc) 5 1gm.
019275: Sensitive to tetracycline (achromycin) concentration (disc) 30 1gm.
019294: Sensitive to triple sulfa (sulfadiazine/sulfamethazine/sulfamerazine) concentration (disc) 1 1gm.
019297: Sensitive to vancomycin (vancomycin) concentration (disc) 30.0 1gm.
019374: Sensitive to gentamicin concentration (disc) 10 1gm.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>019430</td>
<td>Sensitive to ampicillin concentration (disc) 10 ugm.</td>
</tr>
<tr>
<td>019484</td>
<td>Sensitive to chlortetracycline (aureomycin) concentration (disc) 5 ugm.</td>
</tr>
<tr>
<td>019486</td>
<td>Sensitive to novobiocin (albamicyn) concentration (disc) 5 ugm.</td>
</tr>
<tr>
<td>020001</td>
<td>Colonies are pure (paper) white on solid medium.</td>
</tr>
<tr>
<td>020002</td>
<td>Colonies are gray on solid medium.</td>
</tr>
<tr>
<td>020007</td>
<td>Colonies luminescent in the dark.</td>
</tr>
<tr>
<td>020019</td>
<td>Diffusible (water-soluble) pigments are produced.</td>
</tr>
<tr>
<td>020020</td>
<td>Diffusible blue pigments are produced.</td>
</tr>
<tr>
<td>020021</td>
<td>Diffusible yellow pigments are produced.</td>
</tr>
<tr>
<td>020022</td>
<td>Diffusible green pigments are produced.</td>
</tr>
<tr>
<td>020023</td>
<td>Diffusible red pigments are produced.</td>
</tr>
<tr>
<td>020024</td>
<td>Diffusible orange pigments are produced.</td>
</tr>
<tr>
<td>020025</td>
<td>Diffusible violet (purple) pigments are produced.</td>
</tr>
<tr>
<td>020026</td>
<td>Diffusible brown pigments are produced.</td>
</tr>
<tr>
<td>020027</td>
<td>Diffusible black pigments are produced.</td>
</tr>
<tr>
<td>020038</td>
<td>Non-diffusible red pigments are produced.</td>
</tr>
<tr>
<td>020039</td>
<td>Non-diffusible brown pigments are produced.</td>
</tr>
<tr>
<td>020040</td>
<td>Non-diffusible green pigments are produced.</td>
</tr>
<tr>
<td>020041</td>
<td>Non-diffusible violet (purple) pigments are produced.</td>
</tr>
<tr>
<td>020042</td>
<td>Non-diffusible blue pigments are produced.</td>
</tr>
<tr>
<td>020043</td>
<td>Non-diffusible golden (yellow) pigments are produced.</td>
</tr>
<tr>
<td>020044</td>
<td>Non-diffusible orange pigments are produced.</td>
</tr>
<tr>
<td>020057</td>
<td>Non-diffusible black pigments are produced.</td>
</tr>
<tr>
<td>020058</td>
<td>Colonies fluoresce with short wavelength ultraviolet light (ca. 260 nm.).</td>
</tr>
<tr>
<td>020060</td>
<td>Fluorescent pigment observable with short wavelength ultraviolet light (ca. 260 nm.).</td>
</tr>
<tr>
<td>020080</td>
<td>Non-diffusible pigment occurs only in the center of the colony.</td>
</tr>
<tr>
<td>020081</td>
<td>Non-diffusible pigment occurs in concentric rings within the colony.</td>
</tr>
<tr>
<td>024004</td>
<td>Agar is hydrolyzed (liquefied).</td>
</tr>
<tr>
<td>024005</td>
<td>Carrageenin is degraded.</td>
</tr>
<tr>
<td>024007</td>
<td>Casein is hydrolyzed (peptonized).</td>
</tr>
<tr>
<td>024009</td>
<td>Gelatin is hydrolyzed (liquefied).</td>
</tr>
<tr>
<td>024011</td>
<td>Pectin is hydrolyzed.</td>
</tr>
<tr>
<td>024014</td>
<td>D-Glucose catabolized aerobically.</td>
</tr>
<tr>
<td>024015</td>
<td>D-Glucose catabolized anaerobically.</td>
</tr>
<tr>
<td>024114</td>
<td>Tryptophan yields indole.</td>
</tr>
<tr>
<td>024135</td>
<td>Ammonia is produced.</td>
</tr>
<tr>
<td>024138</td>
<td>Nitrate is reduced.</td>
</tr>
<tr>
<td>024139</td>
<td>Nitrate is reduced to nitrite.</td>
</tr>
<tr>
<td>024140</td>
<td>Nitrite is reduced to nitrogen gas.</td>
</tr>
<tr>
<td>024149</td>
<td>Thiosulfate is reduced to hydrogen sulfide.</td>
</tr>
<tr>
<td>024154</td>
<td>Hydrogen sulfide is produced from cysteine.</td>
</tr>
<tr>
<td>024164</td>
<td>Hydrogen peroxide is decomposed.</td>
</tr>
<tr>
<td>024185</td>
<td>Methyl red test is positive.</td>
</tr>
<tr>
<td>024191</td>
<td>Voges-Proskauer test positive (also see question 35).</td>
</tr>
<tr>
<td>024199</td>
<td>Sheep blood hemolysis is beta.</td>
</tr>
<tr>
<td>024210</td>
<td>Nitrite is reduced.</td>
</tr>
<tr>
<td>024212</td>
<td>L-Arginine utilization results in basic endproducts (medium becomes alkaline).</td>
</tr>
<tr>
<td>024248</td>
<td>Kovacs' oxidase test positive (smear from colony turns dark purple with tetramethylparaphenylenediamine dihydrochloride).</td>
</tr>
<tr>
<td>024251</td>
<td>Hydrogen sulfide is produced from peptones.</td>
</tr>
<tr>
<td>024448</td>
<td>Nitrite is reduced to nitrous oxide.</td>
</tr>
<tr>
<td>024449</td>
<td>Nitrate is reduced to nitric oxide.</td>
</tr>
<tr>
<td>025007</td>
<td>L-Arabinose is utilized.</td>
</tr>
<tr>
<td>025010</td>
<td>D-Ribose is utilized.</td>
</tr>
<tr>
<td>025012</td>
<td>D-Xylose is utilized.</td>
</tr>
<tr>
<td>025017</td>
<td>L-Phamnose is utilized.</td>
</tr>
</tbody>
</table>
Table III (cont'd)

D-Fructose is utilized.
D-Galactose is utilized.
D-Glucose is utilized (also see Section 24).
D-Mannose is utilized.
D-Sorbose is utilized.
Salicin is utilized.
Cellobiose is utilized.
Lactose is utilized.
Maltose is utilized.
Sucrose is utilized.
Trehalose is utilized.
Raffinose is utilized.
Alginic Acid is utilized.
Acid produced from D-Ribose.
Acid produced from D-Fructose.
Acid produced from D-Galactose.
Acid produced from D-Glucose (also see Section 24).
Acid produced from D-Mannose.
Acid produced from Cellobiose.
Acid produced from Lactose.
Acid produced from Maltose.
Acid produced from Sucrose.
Acid produced from Trehalose.
Gas produced from D-Ribose.
Gas produced from D-Fructose.
Gas produced from D-Galactose.
Gas produced from D-Glucose (also see Section 24).
Gas produced from D-Mannose.
Gas produced from Cellobiose.
Gas produced from Lactose.
Gas produced from Maltose.
Gas produced from Sucrose.
Gas produced from Trehalose.
D-Ribose can be used as the sole source of carbon.
D-Fructose can be used as the sole source of carbon.
D-Glucose can be used as the sole source of carbon (also see Section 24).
Cellulose is hydrolyzed.
Chitin is hydrolyzed.
Starch is hydrolyzed.
Allyl Alcohol is utilized.
1-Butanol is utilized.
Ethanol is utilized.
1-Propanol is utilized.
2-Propanol is utilized.
D(-) 1,2-Propanediol is utilized.
1,2,3-Propanetriol (Glycerol) is utilized.
D-Arabinol is utilized.
Dulcitol is utilized.
D-Mannitol is utilized.
D-Sorbitol is utilized.
Cyclohexanol is utilized.
Meso-Inositol is utilized.
Phenol is utilized.
Acid is produced from 1,2,3-Propanetriol (Glycerol).
Acid is produced from Dulcitol.
Acid is produced from D-Mannitol.
Gas is produced from 1,2,3-Propanetriol (Glycerol).
Gas is produced from Dulcitol.
Gas is produced from D-Mannitol.
1,2,3-Propanetriol (Glycerol) can be used as the sole source of carbon.
2-Phenylethanol is utilized.
1-Hexadecanol is utilized.
Acetic acid is utilized.
Butyric acid is utilized.
Caproic acid is utilized.
Caprylic acid is utilized.
Isovaleric acid is utilized.
Lauric acid is utilized.
Palmitic acid is utilized.
Propionic acid is utilized.
Valeric acid (pentanoic acid) is utilized.
Glutaric acid is utilized.
Malonic acid is utilized.
Succinic acid is utilized.
Oleic acid is utilized.
2-Phenylethanol is utilized.
1-dodecanol is utilized.
Acetic acid is utilized.
Butyric acid is utilized.
Caproic acid is utilized.
Caprylic acid is utilized.
Isovaleric acid is utilized.
Lauric acid is utilized.
Palmitic acid is utilized.
Propionic acid is utilized.
Valeric acid (pentanoic acid) is utilized.
Glutaric acid is utilized.
Malonic acid is utilized.
Succinic acid is utilized.
Oleic acid is utilized.
Fumaric acid is utilized.
Itaconic acid is utilized.
Maleic acid is utilized.
DL-Glyceric acid is utilized.
Beta-hydroxybutyric acid is utilized.
DL-Lactic acid is utilized.
L(+)-Tartaric acid is utilized.
Citric acid is utilized.
2-Ketogluconic acid is utilized.
Pyrvic acid is utilized.
Alpha-ketoglutaric acid is utilized.
Benzonic acid is utilized.
Meta-Hydroxybenzoic acid is utilized.
Para-Hydroxybenzoic acid is utilized.
Ascorbic acid is utilized.
Galacturonic acid is utilized.
D-Gluconic acid is utilized.
Ortho-Hydroxybenzoic acid is utilized.
Saccharic acid acid is utilized.
Acetic acid can be used as the sole source of carbon.
Succinic acid can be used as the sole source of carbon.
Pumaric acid can be used as the sole source of carbon.
Beta-hydroxybutyric acid can be used as the sole source of carbon.
DL-Lactic acid can be used as the sole source of carbon.
Pyrvic acid can be used as the sole source of carbon.
Alpha-ketoglutaric acid can be used as the sole source of carbon.
D-Gluconic acid can be used as the sole source of carbon.
Stearic acid is utilized.
Cyclohexane carboxylic acid is utilized.
L-Alanine is utilized.
Beta-Alanine is utilized.
Gamma-Aminobutyric Acid is utilized.
L-Arginine is utilized.
L-Asparagine is utilized.
L-Aspartic Acid is utilized.
Betaine is utilized.
L-Cysteine is utilized.
L-Cystine is utilized.
L-Glutamic Acid is utilized.
Glycine is utilized.
Hippurate is utilized.
<table>
<thead>
<tr>
<th>Table III (cont’d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>029016: L-Histidine is utilized.</td>
</tr>
<tr>
<td>029030: L-Leucine is utilized.</td>
</tr>
<tr>
<td>029032: L-Iso-Leucine is utilized.</td>
</tr>
<tr>
<td>029035: L-Lysine is utilized.</td>
</tr>
<tr>
<td>029036: L-Methionine is utilized.</td>
</tr>
<tr>
<td>029037: L-Ornithine is utilized.</td>
</tr>
<tr>
<td>029039: L-Phenylalanine is utilized.</td>
</tr>
<tr>
<td>029041: L-Proline is utilized.</td>
</tr>
<tr>
<td>029042: Sarcosine is utilized.</td>
</tr>
<tr>
<td>029044: L-Serine is utilized.</td>
</tr>
<tr>
<td>029045: L-Threonine is utilized.</td>
</tr>
<tr>
<td>029047: L-Tryptophan is utilized.</td>
</tr>
<tr>
<td>029049: L-Tyrosine is utilized.</td>
</tr>
<tr>
<td>029051: L-Valine is utilized.</td>
</tr>
<tr>
<td>029118: L-Aspartic Acid can be used as the sole source of carbon.</td>
</tr>
<tr>
<td>029125: L-Glutamic Acid can be used as the sole source of carbon.</td>
</tr>
<tr>
<td>029137: L-Lysine can be used as the sole source of carbon.</td>
</tr>
<tr>
<td>029149: L-Tryptophan can be used as the sole source of carbon.</td>
</tr>
<tr>
<td>029156: L-Alanine can be used as the sole source of nitrogen.</td>
</tr>
<tr>
<td>029166: L-Arginine can be used as the sole source of nitrogen.</td>
</tr>
<tr>
<td>029168: L-Asparagine can be used as the sole source of nitrogen.</td>
</tr>
<tr>
<td>029169: L-Aspartic Acid can be used as the sole source of nitrogen.</td>
</tr>
<tr>
<td>029173: L-Cysteine can be used as the sole source of nitrogen.</td>
</tr>
<tr>
<td>029174: L-Cystine can be used as the sole source of nitrogen.</td>
</tr>
<tr>
<td>029176: L-Glutamic Acid can be used as the sole source of nitrogen.</td>
</tr>
<tr>
<td>029177: Glycine can be used as the sole source of nitrogen.</td>
</tr>
<tr>
<td>029179: L-Histidine can be used as the sole source of nitrogen.</td>
</tr>
<tr>
<td>029183: L-Leucine can be used as the sole source of nitrogen.</td>
</tr>
<tr>
<td>029185: L-Iso-Leucine can be used as the sole source of nitrogen.</td>
</tr>
<tr>
<td>029188: L-Lysine can be used as the sole source of nitrogen.</td>
</tr>
<tr>
<td>029189: L-Methionine can be used as the sole source of nitrogen.</td>
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Table IV
LITERATURE REVIEW

Marine Microorganisms - General


Microorganisms - Beaufort Sea


Petroleum Biodegradation - General

Table IV (cont'd)

Petroleum Biodegradation - Beaufort Sea


### Table V

**NUTRIENT ANALYSES**

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Table XVII

OIL-UTILIZING PSYCHROPHILES AND PSYCHROTROPHS
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Table XIX

NUMBER OF ISOLANTS BY LOCATION

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NUMBER OF ISOLANTS BY LOCATION

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**MORPHOLOGY**

| Non-pigmented (gray) colonies | 50 | 37 | 46 | 41 | 43 |
| Produce non-diffusible pigment | 1 | 0.3 | 0 | 2 | 1 |
| Produce diffusible pigment | 2 | 16 | 14 | 19 | 17 |

**PHYSIOLOGY**

| Capable of growth at 5°C | -- | 95 | -- | -- | -- |
| Capable of growth at 10°C | 97 | 97 | 96 | 98 | 97 |
| Capable of growth at 15°C | 96 | 96 | 96 | 97 | 96 |
| Capable of growth at 20°C | 68 | -- | -- | -- | -- |
| Capable of growth at 37°C | 0.3 | 6 | 4 | 2 | 3 |
| Capable of growth in presence of 3% NaCl | 87 | 95 | 88 | 93 | 91 |
| Capable of growth in presence of 5% NaCl | 69 | 76 | 81 | 66 | 73 |
| Capable of growth in presence of 7.5% NaCl | 23 | 47 | 45 | 26 | 35 |
| Capable of growth at pH 4 or pH 5 | 61 | 63 | 48 | 74 | 62 |
| Capable of growth at pH 6 | 83 | 97 | 88 | 92 | 90 |
| Capable of growth at pH 7 | 87 | 96 | 91 | 92 | 91 |
| Capable of growth at pH 8 or pH 9 | 93 | 77 | 94 | 95 | 95 |

**NUTRITIONAL**

<p>| Capable of utilizing carbohydrates | 66 | 68 | 79 | 58 | 67 |
| Capable of utilizing amino acids | 51 | 61 | 65 | 48 | 56 |
| Capable of utilizing alcohols | 33 | 58 | 56 | 36 | 45 |
| Capable of utilizing phenol | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Capable of utilizing carboxylic acids (TCA cycle) | 42 | 62 | 60 | 46 | 52 |
| Capable of utilizing fatty acids | 25 | 55 | 55 | 32 | 43 |
| Capable of utilizing pyruvic acid | 47 | 55 | 53 | 44 | 48 |
| Capable of utilizing acetic acid | 18 | 50 | 49 | 22 | 34 |
| Capable of utilizing benzoic acid | 0 | 4 | 2 | 2 | 2 |
| Capable of utilizing hydrocarbons | 1 | 3 | 3 | 2 | 2 |
| Capable of utilizing hydrocarbons at 5°C in presence of 3% NaCl | 1 | 3 | 2 | 2 | 2 |
| Require growth factors (vitamins, amino acids or unknown) | 84 | 84 | 89 | 81 | 84 |
| Amino acids and yeast extract serve as growth factors (vitamins alone insufficient) | 21 | 22 | 15 | 27 | 22 |
| Require unknown growth factors | 5 | 7 | 4 | 8 | 6 |</p>
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<td>Capable of utilizing benzoic acid</td>
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| PHYSIOLOGY             |     |      |       |          |       |
| Capable of growth at 5°C |     |      |       |          |       |
| Capable of growth at 10°C | 9   | 4    | 5     | 9        |       |
| Capable of growth at 15°C | 9   | 4    | 5     | 9        |       |
| Capable of growth at 20°C | 7   | 2    | 5     | 7        |       |
| Capable of growth at 37°C | 0   | 0    | 0     | 0        |       |
| Capable of growth in presence of 3% NaCl | 0   | 4    | 5     | 9        |       |
| Capable of growth in presence of 5% NaCl | 6   | 4    | 2     | 6        |       |
| Capable of growth in presence of 7.5% NaCl | 2   | 1    | 2     | 1        |       |
| Capable of growth at pH 4 or pH 5 | 7   | 3    | 4     | 7        |       |
| Capable of growth at pH 6 | 9   | 4    | 5     | 9        |       |
| Capable of growth at pH 7 | 9   | 4    | 5     | 9        |       |
| Capable of growth at pH 8 or pH 9 | 9   | 4    | 5     | 9        |       |

| NUTRITIONAL            |     |      |       |          |       |
| Capable of utilizing carbohydrates | 8   | 3    | 5     | 8        |       |
| Capable of utilizing amino acids | 7   | 3    | 4     | 7        |       |
| Capable of utilizing alcohols | 3   | 1    | 2     | 3        |       |
| Capable of utilizing phenol | 0   | 0    | 0     | 0        |       |
| Capable of utilizing carboxylic acids (TCA cycle) | 2   | 1    | 1     | 2        |       |
| Capable of utilizing fatty acids | 3   | 1    | 2     | 3        |       |
| Capable of utilizing pyruvic acid | 4   | 2    | 2     | 4        |       |
| Capable of utilizing acetic acid | 2   | 1    | 1     | 2        |       |
| Capable of utilizing benzoic acid | 0   | 0    | 0     | 0        |       |
| Capable of utilizing hydrocarbons | 0   | 0    | 0     | 0        |       |
| Capable of utilizing hydrocarbons at 5°C in presence of 3% NaCl | 0   | 0    | 0     | 0        |       |
| Require growth factors (vitamins, amino acids or unknown) | 8   | 3    | 5     | 8        |       |
| Amino acids and yeast extract serve as growth factors (vitamins alone insufficient) | 1   | 1    | 0     | 1        |       |
| Require unknown growth factors | 0   | 0    | 0     | 0        |       |
| Vitamins serve as growth factors | 7   | 2    | 5     | 7        |       |
**Table XXVI - Station 1**

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<th>NO. OF ORGANISMS TESTED</th>
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<tbody>
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<tr>
<td>Non-pigmented (gray) colonies</td>
<td>11</td>
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<tr>
<td>Produce non-diffusible pigment</td>
<td>66</td>
</tr>
<tr>
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</tr>
<tr>
<td>Pigment not recorded</td>
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</tr>
<tr>
<td><strong>PHYSIOLOGY</strong></td>
<td></td>
</tr>
<tr>
<td>Capable of growth at 5C</td>
<td></td>
</tr>
<tr>
<td>Capable of growth at 10C</td>
<td>100</td>
</tr>
<tr>
<td>Capable of growth at 15C</td>
<td>100</td>
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<tr>
<td>Capable of growth at 20C</td>
<td>78</td>
</tr>
<tr>
<td>Capable of growth at 37C</td>
<td>0</td>
</tr>
<tr>
<td>Capable of growth in presence of 3% NaCl</td>
<td>100</td>
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<tr>
<td>Capable of growth in presence of 5% NaCl</td>
<td>66</td>
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<tr>
<td>Capable of growth in presence of 7.5% NaCl</td>
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<tr>
<td>Capable of growth at pH 4 or pH 5</td>
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</tr>
<tr>
<td>Capable of growth at pH 6</td>
<td>100</td>
</tr>
<tr>
<td>Capable of growth at pH 7</td>
<td>100</td>
</tr>
<tr>
<td>Capable of growth at pH 8 or pH 9</td>
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<tr>
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<tr>
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<td>Capable of utilizing alcohols</td>
<td>33</td>
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<tr>
<td>Capable of utilizing phenol</td>
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<tr>
<td>Capable of utilizing carboxylic acids (TCA cycle)</td>
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<tr>
<td>Capable of utilizing fatty acids</td>
<td>33</td>
</tr>
<tr>
<td>Capable of utilizing pyruvic acid</td>
<td>44</td>
</tr>
<tr>
<td>Capable of utilizing acetic acid</td>
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<tr>
<td>Capable of utilizing benzoic acid</td>
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<td>Capable of utilizing hydrocarbons</td>
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<td>Capable of utilizing hydrocarbons at 5C in presence of 3% NaCl</td>
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<td>Amino acids and yeast extract serve as growth factors (vitamins alone insufficient)</td>
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Table XXVII - Station 2

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<th>4C Sediment</th>
<th>20C Water</th>
<th>20C Sediment</th>
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<td>18</td>
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<td>14</td>
<td>4</td>
<td>6</td>
<td>9</td>
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<td>Produce diffusible pigment</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>Pigment not recorded</td>
<td>4</td>
<td>6</td>
<td>0</td>
<td>13</td>
</tr>
</tbody>
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| PHYSIOLOGY                                      |          |             |           |              |
| Capable of growth at 5C                         | --       | --          | 24        | 24           |
| Capable of growth at 10C                        | 25       | 29          | 24        | 24           |
| Capable of growth at 15C                        | 25       | 28          | 24        | 24           |
| Capable of growth at 20C                        | 20       | 10          | --        | --           |
| Capable of growth at 37C                        | 0        | 0           | 1         | 1            |
| Capable of growth in presence of 3% NaCl        | 20       | 28          | 24        | 21           |
| Capable of growth in presence of 5% NaCl        | 17       | 17          | 23        | 8            |
| Capable of growth in presence of 7.5% NaCl      | 7        | 3           | 11        | 1            |
| Capable of growth at pH 4 or pH 5               | 5        | 18          | 10        | 9            |
| Capable of growth at pH 6                        | 17       | 26          | 24        | 24           |
| Capable of growth at pH 7                        | 20       | 27          | 24        | 23           |
| Capable of growth at pH 8 or pH 9               | 21       | 23          | 24        | 22           |

<p>| NUTRITIONAL                                      |          |             |           |              |
| Capable of utilizing carbohydrates               | 15       | 21          | 23        | 6            |
| Capable of utilizing amino acids                 | 16       | 14          | 13        | 4            |
| Capable of utilizing alcohols                    | 11       | 17          | 20        | 2            |
| Capable of utilizing phenol                      | 0        | 1           | 0         | 0            |
| Capable of utilizing carboxylic acids (TCA cycle)| 13       | 17          | 21        | 3            |
| Capable of utilizing fatty acids                 | 11       | 4           | 20        | 4            |
| Capable of utilizing pyruvic acid                | 11       | 8           | 19        | 9            |
| Capable of utilizing acetic acid                 | 7        | 4           | 19        | 2            |
| Capable of utilizing benzoic acid                | 0        | 0           | 0         | 0            |
| Capable of utilizing hydrocarbons                | 0        | 1           | 0         | 0            |
| Capable of utilizing hydrocarbons at 5C in presence of 3% NaCl | 0 | 1 | 0 | 0 |
| Require growth factors (vitamins, amino acids or unknown) | 25 | 25 | 22 | 23 |
| Amino acids and yeast extract serve as growth factors | (vitamins alone insufficient) | 8 | 5 | 0 | 13 |
| Require unknown growth factors                   | 3        | 2           | 0         | 6            |
| Vitamins serve as growth factors                 | 14       | 18          | 22        | 4            |</p>
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<th>Water</th>
<th>Sediment</th>
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<td>Non-pigmented (gray) colonies</td>
<td>29</td>
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<td>28</td>
<td>21</td>
<td>49</td>
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<td>15</td>
<td>20</td>
<td>13</td>
<td>33</td>
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<tr>
<td>Produce diffusible pigment</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Pigment not recorded</td>
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<td>13</td>
<td>4</td>
<td>19</td>
<td>23</td>
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<td>--</td>
<td>--</td>
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<td>Capable of growth at 10°C</td>
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<td>48</td>
<td>49</td>
<td>43</td>
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<tr>
<td>Capable of growth at 15°C</td>
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<td>48</td>
<td>49</td>
<td>42</td>
<td>101</td>
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<tr>
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<td>48</td>
<td>45</td>
<td>44</td>
<td>49</td>
<td>93</td>
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<tr>
<td>Capable of growth in presence of 5% NaCl</td>
<td>34</td>
<td>31</td>
<td>40</td>
<td>25</td>
<td>65</td>
</tr>
<tr>
<td>Capable of growth in presence of 7.5% NaCl</td>
<td>10</td>
<td>12</td>
<td>18</td>
<td>4</td>
<td>22</td>
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<tr>
<td>Capable of growth at pH 4 or pH 5</td>
<td>23</td>
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<td>15</td>
<td>27</td>
<td>42</td>
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<td>29</td>
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<td>30</td>
<td>24</td>
<td>34</td>
<td>20</td>
<td>54</td>
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<tr>
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<td>15</td>
<td>24</td>
<td>31</td>
<td>8</td>
<td>39</td>
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<td>28</td>
<td>30</td>
<td>17</td>
<td>47</td>
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<td>11</td>
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<td>26</td>
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<td>32</td>
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<td>0</td>
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<td>0</td>
<td>1</td>
<td>1</td>
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<td>48</td>
<td>95</td>
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<td></td>
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<tr>
<td>(vitamins alone insufficient)</td>
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<td>13</td>
<td>47</td>
<td>18</td>
<td>58</td>
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<tr>
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<td>3</td>
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<tr>
<td>Vitamins serve as growth factors</td>
<td>32</td>
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<td>36</td>
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Table XXIX - Station 2

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<td>Capable of growth at 10C</td>
<td>95</td>
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<tr>
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<tr>
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<td>Capable of utilizing carboxylic acids (TCA cycle)</td>
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<td>Capable of utilizing fatty acids</td>
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<td>19</td>
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<td>Capable of utilizing benzoic acid</td>
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**MORPHOLOGY**

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<td>Produce diffusible pigment</td>
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**PHYSIOLOGY**

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<th>Organisms Tested</th>
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<tr>
<td>Capable of growth at 15C</td>
<td>13 23 24 19</td>
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<td>Capable of growth at 20C</td>
<td>6 4 - -</td>
</tr>
<tr>
<td>Capable of growth at 37C</td>
<td>0 0 3 2</td>
</tr>
<tr>
<td>Capable of growth in presence of 3% NaCl</td>
<td>11 23 24 21</td>
</tr>
<tr>
<td>Capable of growth in presence of 5% NaCl</td>
<td>10 20 21 21</td>
</tr>
<tr>
<td>Capable of growth in presence of 7.5% NaCl</td>
<td>4 0 13 15</td>
</tr>
<tr>
<td>Capable of growth at pH 4 or pH 5</td>
<td>7 19 24 19</td>
</tr>
<tr>
<td>Capable of growth at pH 6</td>
<td>10 22 24 21</td>
</tr>
<tr>
<td>Capable of growth at pH 7</td>
<td>11 22 24 20</td>
</tr>
<tr>
<td>Capable of growth at pH 8 or pH 9</td>
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**NUTRITIONAL**

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</thead>
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<tr>
<td>Capable of utilizing alcohols</td>
<td>0 6 20 12</td>
</tr>
<tr>
<td>Capable of utilizing phenol</td>
<td>2 12 18 13</td>
</tr>
<tr>
<td>Capable of utilizing carboxylic acids (TCA cycle)</td>
<td>0 10 13 14</td>
</tr>
<tr>
<td>Capable of utilizing fatty acids</td>
<td>0 5 19 14</td>
</tr>
<tr>
<td>Capable of utilizing pyruvic acid</td>
<td>2 16 18 14</td>
</tr>
<tr>
<td>Capable of utilizing acetic acid</td>
<td>0 3 15 14</td>
</tr>
<tr>
<td>Capable of utilizing benzoic acid</td>
<td>0 0 3 5</td>
</tr>
<tr>
<td>Capable of utilizing hydrocarbons</td>
<td>0 0 3 3</td>
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<tr>
<td>Capable of utilizing hydrocarbons at 5C in presence of 3% NaCl</td>
<td>12 16 18 18</td>
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<tr>
<td>Require growth factors (vitamins, amino acids or unknown)</td>
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<tr>
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</tr>
<tr>
<td>Require unknown growth factors</td>
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<tr>
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### Table XXXI - Station 10

<table>
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**PHYSIOLOGY**

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**NUTRITIONAL**

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- Capable of growth at 20C: 42 -- -- -- --
- Capable of growth at 37C: 0 5 3 2 5
- Capable of growth in presence of 3% NaCl: 45 43 40 48 88
- Capable of growth in presence of 5% NaCl: 37 28 35 30 65
- Capable of growth in presence of 7.5% NaCl: 16 24 27 13 40
- Capable of growth at pH 4 or pH 5: 29 23 15 37 52
- Capable of growth at pH 6: 31 43 37 47 84
- Capable of growth at pH 7: 43 43 38 48 86
- Capable of growth at pH 8 or pH 9: 46 43 41 48 89

**NUTRITIONAL**

- Capable of utilizing carbohydrates: 35 31 32 34 66
- Capable of utilizing amino acids: 30 32 28 34 62
- Capable of utilizing alcohols: 14 27 22 19 41
- Capable of utilizing phenol: 0 0 0 0 0
- Capable of utilizing carboxylic acids (TCA cycle): 17 23 22 23 45
- Capable of utilizing fatty acids: 15 18 22 18 40
- Capable of utilizing pyruvic acid: 21 28 23 28 51
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- Capable of utilizing benzoic acid: 0 0 0 0 0
- Capable of utilizing hydrocarbons: 0 0 1 0 1
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Amino acids and yeast extract serve as growth factors (vitamins alone insufficient)

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Table XLIII - Station 71

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### MORPHOLOGY

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ADDENDUM

TO

ANNUAL REPORT

Assessment of Potential Interactions of Microorganisms and Pollutants Resulting from Petroleum Development on the Outer Continental Shelf in the Beaufort Sea

April 1, 1976

Submitted by: Ronald M. Atlas
Principal Investigator
Department of Biology
University of Louisville
Louisville, Kentucky 40208

Prepared for: Outer Continental Shelf Energy Assessment Program
National Atmospheric and Oceanographic Administration
Fairbanks Project Office
Fairbanks, Alaska
Strains isolated from water at 4C showing gray colonies on solid medium.

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Strains isolated from sediment at 4C showing gray colonies on solid medium.

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70 STRAINS
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83 STRAINS
Strains isolated from sediment at 20C showing gray colonies on solid medium.

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END FORM
45 STRAINS
Strains isolated from water at 4C producing at least one of the following non-diffusible pigments: white, red, pink, brown, black, green, violet, blue, gold, orange.

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END FORM
79 STRAINS
Strains isolated from sediment at 4°C producing any one of the following non-diffusible pigments: white, red, pink, brown, black, green, violet, blue, gold, orange.

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END FORM
58 STRAINS
Strains isolated from water at 20°C producing any one of the following non-diffusible pigments: white, red, pink, brown, black, green, violet, blue, gold, orange.

END FORM
37 STRAINS
Strains isolated from sediment at 20C producing any one of the following non-diffusible pigments: white, red, pink, brown, black, green, violet, blue, gold, orange.

1. B00027H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
2. B00028H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
3. B00031H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
4. B00035H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
5. B00036H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
6. B00037H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
7. B00039H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
8. B00044H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
9. B00047H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
10. B00048H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
11. B00076H BEAUFORT SAMPLE 16 SEDIMENT 20C STATION002
12. B00077H BEAUFORT SAMPLE 16 SEDIMENT 20C STATION002
13. B00078H BEAUFORT SAMPLE 16 SEDIMENT 20C STATION002
14. B00084H BEAUFORT SAMPLE 16 SEDIMENT 20C STATION002
15. B00085H BEAUFORT SAMPLE 16 SEDIMENT 20C STATION002
16. B00091H BEAUFORT SAMPLE 16 SEDIMENT 20C STATION002
17. B00095H BEAUFORT SAMPLE 16 SEDIMENT 20C STATION002
18. B00096H BEAUFORT SAMPLE 16 SEDIMENT 20C STATION002
20. B00126H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071
21. B00127H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071
22. B00128H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071
23. B00129H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071
24. B00132H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071
25. B00133H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071
26. B00136H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071
27. B00138H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071
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29. B00142H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071
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35. B00150H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071
36. B00156H BEAUFORT SAMPLE 20 SEDIMENT 20C STATION055
37. B00177H BEAUFORT SAMPLE 20 SEDIMENT 20C STATION055
38. B00181H BEAUFORT SAMPLE 20 SEDIMENT 20C STATION055
39. B00186H BEAUFORT SAMPLE 20 SEDIMENT 20C STATION055
40. B00190H BEAUFORT SAMPLE 20 SEDIMENT 20C STATION055
41. B00194H BEAUFORT SAMPLE 20 SEDIMENT 20C STATION055
42. B00196H BEAUFORT SAMPLE 20 SEDIMENT 20C STATION055
43. B00199H BEAUFORT SAMPLE 20 SEDIMENT 20C STATION055
44. B00226H BEAUFORT SAMPLE 21 SEDIMENT 20C STATION070
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59  B00280H  BEAUFORT SAMPLE 09 SEDIMENT 20C STATION030
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61  B00289H  BEAUFORT SAMPLE 09 SEDIMENT 20C STATION030
62  B00292H  BEAUFORT SAMPLE 09 SEDIMENT 20C STATION030
63  B00296H  BEAUFORT SAMPLE 09 SEDIMENT 20C STATION030
64  B00297H  BEAUFORT SAMPLE 09 SEDIMENT 20C STATION030
65  B00300H  BEAUFORT SAMPLE 09 SEDIMENT 20C STATION030

END FORM
65 STRAINS
Strains isolated from sediment at 4°C producing at least one of the following diffusible pigments: blue, yellow, green, red, orange, violet, brown, black.

1  B00242L  BEAUFORT SAMPLE 21 SEDIMENT 04C STATION070
2  B00260L  BEAUFORT SAMPLE 09 SEDIMENT 04C STATION030
3  B00263L  BEAUFORT SAMPLE 09 SEDIMENT 04C STATION030
4  B00266L  BEAUFORT SAMPLE 09 SEDIMENT 04C STATION030

END FORM
4 STRAINS
Strains isolated from water or sediment at 20°C producing any diffusible pigment.

1  B00186H  BEAUFORT SAMPLE 20 SEDIMENT 20C STATION055

END FORM

1. STRAINS
Strains isolated from water at 20C capable of growth at 5C.

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136 STRAINS

110
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146 STRAINS
Strains isolated from sediment at 4°C capable of growth at 10°C.

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152 STRAINS
Strains isolated from water at 20°C capable of growth at 10°C.

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151 STRAINS
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END FORM
128 STRAINS
Strains isolated from sediment at 20C capable of growth at 15C.

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6. B00031H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
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11. B00039H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
12. B00040H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
13. B00041H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
14. B00042H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
15. B00043H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
16. B00044H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
17. B00045H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
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45. B00127H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071
46. B00128H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071
47. B00129H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071
48. B00130H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071
49. B00131H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071
50. B00132H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071

132
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END FORM
138 STRAINS
Strains isolated from water at 4°C capable of growth at 20°C.

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END FORM
134 STRAINS
Strains isolated from sediment at 4°C capable of growth at 20°C.

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Strains isolated from water at 20°C capable of growth at 37°C.

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10 STRAINS
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4. B00229H  BEAUFORT SAMPLE 21  SEDIMENT 20C  STATION070
5. B00230H  BEAUFORT SAMPLE 21  SEDIMENT 20C  STATION070
6. B00293H  BEAUFORT SAMPLE 09  SEDIMENT 20C  STATION030

END FORM
6 STRAINS
Strains isolated from water at 4C capable of growth in the presence of 3% NaCl.

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142 STRAINS
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126 STRAINS
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END FORM
137 STRAINS
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| B00186L | BEAUFORT SAMPLE 20 | SEDIMENT 04C | STATION055 |
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| B00200L | BEAUFORT SAMPLE 20 | SEDIMENT 04C | STATION055 |
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END FORM
106 STRAINS

156
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32 STRAINS
Strains isolated from sediment at 4°C capable of growth in presence of 7.5% NaCl.

END FORM
31 STRAINS
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48 STRAINS

166
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53 STRAINS

167
Strains isolated from sediment at 4°C: capable of growth at pH 4 or pH 5.

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END FORM
115 STRAINS
ENTER COMMAND
Strains isolated from water at 20°C capable of growth at pH 4 or pH 5.

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END FORM
68 STRAINS
Strains isolated from sediment at 20C capable of growth at pH 4 or pH 5.

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Strains isolated from water at 4°C capable of growth at pH 6.

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135 STRAINS
Strains isolated from water at 20C capable of growth at pH 6.

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END FORM
141 STRAINS
Strains isolated from water at 4C capable of growth at pH 7.

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137 STRAINS
Strains isolated from water at 20°C capable of growth at pH 7.

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128 STRAINS
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END FORM
137 STRAINS
Strains isolated from water at 4C capable of growth at either pH 8 or pH 9.

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146 STRAINS

202
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84 STRAINS
Strains isolated from sediment at 4°C capable of utilizing any of the following carbohydrates: arabinose, ribose, xylose, rhamnose, fructose, glucose, glucose, mannose, sorbose, cellobiose, lactose, maltose, sucrose, trehalose, raffinose, salicin.

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99 STRAINS

212
Strains isolated from water at 20°C capable of utilizing any of the following carbohydrates: arabinose, ribose, xylose, rhamnose, fructose, galactose, glucose, mannose, sorbose, cellobiose, lactose, maltose, sucrose, trehalose, raffinose, salicin.

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END FORM
115 STRAINS
Strains isolated from sediment at 20°C capable of utilizing any of the following carbohydrates: arabinose, ribose, xylose, rhamnose, fructose, galactose, glucose, mannose, sorbose, cellobiose, lactose, maltose, sucrose, trehalose, raffinose, salicin.
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| 67  | B00273H | BEAUFORT SAMPLE 09 SEDIMENT 20C STATION030 |
| 68  | B00282H | BEAUFORT SAMPLE 09 SEDIMENT 20C STATION030 |
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END FORM

73 STRAINS
Strains isolated from water at 4°C capable of utilizing any one of the following amino acids: alanine, β-alanine, γ-aminobutyric, arginine, asparagine, aspartic betaine, cysteine, cystine, glutamic, glycine, hippurate, histidine, leucine, iso-leucine, lysine, methionine, ornithine, phenylalanine, proline, sarcosine, serine, threonine, tryptophan, tyrosine, valine.
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56 STRAINS
nethionine, ornithine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine, valine.

cystine, glutamic, glycine, histidine, leucine, isoleucine, lysine, methionine, ornithine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine, valine.

Strains isolated from sediment at 4°C capable of utilizing any of the following amino acids: asparagine, aspartic, gamma-aminobutyric, cysteine, cystine, glutamic, glycine, histidine, leucine, isoleucine, lysine, methionine, ornithine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine, valine.
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83 BOO296L BEAUFORT SAMPLE 32 SEDIMENT 04C STATION002
84 BOO299L BEAUFORT SAMPLE 32 SEDIMENT 04C STATION002

END FORM
84 STRAINS
Strains isolated from water at 20°C capable of utilizing any one of the following amino acids: alanine, Beta-alanine, Gamma-aminobutyric, arginine, asparagine, aspartic, betaine, cysteine, cystine, glutamic, glycine, hippurate, histidine, leucine, iso-leucine, lysine, methionine, ornithine, phenylalanine, proline, sarcosine, serine, threonine, tryptophan, tyrosine, valine.

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Strains isolated from sediment at 20°C capable of utilizing any of the following amino acids: alanine, Beta-alanine, Gamma-aminobutyric, arginine, asparagine, aspartic, betaine, cysteine, cystine, glutamic, glycine, hippurate, histidine, leucine, iso-leucine, lysine, methionine, ornithine, phenylalanine, proline, sarcosine, serine, threonine, tryptophan, tyrosine, valine.

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END FORM
61 STRAINS
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END FORM
34 STRAINS
COMMAND

226
Strains isolated from sediment at 4°C capable of utilizing any one of the following alcohols: D-arabitol, 1-butanol, 2-propanol, 1-propanol, D-mannitol, D-sorbitol, Meso-inositol, 2-propanediol, ethanol, glycerol, dulcitol.

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57 B00290L BEAUFORT SAMPLE 15 SEDIMENT 04C STATION001
58 B00299L BEAUFORT SAMPLE 32 SEDIMENT 04C STATION002

END FORM
36 STRAINS
Strains isolated from water at 20°C capable of utilizing any one of the following alcohols: D-arabitol, 1-butanol, 2-propanol, 1-propanol, D-
mannitol, D-sorbitol, Meso-inositol, 1,2-propanediol, ethanol, glycerol, dulcitol.
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| B00121H | BEAUFORT | SAMPLE 27 | WATER 20°C | STATION071 |
| B00122H | BEAUFORT | SAMPLE 27 | WATER 20°C | STATION071 |
| B00123H | BEAUFORT | SAMPLE 27 | WATER 20°C | STATION071 |
| B00151H | BEAUFORT | SAMPLE 24 | WATER 20°C | STATION055 |
| B00152H | BEAUFORT | SAMPLE 24 | WATER 20°C | STATION055 |
| B00153H | BEAUFORT | SAMPLE 24 | WATER 20°C | STATION055 |
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END FORM
108 STRAINS

230
Strains isolated from sediment at 20°C capable of utilizing any one of the following alcohols: D-arabitol, 1-butanol, 2-propanol, 1-propanol, D-mannitol, D-sorbitol, Meso-inositol, 1,2-propanediol, ethanol, glycerol, dulcitol.

1. B00826H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION071
2. B00827H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION071
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4. B00829H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION071
5. B00830H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION071
6. B00831H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION071
7. B00832H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION071
8. B00833H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION071
9. B00834H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION071
10. B00835H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION071
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51. B00876H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION071

END FORM
51 STRAINS 231
Strains isolated from sediment at 4C capable of utilizing phenol.
Strains isolated from water or sediment at 20C capable of utilizing phenol.
Strains isolated from water at 4C capable of utilizing any one of the following carboxylic acids: succinic, fumaric, malonic, a-ketoglutaric, citric acids.

END FORM
41 STRAINS
Strains isolated from sediment at 4°C capable of utilizing any of the following carboxylic acids: succinic, fumaric, malonic, α-ketoglutaric, citric acids.
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76 STRAINS

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109 STRAINS

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END FORM
62 STRAINS
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30 B00294L BEAUFORT SAMPLE 36 WATER 04C STATION002
31 B00295L BEAUFORT SAMPLE 36 WATER 04C STATION002

END FORM
31 STRAINS
Strains isolated from sediment at 4°C capable of utilizing any of the following fatty acids: proprionic, butyric, caproic, caprylic, lauric, palmitic, stearic, oleic, valeric, iso-valeric.

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107 STRAINS
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56 STRAINS

246
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34. B00233L BEAUFORT SAMPLE 19 WATER 04°C STATION001
35. B00249L BEAUFORT SAMPLE 36 WATER 04°C STATION002
36. B00295L BEAUFORT SAMPLE 36 WATER 04°C STATION002

END FORM

36 STRAINS
Strains isolated from sediment at 4°C capable of utilizing pyruvic acid.

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77 STRAINS

249
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97 STRAINS

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Strains isolated from sediment at 20C capable of utilizing pyruvic acid.

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55 STRAINS

252
Strains isolated from water at 4°C capable of utilizing acetic acid.

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120 STRAINS
Strains isolated from sediment at 4C capable of utilizing acetic acid.

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26 STRAINS
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END FORM
99 STRAINS

256
Strains isolated from sediment at 20°C capable of utilizing acetic acid.

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2  BO00829H  BEAUFORT SAMPLE  03  SEDIMENT  20°C  STATION010
3  BO00829H  BEAUFORT SAMPLE  03  SEDIMENT  20°C  STATION010
4  BO0030H  BEAUFORT SAMPLE  03  SEDIMENT  20°C  STATION010
5  BO0032H  BEAUFORT SAMPLE  03  SEDIMENT  20°C  STATION010
6  BO0033H  BEAUFORT SAMPLE  03  SEDIMENT  20°C  STATION010
7  BO0034H  BEAUFORT SAMPLE  03  SEDIMENT  20°C  STATION010
8  BO0035H  BEAUFORT SAMPLE  03  SEDIMENT  20°C  STATION010
9  BO0042H  BEAUFORT SAMPLE  02  SEDIMENT  20°C  STATION010
10  BO0043H  BEAUFORT SAMPLE  03  SEDIMENT  20°C  STATION010
11  BO0044H  BEAUFORT SAMPLE  03  SEDIMENT  20°C  STATION010
12  BO0045H  BEAUFORT SAMPLE  03  SEDIMENT  20°C  STATION010
13  BO0047H  BEAUFORT SAMPLE  03  SEDIMENT  20°C  STATION010
14  BO0048H  BEAUFORT SAMPLE  03  SEDIMENT  20°C  STATION010
15  BO0055H  BEAUFORT SAMPLE  01  SEDIMENT  20°C  STATION002
16  BO0065H  BEAUFORT SAMPLE  01  SEDIMENT  20°C  STATION002
17  BO0130H  BEAUFORT SAMPLE  22  SEDIMENT  20°C  STATION071
18  BO0135H  BEAUFORT SAMPLE  22  SEDIMENT  20°C  STATION071
19  BO0143H  BEAUFORT SAMPLE  22  SEDIMENT  20°C  STATION071
20  BO0145H  BEAUFORT SAMPLE  22  SEDIMENT  20°C  STATION071
21  BO0172H  BEAUFORT SAMPLE  01  SEDIMENT  20°C  STATION055
22  BO0180H  BEAUFORT SAMPLE  01  SEDIMENT  20°C  STATION055
23  BO0183H  BEAUFORT SAMPLE  01  SEDIMENT  20°C  STATION055
24  BO0184H  BEAUFORT SAMPLE  01  SEDIMENT  20°C  STATION055
25  BO0187H  BEAUFORT SAMPLE  01  SEDIMENT  20°C  STATION055
26  BO0188H  BEAUFORT SAMPLE  01  SEDIMENT  20°C  STATION055
27  BO0189H  BEAUFORT SAMPLE  01  SEDIMENT  20°C  STATION055
28  BO0190H  BEAUFORT SAMPLE  01  SEDIMENT  20°C  STATION055
29  BO0192H  BEAUFORT SAMPLE  01  SEDIMENT  20°C  STATION055
30  BO0193H  BEAUFORT SAMPLE  01  SEDIMENT  20°C  STATION055
31  BO0198H  BEAUFORT SAMPLE  01  SEDIMENT  20°C  STATION055
32  BO0200H  BEAUFORT SAMPLE  01  SEDIMENT  20°C  STATION055
33  BO0233H  BEAUFORT SAMPLE  01  SEDIMENT  20°C  STATION055
34  BO0240H  BEAUFORT SAMPLE  21  SEDIMENT  20°C  STATION070
35  BO0241H  BEAUFORT SAMPLE  21  SEDIMENT  20°C  STATION070
36  BO0243H  BEAUFORT SAMPLE  21  SEDIMENT  20°C  STATION070
37  BO0244H  BEAUFORT SAMPLE  21  SEDIMENT  20°C  STATION070
38  BO0250H  BEAUFORT SAMPLE  21  SEDIMENT  20°C  STATION070
39  BO0276H  BEAUFORT SAMPLE  09  SEDIMENT  20°C  STATION030
40  BO0283H  BEAUFORT SAMPLE  09  SEDIMENT  20°C  STATION030

END FORM
40 STRAINS
Strains isolated from water at 20C capable of utilizing benzoic acid.

1  B00082H  BEAUFORT SAMPLE 03 WATER 20C STATION010
2  B00007H  BEAUFORT SAMPLE 03 WATER 20C STATION010
3  B00020H  BEAUFORT SAMPLE 03 WATER 20C STATION010
4  B00115H  BEAUFORT SAMPLE 27 WATER 20C STATION071
5  B00123H  BEAUFORT SAMPLE 27 WATER 20C STATION071
6  B00161H  BEAUFORT SAMPLE 24 WATER 20C STATION055

END FORM
6 STRAINS
Strains isolated from sediment at 20C capable of utilizing benzoic acid.

1 B00028H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
2 B00030H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
3 B00032H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
4 B00044H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
5 B00048H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010

END FORM
5 STRAINS
Strains isolated from water at 4C capable of utilizing any of the following hydrocarbons: pentadecane, hexadecane, octadecane, dotriacontane, pristane, dodecylbenzene, 1-phenyltridecane, 2-ethynaphthalene, phenanthrene.
Strains isolated from sediment at 4C capable of utilizing any of the following hydrocarbons: pentadecane, hexadecane, octadecane, dotriacontane, pristane, dodecylbenzene, 1-phenyltridecane, 2-ethyl-naphthalene, phenanthrene.

1. B00251L  BEAUFORT SAMPLE 09 SEDIMENT 04C STATION0030
2. B00294L  BEAUFORT SAMPLE 32 SEDIMENT 04C STATION002

END FORM
2 STRAINS
Strains isolated from water at 20C capable of utilizing any of the following hydrocarbons: pentadecane, hexadecane, octadecane, dotriacontane, pristane, dodecylbenzene, 1-phenyltridecane, 2-ethynaphthalene, phenanthrene.

1  B00002H  BEAUFORT SAMPLE 03 WATER 20C STATION010
2  B00007H  BEAUFORT SAMPLE 03 WATER 20C STATION010
3  B00020H  BEAUFORT SAMPLE 03 WATER 20C STATION010
4  B00106H  BEAUFORT SAMPLE 27 WATER 20C STATION071
5  B00161H  BEAUFORT SAMPLE 24 WATER 20C STATION055
6  B00203H  BEAUFORT SAMPLE 26 WATER 20C STATION070

END FORM
6 STRAINS
Strains isolated from sediment at 20°C capable of utilizing any of the following hydrocarbons: pentadecane, hexadecane, octadecane, dotriacontane, pristane, dodecylbenzene, 1-phenyltridecane, 2-ethynaphthalene, phenanthrene.

1  B00028H  BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
2  B00044H  BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
3  B00048H  BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010

END FORM
3 STRAINS
Strains isolated from water at 4C capable of growth at 5C with 3% NaCl, and utilizing any of the following hydrocarbons: pentadecane, hexadecane, octadecane, dotriacontane, pristane, dodecylbenzene, 1-phenyltridecane, 2-ethynaphthalene, phenanthrene.
Strains isolated from sediment at 4°C capable of growth at 5°C with 3% NaCl and utilizing any of the following hydrocarbons: pentadecane, hexadecane, octadecane, dotriacontane, pristane, dodecylbenzene, 1-phenyltridecane, 2-ethynaphthalene, phenanthrene.

1. B00251L  BEAUFORT SAMPLE 09 SEDIMENT 04C STATION030
2. B00299L  BEAUFORT SAMPLE 32 SEDIMENT 04C STATION062

END FORM
2 STRAINS
Strains isolated from water at 20°C capable of growth at 5°C with 3% NaCl and utilizing any one of the following hydrocarbons: pentadecane, hexadecane, octadecane, dotriacontane, pristane, dodecylbenzene, 1-phenyltridecane, 2-ethynaphthalene, phenanthene.

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END FORM
5 STRAINS
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END FORM
3 STRAINS
Strains isolated from water at 4°C which require at least one growth factor for growth.

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END FORM

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END FORM
123 STRAINS

278
Strains isolated from water at 4C which require yeast extract and amino acids as growth factors.

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20 STRAINS
Strains isolated from sediment at 4°C which require yeast extract and amino acids as growth factors.

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29 STRAINS

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Strains isolated from water at 20C which require yeast extract and amino acids as growth factors.

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5  B00170H  BEAUFORT SAMPLE 24 WATER 20C STATION055
6  B00223H  BEAUFORT SAMPLE 26 WATER 20C STATION070
7  B00253H  BEAUFORT SAMPLE 11 WATER 20C STATION030
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END FORM
3 STRAINS
Strains isolated from sediment at 20°C which require yeast extract and amino acids as growth factors.

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3. BO0003L BEAUFORT SAMPLE 03 WATER 04C STATION010
4. BO0005L BEAUFORT SAMPLE 20 WATER 04C STATION002
5. BO0004L BEAUFORT SAMPLE 20 WATER 04C STATION002
6. BO0006L BEAUFORT SAMPLE 20 WATER 04C STATION002

END FORM
6 STRAINS
Strains isolated from sediment at 4°C which require unknown growth factors.

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3. BA00041H BEAUFORT SAMPLE 03 SEDIMENT 20C STATION010
4. BA00076H BEAUFORT SAMPLE 16 SEDIMENT 20C STATION002
5. BA00078H BEAUFORT SAMPLE 16 SEDIMENT 20C STATION002
6. BA00079H BEAUFORT SAMPLE 16 SEDIMENT 20C STATION002
7. BA00080H BEAUFORT SAMPLE 16 SEDIMENT 20C STATION002
8. BA00096H BEAUFORT SAMPLE 16 SEDIMENT 20C STATION002
9. BA00097H BEAUFORT SAMPLE 16 SEDIMENT 20C STATION002
10. BA00129H BEAUFORT SAMPLE 22 SEDIMENT 20C STATION071
11. BA00197H BEAUFORT SAMPLE 20 SEDIMENT 20C STATION055
12. BA00226H BEAUFORT SAMPLE 21 SEDIMENT 20C STATION070
13. BA00227H BEAUFORT SAMPLE 21 SEDIMENT 20C STATION070
14. BA00238H BEAUFORT SAMPLE 21 SEDIMENT 20C STATION070
15. BA00281H BEAUFORT SAMPLE 09 SEDIMENT 20C STATION030

END FORM
15 STRAINS
ANNUAL REPORT

Assessment of Potential Interactions of Microorganisms and Pollutants Resulting from Petroleum Development on the Outer Continental Shelf in the Gulf of Alaska

April 1, 1976

Submitted by: Ronald M. Atlas
Principal Investigator
Department of Biology
University of Louisville
Louisville, Kentucky 40208

Prepared for: Outer Continental Shelf Energy Assessment Program
National Atmospheric and Oceanographic Administration
Juneau Project Office
Juneau, Alaska
SCIENTIFIC PERSONNEL

Dr. Ronald M. Atlas - Principal Investigator
   Project Coordinator, Hydrocarbon degradation

Dr. Lois Cronholm - Co-principal Investigator, Human pathogens associated with shellfish

Dr. James D. Hauxhurst - Post Doctoral Associate, Isolation and characterization of microorganisms from water and sediment

Mr. Charles Pennington - Research Assistant, Isolation and characterization of microorganisms from shellfish

Two parttime technicians - Support of the above activities
INTRODUCTION

Microorganisms are essential components of all ecosystems. Changes in microbial populations may greatly alter the characteristics of an ecosystem. Human activities often modify the environment for microorganisms. In some cases microorganisms respond to such changes in a way that lessens the human impact. For example, microorganisms are capable of biodegrading many pollutants that man adds to various ecosystems, often maintaining environmental quality in such situations. In some cases, microorganisms are unable to biodegrade polluting materials and undesirable accumulations of the pollutants occur. In still other situations, microorganisms carry out transformations of the pollutants that produce undesirable toxic products. Microorganisms also carry out metabolic activities essential for ecologic balance. Human modification of an environment may alter the ability of microorganisms to carry out key elemental cycling activities. Some microorganisms cause disease in man or other organisms. Human activities may change the populations of such pathogenic microorganisms, altering the incidence of a particular disease.

This project was designed to investigate the potential interactions of microorganisms and pollutants that may result from development of petroleum resources in the outer continental shelf of the Gulf of Alaska. Knowledge about the naturally occurring microorganisms is essential for such an assessment. Studies have begun on establishing a baseline description of microbial communities in the Gulf of Alaska. This baseline description includes quantitative information on the occurrence of different physiological groups of microorganisms and on the qualitative taxonomic characteristics.
of dominant species of microorganisms. It includes information on the ability of the indigenous microorganisms to transform petroleum hydrocarbons that might enter the ecosystem from outer continental shelf petroleum development. Also, information is included on the natural incidence of potential human pathogens in shellfish in the Gulf of Alaska.
MATERIALS AND METHODS

Literature Review

A review of existing literature on microorganisms in the Gulf of Alaska including microorganisms related to petroleum pollutants and pathogenic microorganisms was conducted using the computer search facilities OASIS and of the Lockheed database. Data bases searched include National Technical Information Service, Biological Abstracts, BioResearch Index, Oceanic Index, Selected Water Research Abstracts and Chemical Titles. Abstracts were reviewed and appropriate articles obtained from NTIS or the original source.

Sample Collection

Water and sediment samples were collected during October in the western Gulf of Alaska. Samples were collected from the NOAA vessel Discoverer. Water samples were collected with a Niskin sterile water sampler. Sediment samples were collected with a VanVeen grab or Haps corer. Sediment samples were removed aseptically from the top 2 cm of the core or grab sample. Samples were collected at Gulf of Alaska Shelf Study Stations Nos. 101, 102, 103, 104, 105, 106, 119, 121, 124, 133, 134, 137, 145, 146, 148, 156, and 159. The actual location and depth of each samples has been supplied by Discoverer personnel (Fig.1, Table I and II).

Both Dungeness and Tanner crab samples were supplied for analysis of associated microorganisms that are potentially pathogenic for man by the Alaska Department of Fish and Game, Kodiak, and by the National Marine
Fisheries Laboratory, Seattle. Approximately 10 crabs per month have been received since October. The location of the crab collection is supplied by the collecting parties (Fig.2). Most of the crabs were collected in the western Gulf of Alaska. Some Tanner crabs also have been supplied from a cruise of the Miller Freeman in the Bering Sea.

Abiotic Sample Parameters

Salinity, temperature, and depth determinations were made by Discoverer personnel using a STD rosette sampler. The readings from the STD cases are to be supplied after readout of the computer storage. Aliquots of samples were frozen and sent to Dr. Vera Alexander for analysis of phosphate, ammonium, nitrate and silicate concentrations.

Enumeration of Microbial Populations

Direct counts from water. A sample of water was immediately preserved upon collection by addition of formaldehyde 1:1 v/v.

One-tenth to five-tenth milliliters of sample was mixed with one milliliter of 0.1% acridine orange in sterile tris buffer pH 7. One minute after mixing, the stained sample was filtered through a 0.22 µm Sartorius black filter. The filters were immediately viewed with an Olympus epifluorescence microscope, with a BG 12 plus blue exciter filter and a 480 nm blue barrier filter. Cells fluorescing orange or green were counted. Ten fields were counted for each aliquot filtered. Two aliquots from each sample were counted. Counts were converted to number per ml.
Indirect plate counts from water and sediment. Viable microorganisms were enumerated as different physiological groups using different microbiological media and incubation conditions. Two non-selective media, marine agar 2216 and MSWYE, were used for enumeration of total viable microorganisms. Several selective media were also used for enumeration of different groups of microorganisms. TCBS agar was used for enumeration of Vibrio species. Pseudosel agar was used for enumeration of Pseudomonas species. EMB agar was used for enumeration of enteric bacteria. SS agar was used for enumeration of Salmonella-Shigella species. Saboraud dextrose agar was used for enumeration of fungi. Oil agar (Bushnell Haas Agar plus 0.5% Prudhoe crude oil plus marine salts) was used for enumeration of oil-utilizing microorganisms. Counts of oil-degrading microorganisms were corrected for organisms that could grow on Bushnell Haas agar without added oil. These media were either incubated at 5°C for enumeration of viable psychrophilic and psychrotrophic microorganisms or at 20°C for enumeration of viable mesophilic microorganisms.

Depending on the concentrations of microorganisms in the samples counts were either from surface-spread plates of serial dilutions or from Millipore-filtered (0.45 μm) samples. Counts for 20°C plates were done after 10 days of incubation; counts for 5°C plates were done after 21 days of incubation. Triplicate plates were used for all counts.

Indirect plate counts from crab samples. Tissue from crab muscle, gill or gut was macerated in sterile water, 1 g tissue to 10 ml water. Serial dilutions were surface-spread in triplicate onto either marine agar 2216 for enumeration of total heterotrophs; McConkey's agar for enumeration of gram negative enteric bacteria, and TCBS agar for enumeration of Vibrio species. Plates were incubated at 35°C aerobically for enumeration of mesophilic
populations. Replicate marine agar plates were also incubated anaerobically using a Gas Pak system for enumeration of mesophilic anaerobes.

Qualitative Characterization and Identification of Microorganisms from Water and Sediment Samples

Colonies that developed on marine agar 2216 were restreaked for purification. Colonies isolated at 4C and 20C from different samples were selected at random for taxonomic studies. Colonies were also selected at random from 4C and 20C oil agar plates for characterization of range of hydrocarbon metabolism.

For taxonomic characterization an extensive series of tests were run on each organism. A complete list of tests being used is shown in Table III. Not all organisms are characterized with every test. The tests examine three broad areas: morphology; physiology and biochemistry; and nutritional. Tests from each broad area are needed to characterize and classify a microorganism. Morphological tests include size, shape and specific morphological features. Some of these specific features are shown by staining reactions, the key taxonomic staining test being the gram stain. Other specific features, such as motility, presence of endospores, acid-fast stain reaction, arrangement of cells, etc., are keyed to classical bacterial taxonomy. Physiological and biochemical tests include relation to oxygen, temperature, growth range, salt tolerance, presence of specific enzymes, sensitivity to antibiotics, presence of specific metabolic pathways, etc. These tests can be used both in taxonomic identification of the organisms and in understanding the ecological distribution and role within the ecosystem of these organisms. Nutritional tests include the ability to utilize many different substrates including the ability to metabolize different classes of compounds such as amino acids,
carbohydrates, amines, carboxylic acids, alcohols, nucleic acids, and hydrocarbons. Extensive hydrocarbon utilization tests were run for organisms isolated from oil agar.

**Identification of microorganisms from crab samples.** Tanner crabs were sent from the field frozen; Dungeness crabs were sent from the field alive. For analysis the crabs were separated into muscle and gill tissues. In one case eggs were also recovered. The aseptically removed tissues were macerated and immediately added to tubes of enrichment media. Four different enrichment media were used to maximize the probability of isolating any microorganisms present that were capable of causing human disease. The initial enrichment media used were Trypticase Soy Broth with and without 3% marine salts added, and Brilliant Green Bile Broth with and without 3% marine salts added. Incubation of replicate initial enrichments was for 24 hours aerobically at 25C and at 35C. Additionally incubated plates of Trypticase Soy Agar were incubated at 35C under anaerobic conditions using a Gas Pak anaerobic system.

The enrichment cultures were then streaked onto isolation media. The isolation media used were Trypticase Soy Agar, marine agar 2216, EMB agar, EMB agar with 3% marine salts, SS agar, SS agar with 3% marine salts and TCBS agar. The EMB, SS and TCBS media are designed for the isolation of enteric bacteria, *Salmonella-Shigella* species and *Vibrio* species respectively. All of these are gram negative bacterial species. Trypticase Soy Agar and marine agar 2216 are considered non-selective media.

All distinguishable colonies were isolated for identification. All isolates were capable of growth on Trypticase Soy Agar and were therefore maintained on this medium. Gram negative rods were identified using the API 20E
identification system. Gram positive cocci were identified by morphology, mannitol salt reaction, catalase production, reaction on blood agar, growth in SF medium, and optochin and/or bacitracin sensitivity tests. Gram positive rods were examined for presence of endospores and relation to oxygen.

**In vivo Pathogenicity Studies**

Cultures of *Yersinia*, *Klebsiella*, and *Staphylococcus* isolated from the crabs were prepared for administration to mice by intraperitoneal, intravenous or oral routes. The cells were washed free of medium by centrifugation and resuspended in non-pyrogenic sterile physiological saline. Replicate cells were also suspended in saline without washing. For intraperitoneal administration, the cells are injected with a 26g hypodermic needle. For oral administration, the cell suspension is added to the drinking bottles of animals who have been deprived of water overnight. The test animals were adult CFW male mice, 6 to 8 weeks old. Each test was performed in triplicate. The animals were observed for one week after treatment, or until death occurred, for behavioral symptoms. Animals that survived one week were killed by etherization and an autopsy performed. The lung, liver, mesentery, intestine, and spleen were examined for gross pathology. Animals that died during the week were immediately examined.

**Analysis of data.** In order to analyse the data generated from taxonomic testing, an agreement was made with Dr. Micah Krichevsky, National Institute of Health, for use of the NIH computer programs and facilities. The data is arranged in a searchable form so that organisms with any tested characteristic of interest, e.g. ability to metabolize hydrocarbons, can be identified by source of isolation. When testing of organisms is completed, the programs allow for comparison to other organisms including known organisms with generation
of similarity coefficients. The API 20E system was used for identification of isolates from crabs.
RESULTS AND DISCUSSION

Literature Review

A review of the literature showed that while a large number of studies have been reported on distribution of microorganisms in marine environments, on the microbial degradation of petroleum hydrocarbons and on the occurrence of microorganisms in shellfish that cause human disease, only a few studies have been conducted in or near the Gulf of Alaska. A bibliographic listing of those reports directly applicable to the Gulf of Alaska is shown in Table IV. This table also includes reference to some major reviews of the field.

Abiotic Sample Parameters

It was only possible to complete nutrient analysis on a few of the water samples collected (Table V). Nitrogen in most samples was equally proportioned between NO₃ and NH₃. The average total inorganic nitrogen was approximately 13 µg at -N/l. Phosphate-P was present in lower concentrations than nitrogen, averaging 2 µg at -P/l. Only at Station 133 were phosphate concentrations high, 6.7 µg at P/l. Silicates ranged from 9 to 14 µg at Si/l.

Enumeration of Microorganisms

Direct counts from water samples. The direct counts on water samples ranged from 1 x 10⁵ to 5 x 10⁵/l (Table VI). All counts were of the order 10⁵ organisms per ml. The highest counts were found at Stations 156 and 159 which were nearest to the Bering Sea.

Indirect counts from water and sediment. The indirect plate counts of
aerobic heterotrophic microorganisms (Tables VII-X) from water were statistically significantly lower than the direct counts. Counts on marine agar 2216 (Tables VII-VIII) were higher than on MSWYE media (Tables IX-X). Therefore it was decided to use only marine agar 2216 in future work for total viable counts. The counts of mesophilic microorganisms were higher in almost all cases than the counts of psychrophiles and psychrotrophs. The total viable mesophilic counts from water ranged from $10^1$ to $10^3$/ml. The total viable psychrophilic-psychrotrophic counts from water ranged from $10^1$-$10^2$/ml. The highest total viable counts from water were found at Stations 156 and 159 nearest the Bering Sea.

The indirect plate counts of heterotrophs from sediment samples were several orders of magnitude higher than comparable counts from water. Heterotrophic counts in sediment ranged from $10^4$-$10^6$/gm dry wt. Mesophilic counts from sediment samples were slightly higher than psychrophilic-psychrotrophic counts.

Counts of fungi in sediments (Tables XI-XII) were 1-2 orders of magnitude lower than the total heterotrophic count. Some bacteria are capable of growing on the media used to select for fungi and may appear in these counts. Although only a few mesophilic fungal counts were performed, the comparable psychrophilic-psychrotrophic counts were higher. Counts of fungi in water showed generally less than 10/ml.

Counts of specific bacterial groups were very low. No mesophilic \textit{Pseudomonas} sp. were detected in any of the water or sediment samples indicating if such organisms were present, they were in very low concentrations (Table XIII). Organisms that developed on the media selective for \textit{Salmonella-Shigella} genera were also low with no colonies from sediment samples and less.
than 1/ml from water samples (Table XIV). Counts of "enteric" bacteria were similarly low (Table XV). Mesophilic *Vibrio* species, on the other hand, were detected in all samples tested and showed counts as high as $10^4$/gm dry wt. in sediment samples (Table XVIII). With the exception of the *Pseudomonas* counts such results are consistent with other marine areas.

Oil-utilizing microorganisms were not detected in most samples tested (Tables XVII-XVIII). Only in one case at Station 124 were counts in excess of 10/ml. In most cases the numbers of oil-degrading microorganisms were less than 1/ml. These counts are consistent with other non-polluted marine areas.

**Plate counts from crab samples.** The microbial counts from crab samples are shown in Table XIX. The counts show that the greatest concentration of bacteria occurred in the gills of the crabs and that muscle tissue had relatively few bacteria per gram. There were also significant differences between the counts from crabs collected from different regions. The lowest counts were for the crabs collected from the Bering Sea. The highest counts were from the Dungeness crabs collected near Kodiak City.

**Characterization of Microbial Isolants from Water and Sediment Samples**

Only the morphological characteristics of 206 of the 370 heterotrophic isolants from Gulf of Alaska water and sediment samples have been completed and processed for computer analysis. A summary of some of the key morphological characteristics is shown in Table XX. Clearly, the majority of organisms isolated from both sediment and water samples were gram negative and were rod-shaped (Table XXI). Only 5.3% of the organisms were gram positive and only 1.6% of all organisms were coccoid-shaped. Almost two-thirds of all organisms were motile. There was a significant difference
in motility between organisms isolated at 4C (75.8% motile) and those isolated at 20C (50.5% motile).

Although only a limited amount of data presently is stored in the computer for searching, it was decided to test the versatility of the data retrieval system and analyse some of the data that was stored. Examples of computer output are shown in Tables XXII and XXIII. In Table XXII the data was searched for the source of all of the gram positive isolants and the output showed that the distribution of these organisms is sparse but not restricted to one location. The data was searched for endospore-forming bacteria. Gram positive aerobic endospore-forming bacteria are members of the genus Bacillus. Endospore production is important because it is associated with heat resistance. Only one such organism was found, it having been isolated from sediment at 20C from Station 137. In Table XXIII the data was searched for positive reaction on acid fast staining. Most such isolants were from Station 133. Acid fast staining is a characteristic test for the genus Mycobacterium which contains several pathogenic species. Other searches of the data were used to generate Tables XX and XXI.

Several organisms isolated from oil agar plates have been tested for their ability to utilize 50 different hydrocarbons.

Identification of Microbial Isolants from Crab Samples

The species of bacteria that have been isolated from Dungeness and Tanner crabs are shown in Tables XXIV and XXV respectively. Examination of the data shows that the Dungeness crabs collected nearest Kodiak Island harbor in October had the greatest number of microbial species. In these Dungeness crabs many gram negative microorganisms were found in gill and muscle tissue as well as gram positive isolants. Many of these gram negative bacteria are considered
as indicators of human pollution. In the gill and muscle tissues of Tanner crabs isolated in Ugak Bay in December away from human activity there were fewer species of gram negative isolants. The frequency of occurrence of the isolants in muscle of Dungeness crabs was Staphylococcus >Sarcina >Acinetobacter >all others. In Dungeness crab gill tissue the isolation frequency was Streptococcus >Pseudomonas >Alcaligenes >Moraxella = Acinetobacter = Aeromonas = Citrobacter = Enterobacter >Sarcina = Yersinia = Staphylococcus = Klebsiella. In Tanner crab muscle and gill Staphylococcus was isolated more frequently than Microcococcus. In the eggs of Tanner crabs Staphylococcus was also most frequently isolated.

**Pathogenicity Studies**

Three mice injected with coagulose negative Staphylococcus intravenously developed behavioral symptoms, lethargy, and disinterest in food, 24 hours after injection. The symptoms lasted for 3 days after which the animals recovered. Autopsy failed to show any pathological abnormalities.

Of six mice exposed to the Yersinia enterocolytica, 2 by iv, 2 by ip, and 2 orally, all showed behavioral symptoms 24 hours after inoculation. Symptoms included staggering, lethargy, and lack of responsiveness. One mouse died 5 days after intravenous injection.

Of 12 mice inoculated with Klebsiella all showed overt symptoms and 4 of the mice died. The greatest death occurred with intraperitoneal injection. It was possible to recover Klebsiella pneumoniae of the same biotype as the culture used for inoculation from blood, liver, spleen, and kidney of these dead mice. No deaths occurred following oral inoculation.

It appears from these results that serious potential human pathogens are associated with crabs collected from near Kodiak harbor. Further studies
should immediately be conducted to assess the safety of commercial fishing for these crabs and consideration should be given to condemning such contaminated fishing areas.
TABLES

and

FIGURES
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<td>SAMPLE NO.</td>
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<td>LONGITUDE</td>
<td>DEPTH (M)</td>
<td>TEMP (C)</td>
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<tr>
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<td>----------</td>
<td>-----------</td>
<td>-----------</td>
<td>----------</td>
</tr>
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<td>*GW0101?02</td>
<td>59-18.60N</td>
<td>152-23.48W</td>
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<td>158-39.95W</td>
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<td>54-55.03N</td>
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<td>*GB0146?02</td>
<td>54-49.50N</td>
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<td>*GB0148?02</td>
<td>54-23.69N</td>
<td>160-49.24W</td>
<td>1C9.7</td>
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</tr>
</tbody>
</table>
Table III

ATLAS QUESTION SET SEQUENTIAL

003001: Cells are spherical.
003005: Cells are pear-shaped.
003008: Cells are rod-shaped.
003011: Rod axis is curved in one plane.
003013: Rod axis is helical (spiral).
003016: Rods have tapered ends.
003017: Rods have rounded ends.
003019: Rods have square ends.
003023: Pleomorphic cells are characteristic.
003026: Longer axis of rod is less than twice the shorter axis (cocco-bacillary).
004001: Longest axis of each cell is less than 0.5 micrometer.
004002: Longest axis of each cell is 0.5 - 1 micrometer.
004003: Longest axis of each cell is 1.1 - 2.0 micrometers.
004004: Longest axis of each cell is 2.1 - 3.0 micrometers.
004005: Longest axis of each cell is 3.1 - 4.0 micrometers.
004006: Longest axis of each cell is 4.1 - 5.0 micrometers.
004007: Longest axis of each cell is 5.1 - 10 micrometers.
004008: Longest axis of each cell is 11 - 15 micrometers.
004009: Longest axis of each cell is 16 - 100 micrometers.
004011: Shortest axis of each cell is less than 0.5 micrometer.
004012: Shortest axis of each cell is 0.5 - 1 micrometer.
004013: Shortest axis of each cell is 1.1 - 2.0 micrometers.
004014: Shortest axis of each cell is 2.1 - 3.0 micrometers.
004015: Shortest axis of each cell is 3.1 - 4.0 micrometers.
004016: Shortest axis of each cell is 4.1 - 5.0 micrometers.
005004: Poly beta-hydroxybutyric acid inclusions in the cell.
005006: Poly metaphosphate inclusions (volutin) in the cell.
006001: Endospores produced (any refractile intracellular body capable of germination into a new vegetative cell).
006007: Endospore(s) central in sporangium.
006008: Endospore(s) terminal.
006014: Endospores wider than the vegetative cell (sporangium swollen).
008001: Cells branch.
011001: Capsule is present.
012009: Cells are acid fast by Ziehl-Neelsen method.
012014: Sudan black B reveals intracellular lipids (fat bodies) (also see Sections 5 and 21).
012021: Gram positive.
012022: Gram negative.
012023: Gram variable.
013001: Cells motile.
013004: Cells demonstrate creeping or gliding motility on a solid surface.
013009: Cells have flagella.
013010: Flagella polar.
013022: Flagella peritrichous.
013023: Two or more flagella of distinctly different appearance in different locations on the cell.
015001: Cells occur singly.
015002: Cells occur in pairs.
015003: Cells arranged in angular fashion after division (snapping).
015004: Cells occur in chains.
015005: Cells arranged in irregular aggregates.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>015006</td>
<td>Cells arranged in two-dimensional tetrads.</td>
</tr>
<tr>
<td>015007</td>
<td>Cells arranged in cubical packets (three-dimensional).</td>
</tr>
<tr>
<td>015017</td>
<td>Organisms filamentous, greater than 10 micrometers, if multicellular the organism has little or no indentation at each septum (For branched filaments also see Section 8).</td>
</tr>
<tr>
<td>016005</td>
<td>Agar macro-colonies are translucent.</td>
</tr>
<tr>
<td>016006</td>
<td>Agar macro-colonies are transparent.</td>
</tr>
<tr>
<td>016007</td>
<td>Agar macro-colonies are opaque.</td>
</tr>
<tr>
<td>016008</td>
<td>Agar macro-colonies margin is entire.</td>
</tr>
<tr>
<td>016009</td>
<td>Agar macro-colony margin is erose.</td>
</tr>
<tr>
<td>016010</td>
<td>Agar macro-colony margin is filamentous (rhizoid).</td>
</tr>
<tr>
<td>016015</td>
<td>Agar macro-colony is convoluted.</td>
</tr>
<tr>
<td>016016</td>
<td>Agar macro-colony is flat (membranous).</td>
</tr>
<tr>
<td>016017</td>
<td>Agar macro-colony is raised but not convex.</td>
</tr>
<tr>
<td>016018</td>
<td>Agar macro-colony is umbonate.</td>
</tr>
<tr>
<td>016019</td>
<td>Colony swarming is exhibited on agar (dispersion of individual members of a population due to active motility).</td>
</tr>
<tr>
<td>016023</td>
<td>Colony consistency is viscid (mucoid).</td>
</tr>
<tr>
<td>016027</td>
<td>Colony surface is glistening.</td>
</tr>
<tr>
<td>016028</td>
<td>Colony surface is dull (matte).</td>
</tr>
<tr>
<td>016030</td>
<td>Colony surface is smooth.</td>
</tr>
<tr>
<td>016031</td>
<td>Colony surface is rough.</td>
</tr>
<tr>
<td>016043</td>
<td>Floccular growth in liquid culture.</td>
</tr>
<tr>
<td>016044</td>
<td>Ring growth on the wall of the tube in liquid culture.</td>
</tr>
<tr>
<td>016046</td>
<td>Pellicle in liquid culture.</td>
</tr>
<tr>
<td>016053</td>
<td>Growth takes place at an initial pH of 9.0.</td>
</tr>
<tr>
<td>016054</td>
<td>Growth takes place at an initial pH of 7.0.</td>
</tr>
<tr>
<td>016055</td>
<td>Growth takes place at an initial pH of 6.0.</td>
</tr>
<tr>
<td>016056</td>
<td>Growth takes place at an initial pH of 5.0.</td>
</tr>
<tr>
<td>016057</td>
<td>Growth takes place at an initial pH of 4.0.</td>
</tr>
<tr>
<td>016060</td>
<td>In 1.5-2.0% previously solidified agar, inoculated by stab, growth is confined to the surface or a depth from the surface of approximately no greater than 1 mm. (i.e., an obligate aerobe)</td>
</tr>
<tr>
<td>016062</td>
<td>In 1.5-2.0% previously solidified agar, inoculated by stab, growth begins BELOW THE SURFACE when incubated in air.</td>
</tr>
<tr>
<td>016063</td>
<td>In 1.5-2.0% previously solidified agar, inoculated by seeding or by stab, incubated in air, growth is largely confined to a linear dimension of approximately 5 cm from the bottom of the tube in a 16 x 150 mm tube filled with medium to a depth of 9-10 cm. (i.e., obligate anaerobe)</td>
</tr>
<tr>
<td>016136</td>
<td>Molecular nitrogen can be used as the sole source of nitrogen.</td>
</tr>
<tr>
<td>016137</td>
<td>Ammonium salts can serve as the sole source of nitrogen for growth.</td>
</tr>
<tr>
<td>016138</td>
<td>Nitrate can serve as the sole source of nitrogen for growth.</td>
</tr>
<tr>
<td>016139</td>
<td>Nitrite can serve as the sole source of nitrogen for growth.</td>
</tr>
<tr>
<td>016187</td>
<td>Growth takes place at an initial pH of 8.0.</td>
</tr>
<tr>
<td>016189</td>
<td>Agar macro-colony is convex.</td>
</tr>
<tr>
<td>016190</td>
<td>Turbidity of liquid culture is evenly dispersed.</td>
</tr>
<tr>
<td>016194</td>
<td>Growth takes place at an initial pH of 10.0.</td>
</tr>
<tr>
<td>016206</td>
<td>Maximum turbidity in liquid cultures is slight.</td>
</tr>
<tr>
<td>016207</td>
<td>Maximum turbidity in liquid cultures is moderate.</td>
</tr>
<tr>
<td>016208</td>
<td>Maximum turbidity in liquid cultures is heavy.</td>
</tr>
<tr>
<td>016212</td>
<td>At least one vitamin (growth factor) is required for growth.</td>
</tr>
<tr>
<td>016249</td>
<td>Urea can be used as the sole source of nitrogen.</td>
</tr>
<tr>
<td>016347</td>
<td>Urea can be used as the sole source of carbon and nitrogen.</td>
</tr>
<tr>
<td>016357</td>
<td>Isolated agar colonies are less than 1 mm. diameter within ten days.</td>
</tr>
<tr>
<td>016358</td>
<td>Isolated agar colonies are 1-2 mm diameter within ten days.</td>
</tr>
<tr>
<td>016359</td>
<td>Isolated agar colonies are 2-6 mm diameter within ten days.</td>
</tr>
<tr>
<td>016361</td>
<td>Agar macro-colony margin is lobate.</td>
</tr>
</tbody>
</table>
### Table III (cont'd)

<table>
<thead>
<tr>
<th>Test</th>
<th>Result Description</th>
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</thead>
<tbody>
<tr>
<td>016362</td>
<td>Agar macro-colony margin is undulate.</td>
</tr>
<tr>
<td>016363</td>
<td>Colony spreading is exhibited on agar (growth extends more beyond the point of inoculation).</td>
</tr>
<tr>
<td>016369</td>
<td>Gelling agent (e.g., agar) is required for growth.</td>
</tr>
<tr>
<td>017011</td>
<td>Growth at 0°C.</td>
</tr>
<tr>
<td>017012</td>
<td>Growth at 10°C.</td>
</tr>
<tr>
<td>017013</td>
<td>Growth at 15°C.</td>
</tr>
<tr>
<td>017014</td>
<td>Growth at 25°C.</td>
</tr>
<tr>
<td>017015</td>
<td>Growth at 37°C.</td>
</tr>
<tr>
<td>017032</td>
<td>Growth at 5°C.</td>
</tr>
<tr>
<td>017037</td>
<td>Growth at 20°C.</td>
</tr>
<tr>
<td>017045</td>
<td>Growth at 43°C.</td>
</tr>
<tr>
<td>018003</td>
<td>Growth in the presence of 0.5% NaCl.</td>
</tr>
<tr>
<td>018004</td>
<td>Growth in the presence of 3% NaCl.</td>
</tr>
<tr>
<td>018006</td>
<td>Growth in the presence of 5% NaCl.</td>
</tr>
<tr>
<td>018008</td>
<td>Growth in the presence of 10% NaCl.</td>
</tr>
<tr>
<td>018009</td>
<td>Growth in the presence of 15% NaCl.</td>
</tr>
<tr>
<td>018022</td>
<td>Growth in the presence of 7.5% NaCl.</td>
</tr>
<tr>
<td>018028</td>
<td>Added NaCl is required for growth.</td>
</tr>
<tr>
<td>019001</td>
<td>Sensitive to ampicillin concentration (disc) 2 µgm.</td>
</tr>
<tr>
<td>019021</td>
<td>Sensitive to bacitracin concentration (disc) 2 units.</td>
</tr>
<tr>
<td>019043</td>
<td>Sensitive to chloromycetin (chloramphenicol) concentration (disc) 5 µgm.</td>
</tr>
<tr>
<td>019044</td>
<td>Sensitive to chloromycetin (chloramphenicol) concentration (disc) 30 µgm.</td>
</tr>
<tr>
<td>019063</td>
<td>Sensitive to chlortetracycline (aureomycin) concentration (disc) 30 µgm.</td>
</tr>
<tr>
<td>019064</td>
<td>Sensitive to colistin concentration (disc) 2 µgm.</td>
</tr>
<tr>
<td>019065</td>
<td>Sensitive to colistin concentration (disc) 10 µgm.</td>
</tr>
<tr>
<td>019084</td>
<td>Sensitive to 2,4-diamino-6,7-diisopropylpteridine (O/129 vibriostat) crystals on agar.</td>
</tr>
<tr>
<td>019085</td>
<td>Sensitive to erythromycin (ilotycin) concentration (disc) 2 µgm.</td>
</tr>
<tr>
<td>019086</td>
<td>Sensitive to erythromycin (ilotycin) concentration (disc) 15 µgm.</td>
</tr>
<tr>
<td>019105</td>
<td>Sensitive to kanamycin concentration (disc) 5 µgm.</td>
</tr>
<tr>
<td>019106</td>
<td>Sensitive to kanamycin concentration (disc) 30 µgm.</td>
</tr>
<tr>
<td>019129</td>
<td>Sensitive to nalidixic acid concentration (disc) 30 µgm.</td>
</tr>
<tr>
<td>019148</td>
<td>Sensitive to neomycin (mycifradin) concentration (disc) 5 µgm.</td>
</tr>
<tr>
<td>019149</td>
<td>Sensitive to neomycin (mycifradin) concentration (disc) 30 µgm.</td>
</tr>
<tr>
<td>019168</td>
<td>Sensitive to nitrofurantoin concentration (disc) 100 µgm.</td>
</tr>
<tr>
<td>019169</td>
<td>Sensitive to nitrofurantoin concentration (disc) 300 µgm.</td>
</tr>
<tr>
<td>019188</td>
<td>Sensitive to novobiocin (albarycin) concentration (disc) 30 µgm.</td>
</tr>
<tr>
<td>019208</td>
<td>Sensitive to oxytetracycline (tetracycin, terramycin) concentration (disc) 30 µgm.</td>
</tr>
<tr>
<td>019210</td>
<td>Sensitive to penicillin G concentration (disc) 2 units.</td>
</tr>
<tr>
<td>019211</td>
<td>Sensitive to penicillin G concentration (disc) 10 units.</td>
</tr>
<tr>
<td>019230</td>
<td>Sensitive to polymyxin B (aerosporin) concentration (disc) 50 units.</td>
</tr>
<tr>
<td>019231</td>
<td>Sensitive to polymyxin B (aerosporin) concentration (disc) 300 units.</td>
</tr>
<tr>
<td>019233</td>
<td>Sensitive to streptomycin concentration (disc) 2.0 µgm.</td>
</tr>
<tr>
<td>019235</td>
<td>Sensitive to streptomycin concentration (disc) 10 µgm.</td>
</tr>
<tr>
<td>019274</td>
<td>Sensitive to tetracycline (achromycin) concentration (disc) 5 µgm.</td>
</tr>
<tr>
<td>019275</td>
<td>Sensitive to tetracycline (achromycin) concentration (disc) 30 µgm.</td>
</tr>
<tr>
<td>019294</td>
<td>Sensitive to triple sulfa (sulfadiazine/sulfamethazine/sulfamerazine) concentration (disc) 1 µgm.</td>
</tr>
<tr>
<td>019297</td>
<td>Sensitive to vancocyn (vancomycin) concentration (disc) 30.0 µgm.</td>
</tr>
<tr>
<td>019374</td>
<td>Sensitive to gentamycin concentration (disc) 10 µgm.</td>
</tr>
</tbody>
</table>
Table III (cont'd)

019430: Sensitive to ampicillin concentration (disc) 10 ugm.
019484: Sensitive to chlortetracycline (aureomycin) concentration (disc) 5 ugm.
019486: Sensitive to novobiocin (albamycin) concentration (disc) 5 ugm.
020001: Colonies are pure (paper) white on solid medium.
020002: Colonies are gray on solid medium.
020007: Colonies luminescent in the dark.
020019: Diffusible (water-soluble) pigments are produced.
020020: Diffusible blue pigments are produced.
020021: Diffusible yellow pigments are produced.
020022: Diffusible green pigments are produced.
020023: Diffusible red pigments are produced.
020024: Diffusible orange pigments are produced.
020025: Diffusible violet (purple) pigments are produced.
020026: Diffusible brown pigments are produced.
020027: Diffusible black pigments are produced.
020038: Non-diffusible red pigments are produced.
020039: Non-diffusible brown pigments are produced.
020040: Non-diffusible green pigments are produced.
020041: Non-diffusible violet (purple) pigments are produced.
020042: Non-diffusible blue pigments are produced.
020043: Non-diffusible golden (yellow) pigments are produced.
020044: Non-diffusible orange pigments are produced.
020057: Non-diffusible black pigments are produced.
020058: Colonies fluoresce with short wavelength ultraviolet light (ca. 260 nm.).
020060: Fluorescent pigment observable with short wavelength ultraviolet light (ca. 260 nm.).
020080: Non-diffusible pigment occurs only in the center of the colony.
020081: Non-diffusible pigment occurs in concentric rings within the colony.
024004: Agar is hydrolyzed (liquefied).
024005: Carrageenin is degraded.
024007: Casein is hydrolyzed (peptonized).
024009: Gelatin is hydrolyzed (liquefied).
024011: Pectin is hydrolyzed.
024014: D-Glucose catabolized aerobically.
024015: D-Glucose catabolized anaerobically.
024114: Tryptophan yields indole.
024135: Ammonia is produced.
024138: Nitrate is reduced.
024139: Nitrate is reduced to nitrite.
024140: Nitrite is reduced to nitrogen gas.
024149: Thiosulfate is reduced to hydrogen sulfide.
024154: Hydrogen sulfide is produced from cysteine.
024164: Hydrogen peroxide is decomposed.
024185: Methyl red test is positive.
024191: Voges-Proskauer test positive (also see question 35).
024199: Sheep blood hemolysis is beta.
024210: Nitrite is reduced.
024212: L-Arginine utilization results in basic endproducts (medium becomes alkaline).
024248: Kovacs' oxidase test positive (smear from colony turns dark purple with tetramethylparaphenylene diamine dihydrochloride).
024251: Hydrogen sulfide is produced from peptones.
024448: Nitrite is reduced to nitrous oxide.
024449: Nitrate is reduced to nitric oxide.
Table III (cont'd)

025019: D-Fructose is utilized.
025020: D-Galactose is utilized.
025021: D-Glucose is utilized (also see Section 24).
025022: D-Mannose is utilized.
025023: L-Sorbose is utilized.
025036: Salicin is utilized.
025037: Cellobiose is utilized.
025038: Lactose is utilized.
025039: Maltose is utilized.
025041: Sucrose is utilized.
025042: Trehalose is utilized.
025044: Raffinose is utilized.
025053: Alginic Acid is utilized.
025184: Acid produced from D-Ribose.
025193: Acid produced from D-Fructose.
025194: Acid produced from D-Galactose.
025195: Acid produced from D-Glucose (also see Section 24).
025196: Acid produced from D-Mannose.
025211: Acid produced from Cellobiose.
025212: Acid produced from Lactose.
025213: Acid produced from Maltose.
025214: Acid produced from Sucrose.
025215: Acid produced from Trehalose.
025242: Gas produced from D-Ribose.
025251: Gas produced from D-Fructose.
025252: Gas produced from D-Galactose.
025253: Gas produced from D-Glucose (also see Section 24).
025254: Gas produced from D-Mannose.
025269: Gas produced from Cellobiose.
025270: Gas produced from Lactose.
025271: Gas produced from Maltose.
025273: Gas produced from Sucrose.
025274: Gas produced from Trehalose.
025300: D-Ribose can be used as the sole source of carbon.
025309: D-Fructose can be used as the sole source of carbon.
025311: D-Glucose can be used as the sole source of carbon (also see Section 24).
025312: Mannose can serve as the sole source of carbon.
025351: Cellulose is hydrolyzed.
025352: Chitin is hydrolyzed.
025357: Starch is hydrolyzed.
026002: Allyl Alcohol is utilized.
026003: 1-Butanol is utilized.
026005: Ethanol is utilized.
026014: 1-Propanol is utilized.
026015: 2-Propanol is utilized.
026039: D(-)1,2-Propanediol is utilized.
026045: 1,2,3-Propanetriol (Glycerol) is utilized.
026052: D-Arabitol is utilized.
026057: Dulcitol is utilized.
026065: D-Mannitol is utilized.
026068: D-Sorbitol is utilized.
026075: Cyclohexanol is utilized.
026079: Meso-Inositol is utilized.
026089: Phenol is utilized.
026351: Acid is produced from 1,2,3-Propanetriol (Glycerol).
026363: Acid is produced from Dulcitol.
026371: Acid is produced from D-Mannitol.
026453: Gas is produced from 1,2,3-Propanetriol (Glycerol).
026465: Gas is produced from Dulcitol.
026473: Gas is produced from D-Mannitol.
02655: 1,2,3-Propanetriol (Glycerol) can be used as the sole source of carbon.
02662: 2-Phenylethanol is utilized.
02663: 1-Hexadecanol is utilized.
02800: Acetic acid is utilized.
02803: Butyric acid is utilized.
02804: Caproic acid is utilized.
02805: Caprylic acid is utilized.
02808: Isovaleric acid is utilized.
02809: Lauric acid is utilized.
02811: Palmitic acid is utilized.
02813: Propionic acid is utilized.
02816: Valeric acid (pentanoic acid) is utilized.
02821: Glutaric acid is utilized.
02822: Malonic acid is utilized.
02827: Succinic acid is utilized.
02837: Oleic acid is utilized.
02845: Fumaric acid is utilized.
02846: Itaconic acid is utilized.
02847: Maleic acid is utilized.
02852: DL-Glyceraldehyde is utilized.
02854: Beta-hydroxybutyric acid is utilized.
02857: DL-Lactic acid is utilized.
02861: Mucic acid is utilized.
02864: L(+)-Tartaric acid is utilized.
02866: Citric acid is utilized.
02868: 2-Ketogluconic acid is utilized.
02871: Pyruvic acid is utilized.
02872: Alpha-ketoglutaric acid is utilized.
02878: Benzoic acid is utilized.
02879: Meta-Hydroxybenzoic acid is utilized.
02880: Para-Hydroxybenzoic acid is utilized.
02897: Ascorbic acid is utilized.
02899: Galacturonic acid is utilized.
02810: D-Gluconic acid is utilized.
028105: Ortho-Hydroxybenzoic acid is utilized.
028107: Saccharic acid acid is utilized.
028109: Acetic acid can be used as the sole source of carbon.
02834: Succinic acid can be used as the sole source of carbon.
02852: Fumaric acid can be used as the sole source of carbon.
02861: Beta-hydroxybutyric acid can be used as the sole source of carbon.
02878: D-Gluconic acid can be used as the sole source of carbon.
02812: Pyruvic acid can be used as the sole source of carbon.
02813: Alpha-ketoglutaric acid can be used as the sole source of carbon.
02862: Stearic acid is utilized.
02868: Cyclohexane carboxylic acid is utilized.
02900: L-Alanine is utilized.
02904: Beta-Alanine is utilized.
02908: Gamma-Aminobutyric Acid is utilized.
02903: L-Arginine is utilized.
02915: L-Asparagine is utilized.
02916: L-Aspartic Acid is utilized.
02917: Betaine is utilized.
02920: L-Cysteine is utilized.
02921: L-Cystine is utilized.
02923: L-Glutamic Acid is utilized.
02924: Glycine is utilized.
02925: Hippurate is utilized.
Table III (cont'd)

L-Histidine is utilized.
L-Leucine is utilized.
L-Iso-Leucine is utilized.
L-Lysine is utilized.
L-Methionine is utilized.
L-Ornithine is utilized.
L-Proline is utilized.
Sarcosine is utilized.
L-Serine is utilized.
L-Threonine is utilized.
L-Tryptophan is utilized.
L-Tyrosine is utilized.
L-Valine is utilized.
L-Aspartic Acid can be used as the sole source of carbon.
L-Glutamic Acid can be used as the sole source of carbon.
L-Lysine can be used as the sole source of carbon.
L-Tryptophan can be used as the sole source of carbon.
L-Alanine can be used as the sole source of nitrogen.
L-Arginine can be used as the sole source of nitrogen.
L-Asparagine can be used as the sole source of nitrogen.
L-Aspartic Acid can be used as the sole source of nitrogen.
L-Cysteine can be used as the sole source of nitrogen.
L-Cystine can be used as the sole source of nitrogen.
L-Glutamic Acid can be used as the sole source of nitrogen.
Glycine can be used as the sole source of nitrogen.
L-Histidine can be used as the sole source of nitrogen.
L-Leucine can be used as the sole source of nitrogen.
L-Iso-Leucine can be used as the sole source of nitrogen.
L-Lysine can be used as the sole source of nitrogen.
L-Methionine can be used as the sole source of nitrogen.
L-Phenylalanine can be used as the sole source of nitrogen.
L-Proline can be used as the sole source of nitrogen.
L-Serine can be used as the sole source of nitrogen.
L-Threonine can be used as the sole source of nitrogen.
L-Tryptophan can be used as the sole source of nitrogen.
L-Tyrosine can be used as the sole source of nitrogen.
L-Valine can be used as the sole source of nitrogen.
Aspartic Acid can be used as the sole source of carbon.
Glutamic Acid can be used as the sole source of carbon.
L-Lysine can be used as the sole source of carbon.
L-Tryptophan can be used as the sole source of carbon.
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Phenylalanine can be used as the sole source of nitrogen.
Proline can be used as the sole source of nitrogen.
L-Serine can be used as the sole source of nitrogen.
L-Threonine can be used as the sole source of nitrogen.
Tryptophan can be used as the sole source of nitrogen.
Tyrosine can be used as the sole source of nitrogen.
Valine can be used as the sole source of nitrogen.
Phenylalanine is deaminated.
Tryptophan is deaminated.
Arginine is decarboxylated.
Lysine is decarboxylated.
Ornithine is decarboxylated.
Carnitine is utilized.
Alpha-Amylamine is utilized.
Ethanolamine is utilized.
Histamine is utilized.
Putrescine is utilized.
Tryptamine is utilized.
Allantoin is utilized.
Ethanolamine can be used as the sole source of nitrogen.
Histamine can be used as the sole source of nitrogen.
Allantoin can be used as the sole source of nitrogen.
Acetylglucoseamine is utilized.
Guanine is utilized.
Guanine can be used as the sole source of nitrogen.
Thymine is utilized.
Thymine can be used as the sole source of nitrogen.
Taurine is utilized.
Cyclohexanone can be used as the sole source of carbon.
N-Decane is utilized.
314
Table III (cont'd)

031764: N-Tetracosane is utilized.
031770: 1-Pentadecene is utilized.
031776: 2,2,4,6,6-Pentamethylheptane is utilized.
031782: 1-Phenylethylcane is utilized.
031788: N-Octacosane is utilized.
031794: 2,2,4,6,6-Pentamethyl-3-heptene is utilized.
031800: 1-Phenyl-3,4 dihydronaphthalene is utilized.
031806: 1-Phenylnaphthalene is utilized.
031812: 1-Phenyl-1-cyclohexene is utilized.
031818: Chrysene (1,2-Benzphenanthrene) is utilized.
031824: Pyrene (Benzo-phenanthrene) is utilized.
031830: Triphenylene (9,10 Benzphenanthrene) is utilized.
031836: Isopropylcyclohexane is utilized.
032020: Tween 20 is hydrolyzed.
032023: Tween 80 is hydrolyzed.
034137: Alkaline phosphatase (3.1.3.1) is produced.
034143: Urease (3.5.1.5) is produced.
040331: Sensitive to oxytetracycline (tetramycin, terramycin) concentration (disc) 5 ugm.
098001: Non-diffusible pink pigments are produced.
098002: D-Ribose is utilized when yeast extract and amino acids are added.
098003: D-Glucose is utilized when yeast extract and amino acids are added.
098004: D-Fructose is utilized when yeast extract and amino acids are added.
098005: D-Gluconate is utilized when yeast extract and amino acids are added.
098006: Pyruvate is utilized when yeast extract and amino acids are added.
098007: Acetate is utilized when yeast extract and amino acids are added.
098008: Succinate is utilized when yeast extract and amino acids are added.
098009: Lactate is utilized when yeast extract and amino acids added.
098010: Alpha-Ketoglutarate is utilized when yeast extract and amino acids are added.
098011: Glycerol is utilized when yeast extract and amino acids are added.
098012: Beta-Hydroxybutyrate is utilized when yeast extract and amino acids are added.
098013: L-Aspartate is utilized when yeast extract and amino acids are added.
098014: L-Glutamate is utilized when yeast extract and amino acids ARE ADDED.
098015: L-Tryptophan is utilized when yeast extract and amino acids are utilized.
098016: L-Lysine is utilized when yeast extract and amino acids are utilized.
098017: Peptone is utilized.
098018: Peptone can serve as sole source of carbon.
Table III (cont'd)

098025: Proteose peptone #3 can serve as sole source of carbon.
098026: Tryptone can serve as sole source of carbon.
098027: Unknown growth factors are required.
098028: Yeast extract plus amino acids plus vitamins serve as growth factors.
098029: Vitamins can serve as growth factor.
Table IV

LITERATURE REVIEW

Marine Microorganisms - General


Microorganisms - Gulf of Alaska


Petroleum Biodegradation - General

Table IV (cont'd)

**Petroleum Biodegradation - Gulf of Alaska**


**Microorganisms Associated with Fish and Shellfish - General**


**Microorganisms Associated with Fish and Shellfish - Gulf of Alaska**


Table V

**NITRIENT ANALYSES**

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Table VII

AEROBIC HETEROTROPHIC PSYCHROPHILES AND PSYCHROCTROPHS

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Table VIII

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**AEROBIC HETEROTROPHIC PSYCHROPHILES AND PSYCHROTROPHS**

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<td>04C AEROBIC S CIL</td>
</tr>
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<td>*GBU036?13</td>
<td>&lt;1.0E2</td>
<td>04C AEROBIC S CIL</td>
</tr>
<tr>
<td>*GBU037?13</td>
<td>&lt;1.0E2</td>
<td>04C AEROBIC S CIL</td>
</tr>
<tr>
<td>*GBU038?13</td>
<td>&lt;1.0E2</td>
<td>04C AEROBIC S CIL</td>
</tr>
<tr>
<td>*GBU039?13</td>
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<td>04C AEROBIC S CIL</td>
</tr>
<tr>
<td>*GBU040?13</td>
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<td>04C AEROBIC S CIL</td>
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### Table XVIII

**OIL UTILIZING MESOPHILES**

<table>
<thead>
<tr>
<th>WATER</th>
<th>COUNT</th>
<th>CONDITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>*GWJ1J?14</td>
<td></td>
<td>20C AEROBIC M CIL</td>
</tr>
<tr>
<td>*GWJ1c?14</td>
<td></td>
<td>20C AEROBIC M CIL</td>
</tr>
<tr>
<td>*GWU03?14</td>
<td></td>
<td>20C AEROBIC M CIL</td>
</tr>
<tr>
<td>*GWU04?14</td>
<td></td>
<td>20C AEROBIC M CIL</td>
</tr>
<tr>
<td>*GWU05?14</td>
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<td>20C AEROBIC M CIL</td>
</tr>
<tr>
<td>*GWU06?14</td>
<td></td>
<td>20C AEROBIC M CIL</td>
</tr>
<tr>
<td>*GWU11?14</td>
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<td>20C AEROBIC M CIL</td>
</tr>
<tr>
<td>*GWU12?14</td>
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<td>20C AEROBIC M CIL</td>
</tr>
<tr>
<td>*GWU13?14</td>
<td>&lt;1.0E-1</td>
<td>20C AEROBIC M CIL</td>
</tr>
<tr>
<td>*GWU14?14</td>
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<td>20C AEROBIC M CIL</td>
</tr>
<tr>
<td>*GWU14?14</td>
<td>&lt;1.0E-1</td>
<td>20C AEROBIC M CIL</td>
</tr>
<tr>
<td>*GWU15?14</td>
<td>&lt;1.0E-1</td>
<td>20C AEROBIC M CIL</td>
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<table>
<thead>
<tr>
<th>SEDIMENT</th>
<th>COUNT</th>
<th>CONDITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>*GBU1J1?14</td>
<td></td>
<td>20C AEROBIC S CIL</td>
</tr>
<tr>
<td>*GBU1c?14</td>
<td>&lt;1.0E2</td>
<td>20C AEROBIC S CIL</td>
</tr>
<tr>
<td>*GBU13?14</td>
<td>&lt;1.0E0</td>
<td>20C AEROBIC S CIL</td>
</tr>
<tr>
<td>*GBU13?14</td>
<td></td>
<td>20C AEROBIC S CIL</td>
</tr>
<tr>
<td>*GBU14?14</td>
<td></td>
<td>20C AEROBIC S CIL</td>
</tr>
<tr>
<td>*GBU15?14</td>
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<td>20C AEROBIC S CIL</td>
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</table>
### Table XIX
**PLATE COUNTS**

<table>
<thead>
<tr>
<th>Type of Crab</th>
<th>Area of Collection</th>
<th>Marine Agar</th>
<th>TCBS (Vibrio)</th>
<th>McConkey's</th>
<th>Anaerobic Marine Agar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Muscle</td>
<td>Gill</td>
<td>Muscle</td>
<td>Gill</td>
</tr>
<tr>
<td>Dungeness</td>
<td>Chiniak Bay</td>
<td>~400</td>
<td>1.66x10^5</td>
<td>&lt;50</td>
<td>&lt;10^3</td>
</tr>
<tr>
<td>Tanner</td>
<td>Chiniak Bay (1)</td>
<td>&lt;50</td>
<td>1.7x10^4</td>
<td>&lt;50</td>
<td>&lt;10^3</td>
</tr>
<tr>
<td></td>
<td>(2)</td>
<td>&lt;50</td>
<td>4.3x10^4</td>
<td>&lt;50</td>
<td>&lt;10^3</td>
</tr>
<tr>
<td>Bering Sea (1)</td>
<td>&lt;50</td>
<td>&lt;10^3</td>
<td>&lt;50</td>
<td>&lt;10^3</td>
<td>&lt;50</td>
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<tr>
<td></td>
<td>(2)</td>
<td>&lt;50</td>
<td>&lt;10^3</td>
<td>&lt;50</td>
<td>&lt;10^3</td>
</tr>
<tr>
<td>Ugak Bay (1)</td>
<td>&lt;50</td>
<td>6.0x10^3</td>
<td>&lt;50</td>
<td>&lt;10^3</td>
<td>&lt;50</td>
</tr>
<tr>
<td></td>
<td>(2)</td>
<td>&lt;50</td>
<td>5.2x10^4</td>
<td>&lt;50</td>
<td>&lt;10^3</td>
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Table XX

Number of Isolants

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<thead>
<tr>
<th></th>
<th>20C Water</th>
<th>20C Sediment</th>
<th>4C Water</th>
<th>4C Sediment</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>TOTAL ISOLATED</td>
<td>60</td>
<td>49</td>
<td>73</td>
<td>24</td>
<td>206</td>
</tr>
<tr>
<td>Gram Positive</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Gram Negative</td>
<td>49</td>
<td>38</td>
<td>67</td>
<td>24</td>
<td>178</td>
</tr>
<tr>
<td>Coccoid-shaped</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Rod-shaped</td>
<td>49</td>
<td>40</td>
<td>68</td>
<td>24</td>
<td>181</td>
</tr>
<tr>
<td>Non-motile</td>
<td>23</td>
<td>25</td>
<td>15</td>
<td>8</td>
<td>71</td>
</tr>
<tr>
<td>Motile</td>
<td>31</td>
<td>18</td>
<td>56</td>
<td>16</td>
<td>121</td>
</tr>
</tbody>
</table>
Table XXI

<table>
<thead>
<tr>
<th></th>
<th>Gram+</th>
<th>Gram-</th>
<th>Coccoid</th>
<th>Rod</th>
<th>Non-motile</th>
<th>Motile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total 20C Isolants</td>
<td>6.5</td>
<td>93.5</td>
<td>3.2</td>
<td>96.8</td>
<td>49.5</td>
<td>50.5</td>
</tr>
<tr>
<td>Total 4C Isolants</td>
<td>4.2</td>
<td>95.8</td>
<td>0</td>
<td>100.0</td>
<td>24.2</td>
<td>75.8</td>
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<tr>
<td>Total Water Isolants</td>
<td>6.5</td>
<td>93.5</td>
<td>1.7</td>
<td>98.3</td>
<td>30.4</td>
<td>69.6</td>
</tr>
<tr>
<td>Total Sediment Isolants</td>
<td>3.1</td>
<td>96.9</td>
<td>1.5</td>
<td>98.5</td>
<td>47.6</td>
<td>52.4</td>
</tr>
<tr>
<td>TOTAL ORGANISMS</td>
<td>5.3</td>
<td>94.7</td>
<td>1.6</td>
<td>98.4</td>
<td>37.0</td>
<td>63.0</td>
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</tbody>
</table>
Table XXII

ACID FAST STAINS

<table>
<thead>
<tr>
<th>FORM NUMBER: 100190</th>
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<tbody>
<tr>
<td>1  G000076  GULF OF ALASKA WATER 20C STATION133</td>
</tr>
<tr>
<td>2  G000082  GULF OF ALASKA WATER 20C STATION133</td>
</tr>
<tr>
<td>3  G000083  GULF OF ALASKA WATER 20C STATION133</td>
</tr>
<tr>
<td>4  G000094  GULF OF ALASKA WATER 20C STATION133</td>
</tr>
<tr>
<td>5  G000152  GULF OF ALASKA WATER 20C STATION148</td>
</tr>
<tr>
<td>6  G000582  GULF OF ALASKA WATER 04C STATION124</td>
</tr>
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END FORM

6 STRAINS

100190

336
Table XXIII

GRAM POSITIVE STAINS

<table>
<thead>
<tr>
<th>FORM NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>G000086   GULF OF ALASKA WATER 20C STATION133</td>
</tr>
<tr>
<td>2</td>
<td>G000087   GULF OF ALASKA WATER 20C STATION133</td>
</tr>
<tr>
<td>3</td>
<td>G000152   GULF OF ALASKA WATER 20C STATION148</td>
</tr>
<tr>
<td>4</td>
<td>G000212   GULF OF ALASKA WATER 20C STATION159</td>
</tr>
<tr>
<td>5</td>
<td>G000258   GULF OF ALASKA SEDIMENT 20C STATION121</td>
</tr>
<tr>
<td>6</td>
<td>G000278   GULF OF ALASKA SEDIMENT 20C STATION134</td>
</tr>
<tr>
<td>7</td>
<td>G000527   GULF OF ALASKA WATER 04C STATION106</td>
</tr>
<tr>
<td>8</td>
<td>G000577   GULF OF ALASKA WATER 04C STATION124</td>
</tr>
<tr>
<td>9</td>
<td>G000582   GULF OF ALASKA WATER 04C STATION124</td>
</tr>
<tr>
<td>10</td>
<td>G000681   GULF OF ALASKA WATER 04C STATION148</td>
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</table>

END FORM

10 STRAINS
Table XXIV

Microorganisms isolated from: DUNGENESS CRABS

<table>
<thead>
<tr>
<th>Gill</th>
<th>Muscle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acinetobacter calcoaceticus</td>
<td>Staphylococcus epidermidis</td>
</tr>
<tr>
<td>Pseudomonas maltophilia</td>
<td>Sarcina spp.</td>
</tr>
<tr>
<td>Pseudomonas fluorescens</td>
<td>Group D streptococcus</td>
</tr>
<tr>
<td>Group D streptococcus, including</td>
<td>Pseudomonas spp.</td>
</tr>
<tr>
<td>one isolate - Enterococcus</td>
<td>Alcaligenes spp.</td>
</tr>
<tr>
<td>Enterobacter agglomerans</td>
<td>Moraxella spp.</td>
</tr>
<tr>
<td>Citrobacter freundii</td>
<td>Pasteurella spp.</td>
</tr>
<tr>
<td>Klebsiella pneumoniae, possibly K. ozonae</td>
<td>Acinetobacter calcoaceticus</td>
</tr>
<tr>
<td>Aeromonas hydroxy1a</td>
<td>Micrococcus spp.</td>
</tr>
<tr>
<td>Staphylococcus epidermidis (Coag. neg.)</td>
<td></td>
</tr>
<tr>
<td>Sarcina spp.</td>
<td></td>
</tr>
<tr>
<td>Yersinia enterolitica</td>
<td></td>
</tr>
<tr>
<td>Alcaligenes spp.</td>
<td></td>
</tr>
<tr>
<td>Moraxella spp.</td>
<td></td>
</tr>
<tr>
<td>Pasteurella spp.</td>
<td></td>
</tr>
</tbody>
</table>
Table XXV

Microorganisms isolated from: TANNER CRABS

<table>
<thead>
<tr>
<th>Gill</th>
<th>Muscle</th>
<th>Eggs</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Staphylococcus epidermidis</em></td>
<td><em>Staphylococcus epidermidis</em></td>
<td><em>Staphylococcus epidermidis</em></td>
</tr>
<tr>
<td><em>Alcaligenes spp.</em></td>
<td><em>Alcaligenes spp.</em></td>
<td><em>Sarcina spp.</em></td>
</tr>
<tr>
<td><em>Moraxella spp.</em></td>
<td><em>Moraxella spp.</em></td>
<td><em>Acinetobacter calcoaceticus</em></td>
</tr>
<tr>
<td><em>Acinetobacter calcoaceticus</em></td>
<td></td>
<td><em>Pseudomonas fluorescens</em></td>
</tr>
</tbody>
</table>
Fig. 1  Map showing sampling locations for water and sediment samples.
Fig. 2  Map showing locations for crab collections.

a. Bering Sea
b. Ugak Bay
c. Chiniak Bay
Future Work

During the remainder of the contract two more cruises are scheduled aboard the Discoverer for sampling. One of these cruises is presently in the northeast Gulf of Alaska. Additionally, beach samples are being collected. These samples will be processed for enumeration of microorganisms and compared to the previous samples. Microorganisms will be isolated from these samples for taxonomic characterization. It is anticipated that taxonomic characterization should be completed on microorganisms isolated from the October cruise as well as the April cruise by October 1976. Isolants from the August 1976 cruise will not be completed by that date.

Crab samples will continue to be examined for analysis of potential pathogens. Additionally, some clam and salmon specimens should be received for analysis.

As planned, assays will be made during the forthcoming cruises for rates of hydrocarbon biodegradation and bioemulsification. Assay should be completed by October. A complete proposal for future work during a second contract year is being prepared.
ANNUAL REPORT

Contract #01-6-022-11469
Research Unit #43/44/45

Reporting Period
July 1, 1975 - March 15, 1976
34 Pages

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Bioorganic Standards Section
Analytical Chemistry Division
National Bureau of Standards
Washington, D.C. 20234

April 1, 1976
I. SUMMARY OF OBJECTIVES, CONCLUSIONS AND IMPLICATIONS WITH RESPECT TO OCS OIL AND GAS DEVELOPMENT

The objectives of this study are to assure the quality of the chemical data reported to NOAA and to develop accurate and precise methods for chemical analysis of the marine environment. Specific conclusions can be found in the body of this report. Of maximum interest is the development of new liquid chromatographic procedures which enhance both the selectivity and sensitivity of analysis of hydrocarbons in biological tissue samples and polynuclear aromatic hydrocarbons in all matrices. The first sediment intercalibration study, while small in scope, nevertheless shows the advantages of such studies.

II. INTRODUCTION

A. General Nature and Scope of Study

1) Quality assurance program for trace hydrocarbon analysis
2) Methods development for analysis of individual high molecular weight aromatic hydrocarbons by LC-fluorescence techniques
3) Methods development for trace hydrocarbon analysis in the sea ice and at the sea ice-water interface

B. Specific Objectives

The objectives of the proposed research are 1) to serve as a quality assurance laboratory for hydrocarbon analysis in sediments, tissue and water, 2) to develop methodology for identification and quantitation of individual 3-, 4-, 5-, and 6-condensed ring aromatic hydrocarbons at ng/kg (part per trillion) levels; 3) to develop methodology for sampling the sea ice-water interface and analyzing it for its organic content; and 4) to continue methodology development for the determination of trace hydrocarbons in marine tissue.
C. Relevance to Problems of Petroleum Development

With the large number of environmental analyses being performed, the need for quality assurance (i.e., accurate and precise measurements) is great. Clearly, accuracy is far more difficult and costly to achieve than precision, and indeed, even precision is not easily achieved on an interlaboratory scale. Until such time as standard reference materials are available, a quality control function is essential to assure the comparability of numbers obtained by different laboratories.

With increasing petroleum development, serious consideration must be given to the presence of toxic polynuclear aromatic hydrocarbons arising from petroleum in the marine environment. In order to assess the biological effect of these molecules it is first necessary to develop chemical methodology for their analyses at very low levels (ng/kg). The liquid chromatographic (LC) technique described in this report permits ng/kg (ppt) analyses.

The NOAA task of primary emphasis in this research is:

A-33--Determination of total content and chemical species of hydrocarbons in the water column, in selected marine organisms, in sea ice and in the sea ice-water interface.

The results of the proposed research could have secondary influence on the following NOAA tasks:

A-31--Determine the relationship of living resources to the ice environment.

B-8--Examine the processes which determine the fate of hydrocarbons introduced into the environment.

B-14--Develop means to predict possible interactions between ice and oil and other contaminant discharges.
III. CURRENT STATE OF KNOWLEDGE

Due to the unavailability of standard reference materials and the lack of intercalibration samples no concerted laboratory intercomparison program exists to date. Current methodologies for determination of hydrocarbons in marine tissues and polynuclear aromatic hydrocarbons are not sensitive enough for the Gulf of Alaska study.

IV. STUDY AREAS

A. Gulf of Alaska
B. Bering Sea

V. SOURCE METHODS AND RATIONALE OF DATA COLLECTION

N/A

VI-VII. RESULTS AND DISCUSSION

Technical Note 889 titled "Trace Hydrocarbon Analysis: National Bureau of Standards Prince William Sound/ Northeastern Gulf of Alaska Baseline Study" has been released. This technical note describes in detail the NBS procedures for hydrocarbon analysis of the marine ecosystem and presents partial results of the baseline study. A less detailed, but complete, summary of the methodology was recently published in the Journal of Chromatographic Science. Copies of these two publications are appended to this annual report.

The hydrocarbon content (including polynuclear aromatic hydrocarbons [PAH's]) in water samples collected in spring 1975 were reported for all the baseline sites. Results were also reported for sediment samples collected in spring 1975 and water samples collected jointly with Dr. D. Shaw in October 1975. The tabulated data and a detailed discussion of these results are contained in the December 1975 semi-annual report.
Several new methods of analysis are reported below in the summary of fourth quarter operations. A procedure has been developed for the sensitive determination (> 1 ng) of PAH's. This technique utilizes liquid chromatography with both UV and fluorescence detection. Progress has been made in optimizing the procedure for determining the trace hydrocarbon content of marine tissue.

As previously reported, studies are underway to determine if the Katalla River sediment would be suitable as a petroleum-in-sediment intercalibration material. Frozen samples of this sediment have been sent to J.A. Calder, Florida State University, and J.S. Warner, Battelle Columbus Laboratories, for trace hydrocarbon analysis by their respective analytical methodologies. In addition, we retained and analyzed four bottles of the sediment by headspace sampling and GC/GC-MS. The contents of a fifth bottle were Soxhlet extracted and cleaned up by LC to give the water content of the sediment and a total extractable hydrocarbon value. A complete discussion of results is found in the summary of fourth quarter activities.

VIII. CONCLUSIONS

The water and sediment data determined for the spring 1975 collection is consistent with prior water and sediment data. The results of our first limited sediment sample split are encouraging. The results of the analysis of the water samples collected jointly with Dr. D. Shaw indicated no difference (within experimental error) between the two water sampling devices used. Differences in the results, based on analytical methodology, cannot be assessed until we receive Dr. Shaw's results.
IX. NEEDS FOR FURTHER STUDY

Since the sea ice-water interface project was severely cut back this year, next year's efforts will have to be enlarged. Funding was not sufficient for us to collect samples this year and although the University of Alaska had agreed to collect samples for us, they have not as yet supplied us with samples.

We expect the quality assurance program to grow in the next year. During this period we should complete a sediment and tissue round robin. We expect all NOAA contractors involved in trace organic analysis to participate in this study. Of relevance to the quality assurance program are the recommendations of the NBS/EPA Workshop on SRM's for Offshore Drilling of Petroleum. A summary of this Workshop is appended to this annual report.

X SUMMARY OF FOURTH QUARTER ACTIVITIES

A. Sediment Intercalibration Study

As stated above, a small sediment intercalibration study was initiated. To date we have received data and results from Dr. John Calder of Florida State University. His results and ours are summarized in Table 1. Dr. Calder's analytical procedure involved multiple ultrasonic bath extractions of the sediment with methanol and methylene chloride followed by saponification of the lipids. The extracted non-saponifiables were subsequently chromatographed on alumina:silica gel, reduced to a small volume for GC analysis and then taken to dryness for weighing. A single sediment sample was analyzed at NBS by Soxhlet extraction (48 hours with ethyl ether). The ether extract was passed through anhydrous Na$_2$SO$_4$ and reduced to 2 ml; the hydrocarbons were isolated by liquid chromatography on a µBondapak NH$_2$ column, reduced to a small volume for GC analysis and then taken to dryness for weighing. We have shown µBondapak NH$_2$ columns to be efficient in the removal of organic compounds of biological origin from sediment extracts. These columns also yield more efficient class
separations of the various compounds of interest (aliphatics, aromatics, thiophenes) than do the alumina:silica gel columns commonly used.

Although the results obtained from this intercalibration experiment are quite limited, they show that a more extensive intercalibration exercise using the Katalla River sediment would be valuable.

Homogeneity studies of the sediment from four different sample bottles (analyzed using headspace sampling-GC) gave values listed in Table 2. Statistical analysis indicates that, at a 99% confidence level the results from the 1Q series do not belong to the same population as the results of the other series. A possible explanation for this may be the following. Examination of the GC data of the 1Q series shows a much larger recovery of the first two internal standard compounds than normal for headspace sampled sediment. Inasmuch as the bulk of the hydrocarbons elute in the GC region of the first two internal standards, the high recovery of these standards causes the calculated analytical results to be low.

The data from the sediment in the three sample bottles, 9P, 10P, and 3N, indicate that with a sample size of ~40 g the relative bottle-to-bottle precision is of the same order of magnitude (~10% relative standard deviation of the mean) as that obtained for three replicate analyses from the same bottle (~6% average relative standard deviation of the mean). A more extensive intercalibration exercise will be preceded by more efficient homogenization of the bulk sediment; thus the bottle-to-bottle precision should improve.

In comparing the gas chromatographic results of both laboratories several comments may be made. The overall agreement between the results (.97 µg/kg vs 3.5 µg/kg) is quite good
considering the present state-of-the-art of hydrocarbon analyses in sediment samples. It is evident from the list of four most abundant compounds that the extraction methods appear to emphasize the recovery of the aliphatic hydrocarbons at the expense of the substituted two-condensed ring aromatic hydrocarbons. The substituted naphthalenes, of interest due to their high toxicity to marine life, elute chromatographically in the \( n-C_{11} - n-C_{13} \) range. An examination of Calder's and the NBS Soxhlet extraction GC data and the quantitative amounts of the various \( n \)-alkanes indicates some losses of compounds (presumably during the evaporation-concentration step) up to \( n-C_{15} \). The four largest peaks from Calder's aromatic fraction are listed in Table 1. These peaks, while unidentified, do elute in the range of the substituted naphthalenes \( (n-C_{11} - n-C_{13}) \) and would be subject to losses during the evaporation-concentration step.

The difference in GC elution profiles from solvent extracted and headspace sampled sediment samples is made further evident by comparing histograms of concentration vs time corresponding to the respective gas chromatograms (Fig. 1). While the \( n \)-aliphatics are more prominent in the extracted sediment (Fig. 1A), the substituted naphthalenes are more prominent in the headspace sampled sediment. The GC-MS total ion chromatogram and \( m/e \) 43 and \( m/e \) 142, 156 and 170 single ion records (Fig. 2) confirm the latter. It appears, then, that while both the solvent extraction and headspace sampling methods yield essentially the same value for low level hydrocarbon contamination in a sediment sample, they emphasize different aspects of that contamination. Solvent extraction methods primarily provide information about the aliphatic hydrocarbons, in the \( n-C_{12} - n-C_{30} \) molecular weight range, in contrast to the headspace sampling method which additionally provides information about the toxic substituted naphthalenes. The latter technique can be complemented by the NBS extraction-LC-fluorescence detection method which provides information about the PAH concentration of the sample.
In the near future an NBS sampling party will collect ~100 kg each of two Alaska intertidal sediments (Katalla River and a control site) for a more extensive intercalibration exercise. These sediments will be homogenized, have their homogeneity evaluated and be sent to the laboratories participating in the exercise.

B. Hydrocarbon Analysis in a Tissue Bound Matrix

Work is continuing on the development of an analytical method for the determination of petroleum hydrocarbons in various marine tissue samples. Initial efforts have been previously reported; in short, they involve dynamic headspace sampling of the tissue homogenate followed by liquid chromatographic removal of the biogenic polar components extracted. High resolution gas chromatography is then used for quantitation of the petroleum hydrocarbons present in the headspace extract. Two main areas of concern are currently being pursued. (1) Since most of the organic compounds being removed from the tissue homogenate are of biological origin, a substantial effort is being concentrated on the liquid chromatographic cleanup and removal of these biogenic compounds from the total extract. Effective cleanup should permit a reduction of the biogenic background in the gas chromatogram used for quantitation, and allow greater sensitivity (sub-microgram per kilogram) than now possible for individual components. (2) The determination of the relative recoveries of the petroleum hydrocarbons incorporated in the tissue sample is also of great concern. It is necessary to establish the level of recovery of the various classes of petroleum hydrocarbons from tissue so that appropriate sample sizes can be used for desired sensitivity levels. It is also imperative to know whether the internal standard compounds added to the tissue for quantitation purposes are recovered to the same extent as these components would be if incorporated in the tissue matrix.
As previously reported (July 15, 1975 Quarterly Report), a number of liquid chromatographic packing materials have been investigated for their ability to separate the petroleum hydrocarbons of interest from the biogenic compounds simultaneously headspace extracted from mussel tissue homogenate.

µBondapak NH2 is an LC packing material currently being investigated for its ability to separate hydrocarbons from common biogenic compounds as a clean up step prior to GC analysis. When using a nonpolar mobile phase such as pentane, the µBondapak NH2 column provides a class separation similar to that obtained using a silica column, i.e., saturated hydrocarbons elute before unsaturated hydrocarbons and aromatics, and the elution volume for the aromatics increases with the number of condensed rings. Retention volume data for some hydrocarbons and some alcohols (Table 3) indicate that alcohols are strongly retained on the µBondapak NH2 column when a nonpolar mobile phase is used. The alcohols (possible biogenic compounds) can be eluted from the column by increasing the polarity of the mobile phase. Using the µBondapak NH2 column to achieve a class separation eliminates the major difficulty encountered when using silica columns: loss of resolution due to deactivation caused by the presence of traces of water in the sample.

In a previous report (July 1975) a partial LC cleanup of the biogenic background headspace-sampled from mussels was reported using a copolymer (styrene/divinylbenzene/methacrylic acid) packing material. Figure 3 compares the hydrocarbon separations achieved using this acid column (A) and the µBondapak NH2 column (B). Clearly, the µBondapak NH2 provides a more efficient separation of the test mixtures. In addition the copolymer packing material was available only in a limited quantity. Further investigations using this material were abandoned to pursue the more promising
µBondapak NH$_2$ column. Figure 4 compares the gas chromatogram obtained from a headspace-sampled mussel TENAX GC column (A) and the gas chromatogram of the 3-13 ml fraction (evaporated to ca. 200 µl) collected from a µBondapak NH$_2$ column (B).

The very efficient class separation and biogenic cleanup provided by the µBondapak NH$_2$ column will allow the collection and subsequent GC analysis of narrow fractions according to hydrocarbon class, such as aliphatics, unsaturated hydrocarbons, benzenes, naphthalenes, 3-ring aromatics, and higher PAH's (i.e., those having 4, 5, and 6 rings). The possibility exists for using the µBondapak NH$_2$ column to achieve the class separation and then using a µBondapak C$_{18}$ column to separate the various collected fractions according to solubility. Investigations of the µBondapak NH$_2$ column for cleanup and class separation of the headspace sampled mussels are continuing.

In the LC cleanup procedure the LC TENAX column (3 cm in length as compared to 6.5 cm for the GC TENAX column) which contains the extract from the headspace-sampled mussel, is stripped with pentane onto the µBondapak NH$_2$ column and a 10 ml fraction of the eluent is collected. The fraction is evaporated to ca. 200 µl and subsequently transferred to a GC TENAX column for high resolution GC analysis. Pentane is vented from the TENAX column by allowing the carrier gas to flow through it for about 5 minutes prior to connection to the capillary GC column.

Various experiments were performed in order to determine the extent of hydrocarbon losses which occur in the various steps of this LC cleanup procedure. Losses of the internal standard hydrocarbons due to the venting of excess pentane from the GC TENAX prior to GC analysis were found to be minimal (<10%). In the evaporation of the 10 ml pentane fraction to 200 µl and subsequent GC, some losses of lower molecular weight hydrocarbons were observed (∼75% for Me$_5$C$_7$, ∼25% for MeC$_{14}$ and ∼10% for MeC$_{16}$). These losses are assumed to have occurred during the evaporation-concentration step.
In order to determine the overall recovery of hydrocarbons using the headspace sampling-LC cleanup procedure, a water blank containing known amounts of various hydrocarbons was analyzed. The overall hydrocarbon recoveries observed were 69% for MeC$_{14}$, 84% for MeC$_{16}$, 20% for phenanthrene and 93% for MeC$_{18}$. The low recovery of phenanthrene is consistent with previous headspace sampling results from water, indicating minimal losses during the LC cleanup procedure. Recoveries of the aliphatic hydrocarbons are quite comparable to those obtained above from the evaporation-concentration process. In summary, the losses of hydrocarbons during the LC cleanup procedure are quite acceptable (~25% for MeC$_{14}$ and less for higher molecular weight compounds), and it will be utilized further in our experimentation with tissue.

We had previously determined that aromatic hydrocarbons utilized as internal standards in headspace analysis of Mytilus tissue homogenate can be recovered to the following extent (no LC cleanup): naphthalene 61 ± 20%, trimethylnaphthalene 31 ± 22% and phenanthrene, 16 ± 14% (NBS Technical Note 889). Experiments conducted with Mytilus exposed to $^{14}$C-naphthalene showed a recovery of 78 ± 12% by the same headspace analysis technique. This indicated that, at least in the case of naphthalene, the aromatic internal standard added to the mussel tissue homogenate could be recovered to the same extent as that aromatic hydrocarbon incorporated into the live mussel.

Subsequent experimentation confirmed the previously determined recoveries of the aromatic hydrocarbons (18 ± 16% recovery for trimethylbenzene, 76 ± 31% for naphthalene, 47 ± 19% for trimethylnaphthalene and 12 ± 7% for phenanthrene) but indicated that aliphatic hydrocarbons added as internal standards show much lower recoveries from tissue homogenate (12 ± 6% for methyl-C$_{11}$, 11 ± 4% for methyl-C$_{14}$, 4 ± 0.5% for methyl-C$_{16}$ and 2 ± 0.8% for methyl-C$_{18}$). It was assumed that the aliphatic hydrocarbons were being retained in the lipid fraction in the tissue homogenate and the partition coefficient for these hydrocarbons between the headspace sampling gas
(He or N₂) and the organophilic lipid fraction was quite unfavorable. A series of experiments were conducted using KOH, KCl, KOH+KCl, squalane and caffeine, as additives to the tissue homogenate, to determine whether the presence of these additives would cause the recoveries of the aliphatic compounds to increase.

Results of these preliminary experiments show some improvement in the recoveries of the aliphatic hydrocarbons when the homogenate was made 0.1F in KOH and 1F in KCl (9% for methyl-C₁₁, 19% for methyl-C₁₄, 17% for methyl-C₁₆ and 13% for methyl-C₁₈). Some marginal improvement was noted with the use of squalane (~20 mg in 30 g of tissue) and no improvement for the other additives tried. At the same time 0.1F KOH appeared to increase the recovery of the aromatic hydrocarbons added to the tissue (especially for trimethylnaphthalene and phenanthrene) while caffeine and 1F KCl appeared to reduce these recoveries. The combination of KCl and KOH appeared to have minimal effect on the aromatic hydrocarbon recoveries. Work is continuing on the problem of hydrocarbon recovery from tissue with the use of longer headspace sampling times (at 70 °C) being investigated alone and in conjunction with the KCl+KOH additives.

C. Liquid Chromatography of PAH's

The coupled column liquid chromatographic technique developed in this laboratory (see attached Tech Note #889) has been shown to be an effective means of preconcentrating and separating polynuclear aromatic hydrocarbons (PAH's). The extraction efficiency of the pre-column, and the elution order from the chromatographic system appear to be inversely related to the solubilities of these compounds in water (see Table 4). However, actual recoveries of PAH's from water samples are maximum for compounds with molar solubilities on the order of 1x10⁻⁷. More soluble compounds such as benzene and naphthalene are not efficiently extracted by the pre-column. Recoveries of compounds with smaller molar solubilities in water suffer from adsorption losses on glass surfaces and transport tubing.
The effects of a 0.1% solution of caffeine on the solubility of various PAH's has been determined. It has been postulated that caffeine forms water soluble complexes with PAH's. (See Eisenbrand, J., and Bawmann, K., Z. Lebensm-Unters. Forsch. 1970, 144(5), 312-317). Our experimental results indicate that this complex is broken on the pre-column with the PAH being trapped and the bulk of the water soluble caffeine passing through unretained. Glucose and barbital have also been investigated as adsorption suppressants. It is evident from Table 5 that substantial losses of PAH's occur in untreated aqueous systems even after relatively short time periods (0-4 hours). The relative effectiveness of caffeine as a complexing agent in keeping the PAH's in solution is also quite evident. While some losses do occur, the test solutions appeared to be stable and suffer no further losses of PAH's after 16-20 hours. Neither glucose nor barbital approached the effectiveness of caffeine in these studies. Work to determine the minimum amount of caffeine needed to achieve this enhancement in recovery is underway.

During the past year we have investigated the use of fluorescence as a tool for obtaining added sensitivity and selectivity, and also as a tool to aid in the identification of PAH fractions as they elute from the chromatographic system. All photoelectric instruments for measuring fluorescence are termed fluorometers. Every fluorometer or fluorescence spectrometer, no matter how simple or complicated contains three basic items: 1) a source of radiant energy to irradiate the sample; 2) a sample cell; and 3) a detector to measure the fluorescence. They are designated filter fluorometers or fluorescence spectrometers (spectrofluorometers), according to the method of selecting the exciting and fluorescence wavelengths. The filter fluorometer uses optical filters for selection of the optimum spectral ranges for maximum emission.
intensity for a given class of compounds. The spectrofluorometer employs two monochromators for this purpose. With dual monochromators the wavelength of excitation and fluorescence may be determined and utilized selectively. These monochromators which provide a narrow spectral bandpass to increase selectivity, cause a loss in sensitivity. Thus, although filter fluorometers provide more sensitivity, spectrofluorometers allow us to obtain both excitation and emission spectra permitting compound identification.

We have briefly evaluated the fluorescence detectors of three commercial manufacturers and compared their performance to that of the Model 44D UV detector manufactured by Waters Associates. The data obtained during this limited study appear in Table 6 where the detection limits reported refer to the amounts of material represented by a given peak and not the amount of material actually in the detector flow cell at any given time. The most sensitive filter photometer evaluated offers only one order of magnitude increase in sensitivity over the UV photometer. The detection limits reported for the UV photometer and the spectrofluorometer are comparable. However, the spectrofluorometer may be used as a selective detector for a given PAH family (utilizing specific excitation and fluorescence wavelengths) or to obtain spectra on the various fractions as they elute from the chromatograph.

In order for the Jasco FP-4 spectrofluorometer to function both qualitatively and quantitatively as we desired several modifications were made to the instrument by Mr. Richard Christensen of NBS.

1) Modifications to Cell and Holder

It was noted that the holder for the 6 µl-flow cylindrical cell was constructed in such a way as to reduce the aperture of both the excitation and emission beams (Figure 5). The original holder was modified to admit the whole beam to the cell and another cylindrical cell of
slightly larger dimensions was tried (Figure 5B). These modifications provided some performance advantages, but the sensitivity seemed to be limited by the small volume of the cell. In addition, considerable scattering from the excitation beam arose from the tubular geometry of the cell. Therefore it was decided to adopt a 36-µl cell of square cross-section. This cell and its holder are shown in Figure 5C; it has proven to be quite satisfactory except for some difficulties in clearing bubbles from some solvent systems.

2) Modifications to the Monochromator

In order to gain sensitivity, the manufacturer had fitted the monochromators with slits which gave a 10 nm spectral bandpass. It was therefore very difficult to obtain spectra from which identifications could be made (Figure 6A). Since the emission monochromator is readily accessible in the instrument, it was decided to sacrifice some sensitivity and fit it with smaller slits. The 1.0 mm slits were replaced with 0.5 mm slits, resulting in the improved spectrum shown in Figure 6b.

3) Modifications to the Flow System

In order to obtain spectra of peaks of interest, it was necessary to trap a part of that peak in the cell. (Total peak widths range from 0.5-2.00 cc depending upon the conditions under which the run is made.) This may be done in either of two ways:

a) stop flow; or
b) use a valve to shunt the flow from the chromatograph around the cell after the peak of interest has been trapped.

The latter method was selected since it does not cause any disruption in the chromatographic run. With the use of a three-way valve a spectrum may be taken every 1.5 minutes. Under normal run conditions, (flow rate 2 cc/min) peaks
must be separated by 3 cc. However, the flow rate may be slowed to the point that each peak need only be resolved by 2 cc. Figure 7 shows the LC fluorescence analysis of the ether extract of a sediment sample collected in the Bahamas. A library of reference spectra is being compiled and several other sediment samples are being analyzed by this LC-fluorescence procedure. The results of these analyses plus analyses of water samples by coupled column and an extraction LC-fluorescence technique will be given in a future quarterly report.
Table 1. Results of an interlaboratory study of a Katalla River sediment.

<table>
<thead>
<tr>
<th>Laboratory</th>
<th>Total Hydrocarbons (μg/g dry weight basis)</th>
<th>Pristane/Phytane Ratio</th>
<th>Sample Size (dry weight)</th>
<th>Percent water</th>
</tr>
</thead>
<tbody>
<tr>
<td>J.A. Calder</td>
<td>33.0</td>
<td>3.5 (C_{12}^{25} range)</td>
<td>3.37 ± 0.44* (n=2)</td>
<td>207 g</td>
</tr>
<tr>
<td>NBS-Headspace</td>
<td>4.97 ± 0.07* (n=8) (C_{11}^{22} range)</td>
<td>2.34 ± 0.08* (n=5)</td>
<td>25-35 g</td>
<td></td>
</tr>
<tr>
<td>GC/GC-MS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NBS-Soxhlet extraction</td>
<td>85.5</td>
<td>3.5 (C_{11}^{22} range)</td>
<td>1.56 (n=1)</td>
<td>190 g</td>
</tr>
</tbody>
</table>

Four most abundant compounds/amounts (μg/kg)

- pristane/270, n-C_{19}^{178}; n-C_{20}^{178}; n-C_{21}^{70}^{*}  
- **four largest peaks from aromatic fraction  
  (retention time/amount)  
  3.09 min/100; 2.61 min/82; 3.92 min/74; 3.33 min/59  

** Standard deviation of replicate values from the mean of n replicate values.

** Identity of peaks not provided with data; see text for further discussion.
Table 2. Homogeneity studies on Katalla River sediment.

<table>
<thead>
<tr>
<th>Analysis #</th>
<th>Number of Replicates</th>
<th>Concentration (µg/g dry weight)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10P</td>
<td>3</td>
<td>1.04 ± 0.03*</td>
</tr>
<tr>
<td>9P</td>
<td>3</td>
<td>0.77 ± 0.03</td>
</tr>
<tr>
<td>1Q</td>
<td>3</td>
<td>0.27 ± 0.02</td>
</tr>
<tr>
<td>3N</td>
<td>2</td>
<td>1.18 ± 0.25</td>
</tr>
</tbody>
</table>

*Standard deviation of replicate values from the mean of n replicate values.
Table 3. Chromatographic Retention Volumes (in milliliters) for a number of hydrocarbons and alcohols on three liquid chromatographic packing materials.

<table>
<thead>
<tr>
<th>Compound</th>
<th>µBondapak NH₂</th>
<th>2% CH₂Cl₂</th>
<th>10% CH₂Cl₂</th>
<th>µBondapak CN</th>
<th>60% CH₃CN</th>
<th>µBondapak C₁₈</th>
<th>40% H₂O</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cyclohexane</td>
<td>Cyclohexane</td>
<td>Cyclohexane</td>
<td>Cyclohexane</td>
<td>Cyclohexane</td>
<td>Cyclohexane</td>
<td>Cyclohexane</td>
</tr>
<tr>
<td>Benzene</td>
<td>4.4</td>
<td>4.1</td>
<td></td>
<td>3.3</td>
<td>6.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>m-xylene</td>
<td>4.4</td>
<td>4.0</td>
<td></td>
<td>3.3</td>
<td>11.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mesitylene</td>
<td>4.4</td>
<td>3.9</td>
<td></td>
<td>3.3</td>
<td>15.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>naphthalene</td>
<td>6.0</td>
<td>4.4</td>
<td></td>
<td>3.6</td>
<td>10.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-methyl naphthalene</td>
<td>6.0</td>
<td>5.3</td>
<td></td>
<td>---</td>
<td>14.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,3-dimethyl</td>
<td>6.0</td>
<td>5.3</td>
<td></td>
<td>3.6</td>
<td>18.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>naphthalene</td>
<td>8.7</td>
<td>7.3</td>
<td></td>
<td>3.9</td>
<td>19.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>anthracene</td>
<td>8.7</td>
<td>5.1</td>
<td></td>
<td>---</td>
<td>26.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-methyl anthracene</td>
<td>8.7</td>
<td>7.3</td>
<td></td>
<td>4.0</td>
<td>18.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>phenanthrene</td>
<td>10.1</td>
<td>7.4</td>
<td></td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>p-terphenyl</td>
<td>12.6</td>
<td>8.5</td>
<td>5.3</td>
<td>4.0</td>
<td>24.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,3,5-triphenylbenzene</td>
<td>12.2</td>
<td>8.9</td>
<td>5.8</td>
<td>4.1</td>
<td>29.1</td>
<td></td>
<td></td>
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<tr>
<td>pyrene</td>
<td>14.2</td>
<td>9.6</td>
<td>6.1</td>
<td>4.2</td>
<td>35.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fluoranthene</td>
<td>19.0</td>
<td>11.8</td>
<td>6.6</td>
<td>4.5</td>
<td>33.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,2-benzanthracene</td>
<td>19.8</td>
<td>12.4</td>
<td>6.8</td>
<td>4.5</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>chrysene</td>
<td>22.0</td>
<td>13.2</td>
<td>6.9</td>
<td>4.6</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-methyl cholan-thone</td>
<td>26.6</td>
<td>15.9</td>
<td>8.9</td>
<td>4.8</td>
<td>50.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>benz(a)pyrene</td>
<td>16.3</td>
<td>8.9</td>
<td>4.8</td>
<td>5.0</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3,4-benzoypyrene</td>
<td>15.9</td>
<td>8.9</td>
<td>5.0</td>
<td>5.3</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>perylene</td>
<td>22.5</td>
<td>9.5</td>
<td>5.4</td>
<td>5.4</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>indeno[1,2,3-cd]pyrene</td>
<td>22.5</td>
<td>9.5</td>
<td>5.4</td>
<td>5.4</td>
<td>---</td>
<td></td>
<td></td>
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<tr>
<td>benzo[ghi]perylene</td>
<td>32.4</td>
<td>11.9</td>
<td>10.1</td>
<td>10.1</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>dibenzo(DEF,P) chrysene</td>
<td>16.6</td>
<td>11.9</td>
<td>10.1</td>
<td>10.1</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ruberene</td>
<td>175</td>
<td>&gt;175</td>
<td>175</td>
<td>&gt;175</td>
<td>175</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n-pentanol</td>
<td>175</td>
<td>&gt;175</td>
<td>175</td>
<td>&gt;175</td>
<td>175</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g-undecanol</td>
<td>175</td>
<td>&gt;175</td>
<td>175</td>
<td>&gt;175</td>
<td>175</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g-hexadecanol</td>
<td>175</td>
<td>&gt;175</td>
<td>175</td>
<td>&gt;175</td>
<td>175</td>
<td></td>
<td></td>
</tr>
<tr>
<td>p-cres-</td>
<td>175</td>
<td>&gt;175</td>
<td>175</td>
<td>&gt;175</td>
<td>175</td>
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<td></td>
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</table>
Table 4. Retention of polynuclear aromatic hydrocarbons on µBondapak C18

<table>
<thead>
<tr>
<th>Compound</th>
<th>Elution* Volume (m1)</th>
<th>Coupled Column LC Recovery From H₂O</th>
<th>Solubility (mol/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>6.9</td>
<td>&lt;5</td>
<td>2.3 x 10^-2</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>10.9</td>
<td>19 ± 2</td>
<td>8 x 10^-4</td>
</tr>
<tr>
<td>Phenanthrene</td>
<td>18.2</td>
<td>92 ± 12</td>
<td>9 x 10^-6</td>
</tr>
<tr>
<td>Pyrene</td>
<td>24.7</td>
<td>78 ± 17</td>
<td>9 x 10^-7</td>
</tr>
<tr>
<td>Fluoranthrene</td>
<td>29.1</td>
<td></td>
<td>1.2 x 10^-6</td>
</tr>
<tr>
<td>Chrysene</td>
<td>33.0</td>
<td></td>
<td>7 x 10^-9</td>
</tr>
<tr>
<td>1,2 Benzanthracene</td>
<td>35.0</td>
<td>58 ± 12</td>
<td>5 x 10^-8</td>
</tr>
<tr>
<td>3,4 Benzyrene</td>
<td>50.0</td>
<td></td>
<td>1.6 x 10^-9</td>
</tr>
<tr>
<td>1,2,5,6 Dibenzanthracene</td>
<td>66.0</td>
<td>14 ± 8</td>
<td>2.0 x 10^-9</td>
</tr>
</tbody>
</table>

* Chromatographic Conditions
  column - µBondapak C18
  mobile phase: 60% CH₃CN, 40% H₂O
  temp - ambient

Table 5. Recoveries of various PAH's during coupled column LC analysis of aqueous solutions containing complexing agents.

<table>
<thead>
<tr>
<th>Experiment</th>
<th>Complexing Agent</th>
<th>Experimental Conditions</th>
<th>Percent Recovery**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pyrene</td>
</tr>
<tr>
<td>1</td>
<td>0.1% caffeine</td>
<td>Stir ~4 hr, then analyze</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td></td>
<td>71</td>
</tr>
<tr>
<td>2</td>
<td>0.1% caffeine</td>
<td>Stir 16-20 hr, then analyze</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td></td>
<td>26</td>
</tr>
<tr>
<td>3</td>
<td>0.1% caffeine</td>
<td>Stir, 40 hr and analyze</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>0.1% glucose</td>
<td>Stir 40 hr, then analyze</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>0.1% barbital</td>
<td>Stir 40 hr, then analyze</td>
<td>29</td>
</tr>
</tbody>
</table>

* 0.5 µg of each PAH present in 500 ml of distilled water.

** % recovery compared to an on-column spike of the PAH's onto a C18-µ Bondapak reverse phase LC column.
<table>
<thead>
<tr>
<th></th>
<th>Waters&lt;sup&gt;1&lt;/sup&gt;</th>
<th>FP-4 (as received)</th>
<th>Aminco&lt;sup&gt;3&lt;/sup&gt;</th>
<th>Schoffel&lt;sup&gt;4&lt;/sup&gt;</th>
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</thead>
<tbody>
<tr>
<td>Naphthalene</td>
<td>4</td>
<td>13</td>
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<td>X</td>
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<tr>
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<td>1.5</td>
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<td>X</td>
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<td>Pyrene</td>
<td>0.09</td>
<td>0.19</td>
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<td>X</td>
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<td>Chrysene</td>
<td>0.10</td>
<td>0.14</td>
<td>X</td>
<td>X</td>
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<tr>
<td>3,4 Benzpyrene</td>
<td>0.06</td>
<td>0.05</td>
<td>0.02*</td>
<td>0.007</td>
</tr>
<tr>
<td>1,2,5,6 Dibenzoanthracene</td>
<td>0.51</td>
<td>0.20</td>
<td>1.55</td>
<td>No measurement made</td>
</tr>
</tbody>
</table>

<sup>1</sup> Waters 440 UV photometer - absorbance at 254 nm monitored.
<sup>2</sup> Jasco FP-4 Spectrofluorometer - excitation and emission λ's optimized for each compound.
<sup>4</sup> Schoffel Model 970 Fluorescence monitor - excitation - 254 nm; emission: filter, max transmission at 418 nm.

X Spectral region for detection of these compounds excluded by secondary filter employed. By selecting other filters, these compounds could be detected.

* Detection limit for 3,4 benzpyrene after flow cell and optical modifications.

** Detection limit defined as that amount of material that must be injected onto column to give a detector response twice that of noise.
Figure 1. Concentration vs time histograms of (A) Soxhlet extracted and (B) headspace sampled Katalla River sediment. Peak heights from the respective gas chromatograms have been plotted as single species concentrations (reduced relative to the internal standards). The retention times of the internal standards are denoted by dashed lines.
Figure 2. GC-MS analysis of Katalla River sediment: (A) composite m/e 142, 156 and 170 single ion records indicating presence of C1, C2, and C3-naphthalenes, respectively, (B) m/e 43 single ion record, (C) total ion chromatogram. Cx-alkane containing x carbon atoms. Cx-Ø-benzene substituted with x carbon atoms (e.g. C3-Ø could be trimethyl-, propyl-, isopropylbenzene, etc.) Peaks labeled 1,2,3,4 are the internal standards methyl-C11, methyl-C14, methyl-C16, and methyl-C18, respectively. Identifications followed by "?" are not definite due to incompletely resolved spectra.
Figure 5. (A) Liquid chromatogram on copoly(styrene/divinylbenzene/methacrylic acid) packing material; hydrocarbon test mixture: mesitylene, naphthalene, trimethylnaphthalene, phenanthrene and 9-methylnonadecane; (B) chromatogram on µBondapak NH₂, test mixture: mesitylene, naphthalene, anthracene, pyrene, chrysene, benz(a)pyrene
Figure 4. Gas chromatograms of headspace sampled whole mussels (A) with no LC cleanup of sample and (B) with LC cleanup using μBondapak NH₂ column. Both samples were spiked with (1) 5-methyl-tetradecane, (2) 7-methyl hexadecane, (3) phenanthrene, and (4) 2-methyl-octadecane.
Figure 5. Modifications on Jasco FP-4 flow cell.
Figure 7. A. UV (254 nm) monitored chromatogram of an ether extract of a sediment sample collected in the Bahamas; B. Fluorescence monitored (ex 290 nm; em 405 nm) chromatogram of the same extract; C. Fluorescence emission spectrum of the major component in both chromatograms.
Summary

There are currently nine offshore platforms along the coast of Santa Barbara, California. These platforms contain as many as 70 wells each. In the near future the number of offshore drilling rigs will probably drastically increase. This increase is being preceded by a large number of environmental baseline studies and will require significant efforts in environmental monitoring once offshore drilling begins. In 1973 the Bureau of Land Management contracted $400,000 for the purpose of offshore baseline studies; in 1975 baseline studies were funded at the level of $50,000,000. These baseline studies require many measurements and yield large volumes of data. For all these data to be meaningful they must be made comparable to data obtained by other researchers, at other times and in other geographic locations. One means of providing comparability is through intercalibration efforts between laboratories. NBS Standard reference Materials (SRM's) are designed to be tools for insuring meaningful measurement and hence, comparability of results. SRM's are defined as well-characterized materials, produced in quantity and certified by NBS to help: calibrate instruments, develop reference methods of measurements, and provide long-term quality control in measurement systems. It was the aim of this workshop to determine what SRM's are desired for analyses related to offshore oil drilling, what problems must be solved before these SRM's can be made available, and what interim calibration materials are desired to serve the time period until SRM's are released.
I. Summary of Suggestions and Viewpoints Expressed at the Workshop

A. General Comments

Several people presented background material on prior intercalibration studies. The ASTM has run round robin experiments on its oil and grease method. This technique is sensitive to high levels of hydrocarbons (mg/l) and is based on the 2930 cm\(^{-1}\) infrared adsorption band of freon extractable hydrocarbons. The method does not differentiate recent biogenic from non-biogenic material. ASTM is currently working on a technique to solve this problem. As part of IDOE-5 a round robin experiment has been organized on hydrocarbons added to cod liver oil. Results of this experiment indicate that aliphatic hydrocarbons in the range \(n-C_{16}\) to \(n-C_{28}\) are apparently stable over a two-year period if stored frozen with intermittent thawing for sample removal. There is currently a proposal for funding of a joint USSR-USA intercalibration program as part of IDOE. An SRM has already been issued by NBS for trace elements in fuel oil; trace elements in a sediment are currently being certified. A tuna fish research material is available from NBS for trace element intercalibration. This material has also been used by some laboratories for hydrocarbon intercalibration, but no hydrocarbon homogeneity check has been performed on the material by NBS.

Numerous problems exist in releasing even a research material for hydrocarbon intercalibration purposes. First, microorganisms can degrade crude oil, so they must be carefully excluded from any intercalibration material to avoid a change in its composition with time. Second, there are many laboratories performing hydrocarbon analyses and each laboratory has a different objective and different analytical method. The parameters determined are as variable as source identification of waterborne oil, \(\mu g/kg\) (baseline) hydrocarbon determination with or without single compound identification and quantitation, polynuclear aromatic hydrocarbon determination and volatile hydrocarbons \((C_1-C_{10})\) determination. The analytical methods differ in sample preparation.
and instrumentation. The end result is determined by any one of the following means: IR, UV, GC, LC, GC-MS, colorimetry and gravimetry. Given the current state of the art each method has a different bias and hence, yields somewhat different answers. It was suggested at the workshop that NBS specify acceptable or advisable techniques when sending out samples. It was further suggested that in all cases two samples would be desirable - a synthetic sample (SRM) certified for hydrocarbon content and a natural sample certified only for homogeneity. A suggested source for natural samples was Coal Oil Point, a known seep site near Santa Barbara.

B. Matrix-free SRM's

Several people expressed desires for matrix-free hydrocarbon SRM's. These requests fell into two classes: a) pure compounds and b) reference oils. Included in the first category were: pure n-octadecane, pure phytane, and pure representative aromatic hydrocarbons. Also included in this group were requests for mixtures of pure, representative compounds in an organic solvent (~10 ppm) and a synthetic oil composed of a mixture of pure compounds. Requests in the second category included: reference oils for "fingerprinting" purposes, weathered oils from controlled weathering experiments (1 day and 3 day), and a series of oils such as the API "reference oils." Finally, since oil concentrates metals and pesticides, it was suggested that an oil certified for these constituents be considered as a candidate SRM.

C. Matrix-bound SRM's

1. Water SRM

There was considerable interest in trace organics in water SRM's. However, the general consensus was that the release of this SRM would be extremely difficult due to problems in stabilizing the SRM, probable large volume of the SRM and adsorption on container walls of trace constituents. Interests included drinking and waste water standards, and ocean water standards (several salinities) spiked with a reference petroleum at different concentrations (1, 5, 10 µg/l and 100 ng/l, suggested).
If one can produce a standard with the $C_1 - C_{10}$ hydrocarbons present, $\text{HgCl}_2$ should be added to prevent biodegradation. Due to possible adsorption losses, user made dilutions of the most concentrated standard would not be an acceptable means for making the more dilute standards. If a water sample is released it was suggested that one specify acceptable sampling techniques and analytical techniques, as well as blank handling procedures.

2. Sediment SRM

Although there was great interest in a sediment SRM, the only request for a specific material came from BLM. They would desire two standards, one at 200 ppb and one at 1000 ppm. Several people presented results of their research which would be helpful in feasibility studies for a sediment SRM. It is not currently known how hydrocarbons are held onto sediments. Possible means of stabilizing a sediment SRM include freeze-drying, radiation sterilization, and shipping under $\text{N}_2$. There is some evidence that dry sediments decompose faster than wet sediments. At 60 °C there is a finite amount of decomposition over a period of weeks. If one uses solvent extraction procedures, freeze-drying will not affect the hydrocarbon content of the sediment sample (since both freeze-drying and solvent concentration result in loss of the more volatile hydrocarbons). Finally, sediment acidification enhances the yield of solvent extractable material.

3. Tissue SRM

The requests for tissue SRM's also fell into two classes: a) compounds spiked into a lipid matrix and b) marine tissue containing trace level petroleum constituents. The IDOE-5 study has shown that a distillate crude is stable in cod liver oil for 3 years when stored frozen with occasional thawing for sample removal. A proposal was made that NBS release a lipid SRM containing hydrocarbons, as well as some of the characteristic nitrogen and sulfur compounds from petroleum. As far as actual tissue SRM's are concerned, there is no known ideal bioindicator species, but *Mytilus* seems to be the best currently available. Most people considered it important to have the whole tissue
SRM so that all the interfering biogenic compounds would be present. There was disagreement over issues such as release of whole organism vs individual organs, frozen vs freeze-dried tissue material, and biological incorporation vs laboratory spiking of marine tissue. As far as hydrocarbon concentration in a tissue SRM is concerned, the Bureau of Land Management recommended two standards, one at 4 ppm and one at 2000 ppm (total extractable hydrocarbons, including biogenics).

II. Recommendation Resulting from the Workshop

At the conclusion of the workshop, five SRM's were recommended by the participants for NBS consideration. These SRM's in order of decreasing priority are as follows:

1) natural sediment certified for trace elements and hydrocarbons;
2) biological tissue certified for trace elements and hydrocarbons;
3) a synthetic mixture of pure organic compounds contained in a pure lipid or an organic solvent.
4) a reference crude oil;
5) sea water certified for trace elements and hydrocarbons.

The sea water SRM was given lowest priority because of the presumed difficulty in preparing it, not because it was necessarily the least desired SRM.

NOTE: This report has been formally printed as National Bureau of Standards Technical Note #889. Since the annual reports are in press the formal edition is not included.
A. Introduction

The research reported here is directly related to Task A-33, to determine the content of selected trace metals in the water column, suspended particulate matter and bottom sediments. A part of this includes Task A-32, a survey of the available literature (including an evaluation for data on the concentration and distribution of selected trace elements.

A portion of the acquired data may be used as a part of Task B-11, to characterize chemically sediment influx and deposition and all of the data may be used as a part of Task E-2, to predict possible short and long-term environmental effects of possible oil and gas development.

For practical purposes the progress reported here is divided into three main areas:

1. The results of the literature survey and the evaluation of this survey.
2. The collection of samples and the analyses of these. This section includes data obtained on sample containers and the cleaning of these.
3. Data on the possible determination of speciation in ocean water and sediments. This was not a part of the original proposal but was discovered during this research and has been pursued as time permitted.

B. Progress

1. Literature Survey and Evaluation.

As described in our original proposal, a literature
survey as well as an examination of existing sample collections was in progress as a part of a program entitled "The National Environmental Specimen Bank", sponsored by the Environmental Protection Agency and NBS. This survey has been completed and an evaluation completed. The general evaluation and references are included as appendix A. A summary of the results are as follows: Nearly all previous results of the concentration of trace elements in ocean waters, suspended particulate matter and sediments must be treated as suspect. Most of these results are probably worthless. This is the result both of the lack of trace element methodology of sufficient accuracy as well as a general lack of knowledge of the concentration of trace elements in the reagents used, in the containers used for collection and storage and in the laboratory environment used for sampling and analysis. Fortunately, this state has improved greatly in the past year. Improvements in the methodology and instrumentation have increased the precision and, most important, the accuracy which may be obtained. This is true for the three most commonly used analytical techniques, Graphite Furnace Atomic Absorption, (AAS), Anodic Stripping Voltammetry (ASV) and Activation Analysis (NAA). As an example of this, we have recently analyzed a water sample of known trace element concentration by AAS. The concentrations of 17 elements were determined either directly, or for three elements, with a ten-fold concentration (i.e. 10 µl total sample) with results that were accurate to ±3%. All elements were in the low ppb range.
The greatest remaining problem lies in contamination by the sample containers and/or the analytical environment. As a result of a study of the content of trace elements in containers and cleaning methods we are able to suggest both suitable containers and cleaning procedures that are adequate. This is treated in detail in Section 2 below.

It is now evident that contamination from the laboratory environment can only be prevented by the use of the most stringent precautions including the use of class 100 laboratory space either as complete laboratory facilities or by means of small portable laboratory benches.

2. Collection of Samples and Analyses.
   a. Sample Collection

   One sample collection consisting of about 38 samples was made by NBS personnel near Glacier Bay. These samples were all acidified and frozen within one hour of collection, shipped frozen and kept frozen at NBS until analyses time. We had intended that part of this collection be filtered at the time of collection but unfortunately the filtering devices would not work properly in the cold conditions and there was not time to either repair the units or to use an alternate system we had prepared.

   We received a second set of 8 samples hand-carried by Dr. D. Burrell. These had been acidified but not frozen. Additional samples sent to arrive coincident with Dr. Burrell were delayed by the airline and were ultimately received in bad condition. The worst of these were discarded, the rest used only for testing of various analytical techniques.

   An additional set of samples sent by Dr. Burrell were received in good condition, still frozen and have been kept frozen until analysis time. The list
of samples is shown as Table one. These samples are being analyzed by AAS and NAA. The analyses are not yet complete but are on schedule. We plan to cross check several analyses by isotope dilution mass spectrometry.

b. Container and Cleaning Study

A complete report of the study of suitable containers and a suggested cleaning procedure is shown as Appendix B. We recommend that teflon or conventional polyethylene bottles be used and that the bottles be cleaned according to the method given. In addition, to prevent the loss of moisture from the polyethylene bottles or the transport of volatile metals (i.e. mercury) into the containers that they be kept either frozen or in bags made of polyethylene coated-aluminized mylar. This material is readily available, inexpensive and may be easily heat sealed.

3. Speciation Studies

During the course of the analytical program we analyzed several samples by a new method called Dual Plasma Emission Spectrometry developed in our laboratories. The details of this method and the instrumentation used is shown in Appendix C. During the analysis we discovered that we can identify at least two forms of mercury and chromium in varying amounts in the sediment and sea water samples. We believe that one of the mercury forms is methylmercury and the other is inorganic (probably mercuric chloride). The chromium species are as yet unidentified. We believe that it is possible with future work to identify and quantitatively determine these species and possibly others.

C. Suggestions for Future Work.

1. Storage, Analyses and Standards.

We believe that, given the present state of knowledge of the trace element concentration in ocean water and
sediments, research should be conducted into the proper methods of collecting and preserving samples. We have initiated some work in this area and are currently preparing to collect several hundred gallons of clean sea water. We will study the effects of freezing, freeze-drying and additions of acids and noble metal preservatives on the loss of trace elements. The goal of this work would be a recommended method of collection and storage and, most important, to provide standards for analyses.

2. **Speciation**

Additional work should be done to determine the speciations of as many metals as possible but particularly mercury, chromium and tin in water and sediment samples. This will have important effects on our knowledge of the ultimate fate of trace element contamination of the natural environment.
# Table 1
Alaskan Samples from University of Alaska

<table>
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<tr>
<th>Sample</th>
<th>Size</th>
<th>Container</th>
<th>Description</th>
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<td></td>
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<td></td>
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<td>W.A.</td>
</tr>
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<td></td>
<td></td>
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<tr>
<td>Sample</td>
<td>Size</td>
<td>Container</td>
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<td>&quot;</td>
<td>Station 42 HAPS Cove 0-6 cm Gulf of Alaska 42-1-6C</td>
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</tbody>
</table>

a Presently being used by Dr. Hanamura.
b Stored in freezer.
Literature Survey on Sampling, Sample Handling, and Storage for
The National Environmental Specimen Bank

E. J. Maienthal and D. A. Becker
Analytical Chemistry Division
National Bureau of Standards
Washington, D.C. 20234

Approximately 660 of the returned survey forms sent out by ORNL for the NESB have been studied and evaluated at least two times with regard to the suitability of the specimen collection for sample integrity after long term storage. Few of the survey respondents answered the questions in sufficient detail to give a definitive answer, but most of the collections appear to be of use largely for taxonomical purposes.

In order to develop a consistent and comprehensive set of guidelines for the evaluation of this survey, a large portion of the recent literature concerning sampling and storage of environmental specimens has been examined. This has been done both manually and by use of bibliographical retrieval services such as Medline, Chemcon, Biosis, Cain, Defense Documentation Center and others. Also, the advice and opinion of workers in various aspects of the field has been obtained. A summary of the results of this survey is found below, separated into the various areas of concern.

**Trace Elements**

For trace elements there is an abundance of reports on sampling and storage (which should also apply to radionuclides);
however, many of them are contradictory and should be further
resolved by careful experimental work. Much of the published
analytical data apparently is inaccurate because of such
problems as gross sampling contamination or subsequent
procedural contamination and failure to make proper blank
corrections. Richards states that some oceanographers have
permitted the perpetuation of the notion that the concent-
trations of the sea are well known, when, in fact, they are
not (1).

Patterson and Settle (2) report that the great mass of
published lead data in plants, animal tissues and water is
in error because of gross positive errors, and that the
relatively large blanks usually present with lead concentra-
tions less than a few µg/g often makes the value obtained
meaningless. Many trace element analysts, particularly in
the field of oceanography and marine biology, believe that
much of the previously published work is unreliable as a
result of sample contamination. The values being reported
are progressively lower as techniques are being improved.
Hume reports that if a synthetic sea water were prepared
from the purest reagent chemicals available, it would still
be higher in many trace elements than natural sea water (3).
Whitnack also has evidence to show that the reagents used
are more contaminated than sea water (4). Speecke, et al.
state that many chances exist for a biological material to be
contaminated before it is analyzed (5); but few authors give
the impression of the awareness of this and that meaningless
phrases are used, such as "metal-free" containers, "chemically
clean" glass, etc., with no evidence to back it up. Berman
states that one must never assume anything is acceptably
free from trace metal contaminants until it has been
tested (6).
It is felt that the materials, techniques, and expertise exist to provide viable long-term stored samples for most trace elements in most matrices; however, few in the field are using these techniques, partially because as Boutwell says, "...validity is an expensive commodity" (7).

The first consideration is the choice of the container and sampler composition and the method of cleaning and sampling. Murphy, Robertson, Thiers, Patterson, Tölg, and many others show results which indicate that rubber, neoprene, vycor, polyvinyl chloride, polystyrene, glass, polypropylene, linear polyethylene, platinum, etc., will introduce contamination in sampling and storage (8, 9, 10, 10a, 2, 11). Patterson recommends first, FEP Teflon, then ultrapure quartz, conventional polyethylene or TFE Teflon containers. All cleaning and sample treatment should be done in laminar flow hoods or a clean room. He recommends cleaning with hot concentrated \( \text{HNO}_3 \) for three days, rinsing with high purity distilled water, followed by hot dilute 0.05 percent \( \text{HNO}_3 \) (both water and acid, prepared as described by Kuehner, et al. (12)) for one day, rinsing and heating with 0.05 percent \( \text{HNO}_3 \) five days, rinsing, then storing filled with 0.05 percent \( \text{HNO}_3 \), wrapped in cleaned polyethylene until ready for use. (The two dilute \( \text{HNO}_3 \) leachings have not been found necessary by some other workers). When ready for use, the containers can be thoroughly rinsed and dried in laminar flow hoods. Cleaned plastic gloves are worn in all phases of cleaning, sampling, etc. (2). Berman found that even after thorough cleaning and scrubbing of fingers, 0.1 to 0.4 \( \mu \text{g} \) of lead could still be washed off. Washings from a chain smoker give results of 0.3-4 \( \mu \text{g} \) of lead (6).

Karin, et al. report a three-day leach of polyethylene in either 8 or 16 M \( \text{HNO}_3 \) was necessary to remove certain trace metal contaminants (13).
Sampling implements Patterson recommends are either Teflon or Teflon-encased, except for frozen tissue sampling where a series of HNO₃-acid cleaned stainless steel blades are used with very elaborate sampling procedures to remove areas contaminated by the blade (2). All of these type operations should be done in laminar flow hoods or clean room conditions.

Deionized water which has not been followed by distillation should not be used in any stages of the cleaning, sampling, or analysis as organic breakdown products may be formed, complexing some of the trace elements (8).

Numerous types of water samplers have been devised. Segar, et al. have described water sampling with Niskin bottles with rubber coated springs, Teflon coated coil springs and a new design Niskin bottle without internal closures. All gave trace metal contamination except the latter (14). Since Teflon is rather porous, apparently some metal diffusion through the spring coating must have occurred.

Harrison, et al. have designed a Teflon cylindrical sampler with a mechanism for opening both ends after submersion to the desired depth to avoid contamination from the water surface (15). It is attached to a metal frame and rudder which have a baked-on Teflon coating. It is also adapted so that the sample may be filtered immediately in an attached container holding a precleaned polyethylene bag in which the sample can be immediately sealed and frozen in liquid nitrogen. If the water sample is to be filtered, Morrison and Pierce, and many others suggest that it is best to do it immediately (16). The filter must be thoroughly precleaned, rinsed, and stored in cleaned polyethylene bags.
The sample chamber used by Patterson (2) consists of accordion pleated Teflon tubing, the entry port being protected by a bath of ultra pure water (prepared as already mentioned). At the deep water sampling depth desired, a trigger retracts the water bath shroud and ruptures the end diaphragm which contains the pure water. The water sampler is lowered continuously so that it is continually dropping into virgin water. After a short interval to allow the bath water to be washed away, a second trigger expands the sample accordion bag and seals the entry port.

The storage of aqueous samples presents an even greater challenge as most samples start undergoing changes the instant they are sampled. Pre-aging the sampler and sample container with some of the same sample would be desirable whenever possible. Amore states that losses as high as 50 percent can occur during one hour of storage (17). An EPA manual on methods of water analysis says that complete and unequivocal preservation of samples is a practical impossibility, that complete stability can never be obtained, and that preservation techniques only retard the chemical and biological changes that continue after the sample is taken (18). The methods of preservation are intended to retard biological action, retard hydrolysis of chemical compounds and reduce the volatility of the components. Their recommended methods include pH control, chemical addition, refrigeration, and freezing.

Although there is much in the literature on relatively short term storage of different aqueous (non-frozen) solutions under varying conditions, there are many disagreements and most of the results do not look favorable for long term storage. A USGS manual for water analysis says that the shorter the time that elapses between the collection of a
sample and its analysis, the more reliable will be the results (19).

Pettis and Phillip give an excellent review of the literature on trace metal analysis in sea water. They discuss sampling and cleaning procedures, sample pretreatment, standard reference materials, and analytical method of determination of the trace metals (19a).

Robertson found that sea water adjusted to pH 8 stored in polyethylene resulted in a 90 percent indium loss in 20 days and a 90 percent loss of iron in 55 days (20). Hummel found that 75 percent of the gold in sea water was lost after three weeks in polyethylene (21). King, et al. found that less than 3 percent of the cadmium was lost to polyethylene at pH's of 3 to 10 after two weeks storage (22). West, et al. (23) found more silver adsorption on glass at pH 4 than at pH 7, a significant decrease occurring at pH 7, and a rise at pH 8, and they also state that pyrex showed more erratic adsorption patterns than polyethylene or silicone-coated containers. Struempler (24) states that acidification with nitric acid to pH 2 prevents adsorption of silver, lead, cadmium, and zinc on pyrex, and silver on polyethylene. Dyck (25) reports lack of confirmation with the work of West, et al. with silver, and states there is a direct increase in silver adsorbed on glass with increase in pH. He also states that for periods over several months, plastic adsorbed more silver than glass. Lai and Weiss (26) found no silver loss when sea water was stored in polyethylene and acidified to a pH of 3.5 to 4.0 with acetic acid. King, et al. (22) found losses as high as 75 percent for cadmium when stored in glass at pH 9. Eichholz, et al. (27) compared adsorption of a number of elements on pyrex and polyethylene and state that pyrex is preferable to polyethylene; however,
they found less contamination for cesium, ruthenium, and zirconium when using polyethylene. Smith (28) studied stability of a number of ions including cadmium, antimony, tin, and lithium, and states that of the elements studied only lithium was stable over the pH range of one to 11. He therefore recommends acidification to pH one. In another report (29), he states that freezing the liquid samples as soon as they are collected is an excellent solution for the adsorption problem. The losses may be due to adsorption or also to precipitation or particulate formation. Salman also states that freezing can be used to preserve the water samples at the collection site (29a).

Rattonetti examined the stability of a large number of trace metals in a variety of water matrices stored in polyethylene at differing pH's and concluded that loss to container walls is insignificant compared to losses to the particles present in natural aqueous systems (30).

Moody, et al. have prepared two mercury in water Standard Reference Materials at the 1 ppm and 1 ppb level which have been stable for over a year in both glass and polyethylene (31). This was achieved by the addition of 10 ng/g of Au\(^{+3}\) and 0.5 N nitric acid. Lo and Wai verified this for shorter term storage with 0.2 µg/g Au\(^{+3}\) and nitric acid at pH 0.5 (32), but were unable to confirm Feldman's stabilization with potassium dichromate (33) or the report of Issaq and Zielinski with hydrogen peroxide (34). Avotins and Jenne state that the biological effects have been overlooked in many of the mercury in water investigations, and that as a result of the unpredictable growth of bacterial and yeast populations, with production of metabolites, mercury may either vaporize, bind to the walls of the vessel or be stabilized in
solution (35). Huey, et al. have reported that cadmium can be volatilized from its inorganic salts by a microorganism through conversion to a volatile organic compound (36). The volatilization is stimulated by vitamin $B_{12}$. Methylmercury formation by this organism is also stimulated by $B_{12}$, the absence of which causes the organism to form metallic mercury from inorganic mercuric salts. In samples where this type of reaction occurs, freeze-drying is not advisable as a method of sample preservation. For long term preservation for trace-element analysis, freezing and possibly freeze-drying for most elements (probably followed by radio-sterilization), would seem to be the most likely alternatives. Morrison and Pierce state that freezing may be a suitable preservation technique for trace elements but has not been adequately tested to date (16). Allen, et al. recommend immediate freezing at $-10$ to $-15^\circ C$ to prevent microbiological changes in soluble mineral and silica concentrations (37); however, for long term storage, immediate freezing in liquid nitrogen as recommended by Harrison, et al. (15) and others (29), followed by freeze-drying for most trace elements (and radio-sterilization) or storage at $-70^\circ$ to $-80^\circ C$ would seem preferable. Low temperature (oxygen plasma) ashing and dry ashing are also possibilities in some cases.

Harrison, et al. (38) and Filby, et al. (38a), have reported that radioisotope studies of the volatile elements such as arsenic, antimony, selenium, bromide, and mercury have shown no significant losses in water samples which have been freeze-dried.

Heron studied the determination of phosphate in lake water before and after freezing (39). It was expected that rapid freezing would cause cell rupture resulting in higher phosphate values, but this did not occur. Varying phosphate
values were found whenever growth of bacteria was occurring. This was prevented by pre-cleaning the sample bottle with a solution which is 5 percent in iodine and 8 percent in potassium iodide and immediate freezing of the water sample.

Philbert found that in freezing lake water samples soluble reactive silica and phosphorus concentrations were decreased in the thawed samples (40). A decrease in total alkalinity and dissolved chloride was also observed. Inconsistent changes were observed for ammonia and the various forms of nitrogen.

A USGS manual on methods of water sampling recommends that water samples for inorganic analysis should not be frozen (19); however, there is sufficient reason to expect that if the process is performed properly, freezing is acceptable for most trace elements. The samples should be subsampled before freezing, because once thawed, they should not be refrozen. The entire subsample should then be taken for analysis. They should be frozen in one of the container materials already discussed, under a gas such as nitrogen or argon to prevent sample oxidation. They should be sealed in at least 2 and possibly 3 [as Patterson recommends (2)] series of plastic bags. Since most plastics are porous (41), they should then be placed in a tightly sealed glass container containing nitrogen or argon with minimum void space, followed by storage in the dark at -70°C. Bothner and Robertson (42) have reported that sea water samples stored in polyethylene containers have picked up mercury from being stored in a room contaminated with metallic mercury. This has been verified in a closed chamber with pools of clean mercury surrounding a mercury solution in Teflon and polyethylene bottles, but has not as yet been verified in an ordinary laboratory atmosphere where spilled mercury would probably
be covered with dust, thus effectively diminishing its vapor pressure (43).

When the frozen water sample is used, the whole sample should be used because of possible selective ion incorporation in the ice (44). The walls of the inner container will probably have to be washed with acid to remove any hydrolyzed or adsorbed material.

The possibility of losing organic or inorganic mercury during freeze-drying of biological materials was investigated by LaFleur, as Pillay, et al. had published data indicating losses (45). LaFleur found no losses for inorganic or naturally bound methyl- or phenylmercury in tissue and blood; however, for aqueous solutions, losses of up to 90 percent could occur for organic and up to 10 percent for metallic mercury (46).

**Biological-Tissue and Fluids**

For tissue and biological fluid sampling, the sampling device presents considerably more difficulties. The use of a laser beam for cutting bone by Hislop and Parker (47) offers many interesting possibilities. Some loss of trace elements on the surface may occur but would be negligible with regard to the entire sample. A quartz or glass knife should also be suitable for many kinds of tissue. Montgomery, et al. used a glass knife to cut fish in small pieces for the determination of iron, zinc, lead, cadmium, copper, and manganese (48). A problem here is the chipping of the cutting edge; weighing the knife before and after use may indicate if this is a problem.

Most workers use stainless steel implements. However, this is fraught with dangers of contamination for many trace elements even when done as carefully as described by Patterson
earlier (2). Versieck, et al. report on the contamination introduced during needle biopsies of liver (49). They state that steel surgical blades lead to somewhat less contamination, but are not suitable for some trace elements such as chromium and nickel. The needle biopsies resulted in contaminations of as much as 1.7 ppm of copper, 0.64 ppm of manganese, 11 ppm of chromium, 12 ppm of nickel, 20 ppm of iron, 0.24 ppm of cobalt, 0.012 ppm of silver, 0.46 ppm of tin, 0.069 ppm of antimony and 1.2 ppm of tantalum. Speecke, et al. have reported on the sampling and storage of biological materials for contamination by chromium, manganese, nickel and cobalt by drawing 4 series of 20 ml portions of blood using disposable needles (5). For manganese, the first 20 ml showed contamination of 0.2 ppb, the fourth, 0.02 ppb; for chromium, the first 85 ppb, the fourth 15 ppb; for nickel, the first 71 ppb, the fourth 12 ppb; for cobalt the first 0.9 ppb, and the fourth 0.2 ppb. They also compared contamination introduced in another series of liver samples using Meneghini biopsy needles and surgical blades. For the needles, they found contaminations of as much as 600 ppb of manganese, 9000 ppb of chromium, 12,000 ppb of nickel and 230 ppb of cobalt; for the surgical blades, 3 ppb of manganese, 15 ppb of chromium, 60 ppb of nickel, and 1 ppb of cobalt. They discuss the possibility of using laser beams on hard and soft tissues and platinum-rhodium alloy needles; however, it is preferable that the platinum needles have Kel-F hubs to avoid contamination. For storage, Speecke, et al. recommend immediate, rapid freeze-drying, but point out that some volatile materials may be lost. All the work should be done in a clean-room type laboratory with no exposed metal parts which might cause contamination.
Fisher, et al. (50) also reported that serum samples should be quickly frozen with as little air space as possible (as described earlier, the air should be displaced with nitrogen or argon). They also checked storage at room temperature, 8°C and -15°C. No differences for calcium, magnesium, copper, zinc, sodium, and potassium were noticed up to 16 days. Essentially no changes were observed in the refrigerated and frozen samples up to 50 days, but changes did occur in the samples stored at room temperature. Longer term storage would probably also result in changes in the refrigerated samples. Some microorganisms can grow in a temperature as low as -6°C (51).

In a discussion of sampling for clinical chemistry, Ibbott recommends separating the serum from the clot as soon as possible to avoid contamination from cell leakage (52). He also states that the majority of the serum components are stable indefinitely in dry ice (about -70°C), and that the samples exhibit concentration gradients due to freezing and must be thoroughly mixed after thawing. Omang and Vellar also point out the concentration gradients obtained after freezing and thawing serum, sweat, and urine. They found top-bottom differences of thawed samples of up to one hundred (53).

**Museum Specimens**

The futility of trace element analysis of museum type specimens stored in preservatives has been pointed out by a number of authors. Bowen and Sutton in analysis of marine sponges found that nickel accumulation in the preservative occurs quite frequently in these types of samples (54). Gibbs, et al. investigated the effects of time and preservatives in museum fish specimens and found no evidence to
support the theory that preserved museum specimens can provide reliable estimates of heavy metal concentrations (55). They tested many types of preservatives such as ethanol, formalin, isopropyl alcohol, etc., and found interaction with the specimens in all cases. They may either leach trace metals from the specimen or contaminate the specimens by heavy metals contained in the preservatives or container. In many cases, metal identification tags are placed in with the preservative, which contribute even further to the contamination of the sample. In some instances, the trace metal content increased over the years and in other cases, decreased from leaching even in a short period of time, such as a month.

A possible exception for the museum type specimens are those which have been stored in relatively clean, dry areas not subject to leaching or contamination. Cockburn, et al. (56) describe the autopsy of an Egyptian mummy, Pum II, which included the analysis of some trace elements in bone by R. G. Smith (57). He found 0.6 ppm of lead and 0.43 ppm of mercury. The lead content of modern bone averages 6.55 to 18 ppm (58). Assuming no leaching has occurred, it would appear that man's environment has contributed considerably to his lead body burden. The mercury level is relatively unchanged, that of modern bone averaging about 0.45 ppm (59).

**Crustal and Botanical Materials**

The sampling and storage of soils, rocks, minerals, sediments, and plants does not present quite as many problems as the matrices already discussed, but more precautions should be taken then are generally observed. Morrison and Pierce (16) state that the use of a spade to sample soil is preferable to a soil auger and that dry samples can be collected in a clean cloth bag, but this procedure would
certainly lead to contamination for some trace metals. Clean Teflon encased tools as recommended by Patterson and Settle (2) should be used except for most plants which can be picked with clean plastic gloves. It appears that soils and sediments with any significant water content (especially sediment samples) should be frozen in such a way that no water loss can occur, and stored as recommended for water samples.

There are many papers in the literature which indicate that soils and sediments undergo changes in structure and chemical state even when dried at room temperature. This should not have a great effect on the total trace element content in most cases, but if speciation, organic extractable trace elements, etc., are of interest, any form of drying may invalidate the sample. Attoe (60) reports that potassium may be fixed in a nonexchangeable form when a potassium-fertilized soil is air-dried. Air drying of unfertilized soils resulted in a 4–90 percent increase in exchangeable potassium when the soils are remoistened. Schalsha, et al. (61) state that air drying produces significant irreversible changes in volcanic ash soils. For instance, soil samples with a clay-type texture in the field, change to a sandy texture with air drying. Air drying also reportedly markedly affects cation exchange capacity, soluble phosphorus and iron, and decreases the pH slightly. Air drying decreased the total exchangeable and acid soluble iron, but increased the chelatable iron extracted by salicylate. The mechanical and chemical analysis of volcanic ash soils more accurately indicate field conditions when samples contain the original moisture at field capacity.
Barrow (62) found when soils were dried, inorganic sulfate immediately increased (probably as a result of decomposing organic sulfates in the soil becoming immediately available to the plants). Even when two different soils are dried at the same temperature, the relative availability of the sulfur may be no indication of the relative availability when they were fresh.

Harpstead and Brage (63) reported that the drying and storage of soils leads to a pronounced increase in their nitrifying ability because of the changes in the relative numbers of various microorganisms in the soil. Birch found that when remoistening dried soil, the first rapid decomposition slows down and this pattern is repeated during successive dryings and wettings (64). The magnitude of the decomposition depends on the amount of carbon in the soil and on the drying conditions, air drying being less effective than oven drying. Vacuum drying and oven drying gave the same moisture loss results, but oven drying gave a much greater amount of decomposition on rewetting.

Birch (65,66) also states that the longer a soil is kept air dried, the greater the amount of water-soluble and organic material that can be extracted, even though it does not lose additional moisture, and also the greater the amounts of carbon and nitrogen are mineralized on remoistening. He also finds greater effects if the soil is dried at 100°C, possibly because of increased gel porosity and surface area, and possibly because of increased microbiological activity occurring during the remoistening of the dried soil.

Nevo and Hagin (67) state that the changes occurring after three months of air drying storage was independent of microorganisms. The major factor is the change in the physical structure of the organic fraction. They found a
good correlation between the nitrification rate and the surface area of particles of an organic soil.

Hesse (68) states that oven drying a soil, despite its reproducibility, should not be recommended, because of the profound changes caused. Also he says that storing a soil in a moist state has the effect of incubating it, but without temperature or moisture control, resulting in a build-up of carbon dioxide at the expense of oxygen. As such treatment results in many complicated reactions, it is most undesirable to keep a soil in a moist state for any length of time for the purpose of analysis. He also reports on investigations of J. M. Coleman (private communication) that moist soil samples stored in plastic containers can result in fundamental changes in clay minerals. It is thought that an organic complex passes from plastic into the clay mineral. All these references seem to point out that drying or freeze-drying may result in irreversible changes which will affect also the complexation state of the trace metals and that freezing at -70°C to -80°C as recommended earlier should be the method of storage.

Plant sampling can probably be done by picking with plastic gloves and storing by freezing in containers as already mentioned, with care to avoid moisture loss.

Arkeley, et al. (69) state that trace elements such as carried by peat dust deposited on plants are easily washed off (high purity distilled water should be used) but those deposited by sprays are not, because of partial absorption in the leaf. Lagerwerff (70) found increases in absorption of cadmium, zinc, and lead on leaf surfaces probably enhanced by drying.

Work by Koeppe and Miller (71) showed a much higher uptake of lead by maize roots than in the stems or leaves.
Washing with distilled water removed little lead, but washing with EDTA solution removed about 90 percent of the lead, indicating the lead is largely retained on the exterior surface of the roots.

For sampling of air particulates, Patterson and Settle (2) recommend cleaning Millipore or Nucleopore filters by soaking in cold 6N HCl two days, rinsing on a cleaned polyethylene Buchner funnel with high purity distilled water, soaking two days at 55°C with 1 percent NH₄F (prepared by neutralizing high purity NH₄OH with high purity HF) followed by rinsing with high purity water. These operations, of course, are carried out in a clean room atmosphere or laminar flow hoods. The filters are then stored in cleaned polyethylene bags or boxes. The lead blank on these filters was found to be less than 1 ng/47 mm filter.

Organics and Pesticides

With the exception of the use of plastic gloves for sampling to avoid contamination from body oils (72), storage containers and implements for trace organics and pesticides must definitely not be plastic of any kind with the possible exception of Teflon, as plastic is known to both introduce interferences and sorb pesticides (and organics) (73,73a). Many examples are given in the literature which show that additives such as plasticizers, organo-metallic or other stabilizer antioxidants, colorants or other components are leached from the plastic and contaminate the sample (74).

Some polyvinyl chloride tubings were shown to release a constituent to some systems containing alcohol, propylene glycol or polyethylene glycols (75). Gibbs found that asbestos fiber was highly contaminated by 3,3'-5, 5'-tetratertiary butyl diphenoquinone after storage in
polyethylene bags (76). Lipids in soil samples stored in standard plastic lined canvas bags were found to take up phthalate esters and other contaminants from the plastic (77).

Most workers in the field recommend storage in glass containers with Teflon or aluminum foil lined caps (72,73,73a,78); however, it has been reported that Teflon sheet and aluminum foil have been found to contain up to 400 and 300 ppb, respectively, of di-2 ethylbutyl phthalate (79,80).

Hertz, et al. (81) recommended cleaning the glassware with soap and water, then in concentrated H$_2$SO$_4$ at 100°C for 30 min and finally rinsing with specially prepared distilled water made by redistilling the house distilled water over KMnO$_4$-KOH. The distillate is then passed through an XAD-2 column, and the water is redistilled to remove any particulates from the XAD-2 resin. Finally, the bottles are then rinsed with methanol and triple-distilled pentane, and filled with nitrogen from a liquid nitrogen source and sealed.

Others recommend wrapping the cleaned glassware in aluminum foil and heating at 625°C for four hours (82). The maintenance of high quality distilled water can be a problem as some microorganisms can grow rapidly in distilled water and some chemical reagents (82,83,84). It is reported by Hamilton and Myoda (82) that the amino acids, proteins and bacteria often found in some laboratory reagent solutions and distilled water, are probably airborne and enter the outlet of the stills or deionizing systems where they multiply. A method of catalytic pyrodistillation has been reported to remove organic impurities not removed by ordinary or oxidative distillation because of the steam volatility of the compounds or their derivatives (85).

It has been recommended in sampling that "an analyst or person directly concerned with the particular study should
collect the samples. Inexperienced personnel should never be allowed to collect the samples unless they are very closely supervised" (78). This, of course, is true to all types of environmental sampling.

When sampling marine organisms and sediments for organics or pesticides, most workers recommend freezing immediately in dry ice or liquid nitrogen (72,81) and final storage at about -70° to -80°C (86) in the dark. Breakdown of pp'-DDT to pp'-TDE in Bengalese finch liver, and breakdown due to other biological processes have been reported at home freezer storage conditions (approximately -14°C) (87,88).

Bristol reported in a study of pesticide residues in potatoes that metabolically incorporated 2,4-D untreated potato samples stored whole at 4°C decreased over a period of 15 months, while those of 2,4-DCP remained constant. Recoveries of 2,4-D from frozen samples were constant over a 15-month period, but those of 2,4-DCP decreased slowly from 88 to 47 percent. The 2,4-DCP samples stored in plastic bags gave a characteristic odor, indicating the losses were due to volatilization from the frozen samples (89).

It is reported by the Federal Working Group on Pest Management that increased knowledge of sample contact with various kinds of synthetic wraps and containers demonstrates the necessity for glass and perhaps aluminum foil to preserve the integrity of wet samples. Immediate freezing and maintenance of the frozen sample until analysis is the best way to protect samples and prevent degradation and loss of pesticide residues (73). (This also is undoubtedly true for all organic components.) They also state that pesticides can migrate to the walls of a container and be adsorbed; hence, even with a glass container, after the sample is poured out,
the walls should be rinsed with the solvent in case the
extaction is not made in the container itself (this should
also apply to any organics).

There is evidence in the literature that samples to be
analyzed for organics or pesticides cannot be dried or
freeze-dried without danger of some loss. One study showed
79 percent loss of lindane, 37 percent for dieldrin, 57
percent for p,p'-DDT and 31 percent in o,p'-DDT-DDD on whole
eggs and 50 percent for lindane in egg yolk when samples
were frozen at -23°C, freeze-dried for 24 hr, and transferred
and stored in sealed glass vials at 4°C, so that there was
no volatility loss in storage (90).

Morris found that preservation of zooplankton in formalin
and methanol resulted in hydrolysis of the animals' lipid
and degradation of polyunsaturated fatty acids (90a). He
found that the samples were stable up to nine months if
stored deep frozen under nitrogen.

Smith reports that changes in nonstructural carbohydrate
concentrations occur during the storage of either heat or
freeze-dried tissues and concluded that no preservation
method is as good as the immediate analysis of fresh tissue;
however, he did not investigate straight freezing (91).
Other workers found losses in higher fatty acids under
either oven or freeze-drying conditions after storage for
nine months (92).

Dessicants for tissue preservation are used by some
workers who are unable to freeze their samples. The samples
are chilled, homogenized, and blended with a combination of
sodium sulfate and powdered silica. It is stated that the
resulting mixture is a dry, free-flowing powder wherein the
pesticide residues are stable for 15 days or more at room
temperature (73).
Microbiologicals

Microbiologicals or cellular organisms consist of many different types such as algae, protozoa, fungi (molds or yeasts), bacteria, submicroscopic viruses and other (microscopic nematodes, some insects and some crustaceans), necessitating a wide variety of different sampling and storage conditions. Most preservation has been done through culturing and subculturing. With care, these have been maintained for 5-8 years (93). The sampling implements and containers should obviously be sterile and glass is preferred to plastic, since bacteria tends to grow on plastic surfaces. Since all known life forms require water in the liquid state, this automatically limits the temperature range for microorganisms. Both bacteria and viruses can be freeze-dried to maintain culture collections and to preserve them for use as vaccines. Insects have been supercooled to -30°C without apparent damage; however, they die if ice crystals are formed. Mouse embryos have survived deep freezing to -196°C. Freezing is accompanied by the removal of water, so the cell is subject to damage by both freezing and drying. Mechanical injury is caused by ice crystals and the removal of the water causes an increase in dissolved substances. Biochemically debilitated cells may show a reduction or complete loss of some enzymes, and ice-damaged cells may have leaky membranes or an altered structure. The damage from freezing, drying, and thawing can range from essentially none to 100 percent, depending on the specific organism and conditions. Spores are resistant to both cold and drying. Rapid freezing is reported to be usually better with bacteria, whereas slow freezing is better for animal cell survival. It has been stated that rapid thawing gives better survival than slow thawing (51). Fleischer and Kervina report in studies on
long-term preservation of liver for subcellular fractionation that rapid freezing and thawing minimizes the time in which degradation can occur (94). Repeated freezing and thawing is more harmful. Freeze-dried bacteria are better kept at refrigerator temperature than at room temperature (51).

McPeak and Camp (94a) have reported on work of Valeri, et al. (95), Meryman and Hornblower (96), and Gibson, et al. (97). Their studies on storage of red blood cells show that if the samples are stored at a higher temperature than -60°C, they deteriorate within a few weeks. If glycerol is used as a cryoprotective agent and the cells are frozen rapidly in liquid nitrogen and stored at -80°C, the cells are reported to be stable for over 10 years. Fluctuations in storage temperatures of not more than 10°C above or below -80°C are reported to have no adverse effect. Farrant, et al. (98) report that improved recovery of frozen cells can be obtained by interrupting rapid cooling with a timed exposure to a single subzero temperature.

There is a vast amount of additional information in the literature on the subjects of sampling, handling, and storage for microbiologicals, blood, and other biological samples. Since there are so many different types of species and the related optimum handling appropriate to each specie, it is difficult to summarize; however, a number of additional references are given below to indicate the type of problems that are encountered as well as some additional references concerning other subjects discussed above.
References


2. C. C. Patterson and D. M. Settle, The Reduction of Orders of Magnitude Errors in Lead Analyses of Biological Materials and Natural Waters by Evaluating and Controlling the Extent and Sources of Industrial Lead Contamination Introduced During Sample Collecting, Handling, and Analysis, NBS, TS.*


5. A. Speecke, J. Hoste, and J. Versieck, Sampling of Biological Materials, NBS, TS.*

6. E. Berman, The Challenge of Getting the Lead Out, NBS, TS.*

7. J. H. Boutwell, Jr., Accuracy and Quality Control in Trace Element Analysis, NBS, TS.*

8. T. J. Murphy, The Role of the Analytical Blank in Accurate Trace Analysis, NBS, TS.*


15. S. H. Harrison, P. D. LaFleur, and W. Zoller, Sampling and Sample Handling for Activation Analysis of River Water, NBS, TS.*


17. F. Amore, Losses, Interferences and Contamination in Trace Metal Analysis – Some Examples, NBS, TS.*


30. A. Rattonetti, Stability of Metal Ions in Aqueous Environmental Samples, NBS, TS.*


43. J. Moody, T. Rains, and M. Epstein (private communication).


48. J. R. Montgomery, S. E. Kolehmainen, M. D. Banus, B. J. Bendien, J. L. Donaldson, and J. A. Ramírez, Individual Variation of Trace Metal Content in Fish, NBS, TS.*


50. G. L. Fisher, L. G. Davies, and L. S. Rosenblatt, The Effects of Container Composition, Storage Duration, and Temperature on Serum Mineral Levels, NBS, TS.*

52. F. A. Ibbott, Sampling for Clinical Chemistry, NBS, TS.


57. R. G. Smith, Department of Environmental and Industrial Health, University of Michigan, Ann Arbor, MI.


73a. Ibid. (1975).


76. G. W. Gibbs, Asbestos Contamination by Storage in Polyethylene Bags, a report which is included in a paper accepted for publication by the American Industrial Hygiene Assoc. Journal.


79. C. S. Giam and H. S. Chan, Control of Blanks in the Analysis of Phthalates in Air and Ocean Samples, NBS, TS.*


89. D. Bristol, Effects of Storage Conditions on Residues of 2,4-D and 2,4-DCP in Potatoes, NBS, TS.


Bibliography Addendum A - Microbiologicals


A-17 W. N. Fishbein, Mechanism of Freezing Damage to Mouse Liver Using a Mitochondrial Enzyme Assay. III. Cryoprophylaxis with DMSO and Enzyme Localization, Cryobiol., 8, 293-299 (1971).


Bibliography Addendum B - Blood


Bibliography Addendum C - Biological Sample Preparation and Storage


C-5 J. Chirife and M. Karel, Volatile Retention During Freeze Drying of Protein Solutions, Cryobiol., 11, 107-115 (1974).


The integrity of any sample can be no better than that of the container in which it is stored. The need for extremely clean containers for SRM's and other samples is obvious. Unfortunately, few subjects in chemistry are likely to provoke more disagreement than the choice of the proper container materials and the selection of the best method to clean them. Although Teflon remains the container of choice for most materials, its high cost prevents more general usage.

A number of investigations have been undertaken at NBS in an attempt to learn more about container materials. Among the materials investigated were Teflon (FEP, TFE, ETFE, PFA, and TFE Tape), conventional polyethylene (CPE) linear polyethylene (LPE), polycarbonate (PC), polypropylene (PP), polymethylpentane (PMP), polyvinylchloride (PVC), and polystyrene (PS). Four of these materials (CPE, LPE, PC, and FEP) were examined by isotope dilution mass spectrometry. The amount of lead leached from the container in one week of soaking in (1+1) HCl was determined and then the amount of lead leached from the same containers was determined after the bottles were soaked for one week in (1+1) HNO₃. Only the Teflon bottle was heated, however, at the end of this preliminary treatment with HCl and HNO₃, no further leaching was observed (except for PC) after long term leaching with dilute HNO₃ (0.5%).

Nineteen elements were examined using the spark source mass spectrometer. The leaching of the plastics was carried out in the same manner described for lead. Reports summarizing all of the mass spectrometric data are attached. It should be borne in mind that numbers at or below 1 ppb are essentially upper limit values. All concentrations are expressed in terms of ng/g of solution stored in the containers. Neutron activation analysis was employed to look at the impurity levels within the plastics themselves both before
and after a cleaning process. Nineteen plastics and twelve elements were examined when possible. Due to the uncertainty in the data, we were unable to correlate the amount of an element leached out of a plastic with the change in the concentration of that element within the plastic.

It should be noted that reactor irradiation changes to some extent the nature of the matrix. All samples absorbed considerable gamma radiation and were visibly browned by radiation damage. Some materials, especially PVC and the Teflons, were further damaged by the absorption of beta radiation induced in the matrix itself. Furthermore those radioactive atoms that are detected in the leach solution are precisely those which have undergone Szilard-Chalmers recoil and hence may not be representative of the unactivated atoms of interest. The overall result may be summarized as follows. CPE, PFA, TFE, PP, and PS were generally clean. FEP contained large amounts of K and W while Teflon pipe tape contained very large amounts of Zn. Among the other plastics, LPE contained large amounts of Na, Zn, and Ca. PMP contained large amounts of Zn, PC contained large amounts of Br, and PVC contained large amounts of Na and Sn. Usually, the concentration of impurities in a plastic were not significantly changed by the cleaning process. This would seem to indicate that only the surfaces of the plastics are being cleaned.

The plastics were also examined from the point of view of moisture loss. Teflon and polypropylene breathe water vapor at an annual rate of <0.05 percent. Conventional polyethylene loses about 0.1 percent per year, PVC loses about 0.5 percent per year, polymethylpentane loses about 1 percent per year and polycarbonate loses about 2 percent per year. Considering these results, and eliminating all Teflon products by virtue of cost, one is left with only one choice, . . . . . . conventional polyethylene. Polymethylpentane and polypropylene have slightly greater contamination levels and the other plastics still more.
Based upon the experience of these studies, the following is the minimum suggested cleaning for conventional polyethylene. Remove surface contamination (wipe using a solvent), rinse, and soak for one week in (1+5) HCl followed by soaking for one week in (1+5) HNO₃. Rinse with best distilled water, fill with distilled water and allow to stand for several weeks to remove acid which has diffused into the container walls. Empty and air dry in a clean room. Containers cleaned in this manner have been used for the preparation of SRM 1643, Trace Elements in Water. To date, no evidence of contamination has been found in preliminary sample work and although long range data is not yet available previous experience with stability studies would indicate that contamination will not be a problem. These results are being prepared for presentation as a paper in Analytical Chemistry.
August 8, 1975

MEMORANDUM FOR T. J. Murphy

From: M. J. Seward and P. J. Paulsen
Analytical Spectrometry Section

Subject: SSMS I.D. Analysis of Impurities Leached from Plastic Containers.

The analysis of the impurities in HCl and HNO₃ after leaching plastic containers is given in the attached tables. Please note that the volume of acid analyzed and amount of spike added are optimum for the analysis at the 3 to 10 ppb level. For this reason all values at or below approximately 1 ppb should be considered as upper limits. These elements were not necessarily actually detected in the samples.

Attachment

cc:
P.D. LaFleur
I.L. Barnes
## Impurities Leached from Plastic Containers

**ppb by weight**

<table>
<thead>
<tr>
<th>Elements</th>
<th>Teflon FEP</th>
<th>Linear Polyethylene</th>
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<td></td>
<td>(1+1) HNO₃</td>
<td>(1+1) HNO₃</td>
</tr>
<tr>
<td></td>
<td>1A</td>
<td>1B</td>
</tr>
<tr>
<td>Pb</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Tl</td>
<td>≤ 0.5</td>
<td>≤ 0.5</td>
</tr>
<tr>
<td>Ba</td>
<td>*2</td>
<td>*1</td>
</tr>
<tr>
<td>Te</td>
<td>0.3</td>
<td>1</td>
</tr>
<tr>
<td>Sn</td>
<td>0.5</td>
<td>0.7</td>
</tr>
<tr>
<td>Cd</td>
<td>0.2</td>
<td>0.3</td>
</tr>
<tr>
<td>Ag</td>
<td>≤ 4</td>
<td>3</td>
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<tr>
<td>Sr</td>
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<td>0.5</td>
</tr>
<tr>
<td>Se</td>
<td>0.1</td>
<td>0.4</td>
</tr>
<tr>
<td>Zn</td>
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<td>Ca</td>
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<tr>
<td>Na</td>
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<td>1</td>
</tr>
</tbody>
</table>

* Positive presence in sample

**Note:** Samples are spiked for an optimum concentration of 3 to 10 ppb; don't take 1 ppb and lower numbers too seriously (i.e., ≤ values).
Impurities Leached from Plastic Containers
ppb by weight

<table>
<thead>
<tr>
<th>Elements</th>
<th>Conventional Polyethylene</th>
<th>Polycarbamate</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(1+1) HNO₃ 3A</td>
<td>(1+1) HCl 3B</td>
</tr>
<tr>
<td>Pb</td>
<td>0.4</td>
<td>11</td>
</tr>
<tr>
<td>Tl</td>
<td>0.8</td>
<td>2</td>
</tr>
<tr>
<td>Ba</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Te</td>
<td>0.3</td>
<td>0.4</td>
</tr>
<tr>
<td>Sn</td>
<td>0.5</td>
<td>≤ 0.5</td>
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<tr>
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<td>0.1</td>
<td>0.1</td>
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<tr>
<td>Se</td>
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<td>0.2</td>
</tr>
<tr>
<td>Zn</td>
<td>1</td>
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<td>Cu</td>
<td>1</td>
<td>0.4</td>
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<td>Ni</td>
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<tr>
<td>Fe</td>
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<tr>
<td>K</td>
<td>1</td>
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<tr>
<td>Mg</td>
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<td>6</td>
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<tr>
<td>Na</td>
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</tbody>
</table>
MEMORANDUM FOR I. L. Barnes, Chief
Analytical Spectrometry Section

From: T. J. Murphy and J. W. Gramlich
Analytical Spectrometry Section

Subject: Cleaning of Plastic Containers

The cleaning of plastic bottles by the alternate use of hydrochloric and nitric acids has been investigated by monitoring the lead leached from the bottles by each acid cleaning. Four plastic container materials were investigated. They were FEP Teflon, linear polyethylene, conventional polyethylene, and polycarbonate. The bottles were filled with the appropriate acid and allowed to stand full for a minimum of one week. The FEP Teflon bottle was heated to about 80 °C and the others were kept at room temperature.

The total lead leached from each bottle was determined by spiking a 200 g aliquot with $^{206}\text{Pb}$, evaporating and determining the lead by mass spectrometry.

The results of these determinations are shown in Table 1. The results show that the bottles were essentially clean in regards to lead after the first cleaning with (1+1) HCl. The 0.5% HNO₃ was tried since Dr. Patterson of the California Institute of Technology claims that concentration of nitric acid is more efficient for cleaning Teflon Containers than (1+1) HNO₃. However, this was not confirmed in the present study. Even after two months standing, no further leaching of lead occurred.

Attachment

cc: P. D. LaFleur
<table>
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<tr>
<th>Bottle</th>
<th>Size (ml)</th>
<th>(1+1) HCl 1 week (ng Pb)</th>
<th>(1+1) HNO$_3$ 1 week (ng Pb)</th>
<th>0.5% HNO$_3$ 1 week (ng Pb)</th>
<th>0.5% HNO$_3$ 2 months (ng Pb)</th>
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<tbody>
<tr>
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<td>1000</td>
<td>203</td>
<td>7</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Linear Polyethylene</td>
<td>1000</td>
<td>98</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<td>Conventional Polyethylene</td>
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<td>—</td>
</tr>
<tr>
<td>Polycarbonate</td>
<td>500</td>
<td>111</td>
<td>7</td>
<td>7</td>
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— No significant amount over blank level.
APPENDIX C

Summary of Activities - Speciation in Water, Air and Related Materials

Determining the chemical species or form of an inorganic element in water, air, sediments, etc., is a difficult, if not impossible, task using most analytical techniques. This is true since most methods require some chemical pretreatment of the sample which invariably alters the chemical species.

We have developed a method which can be used in many cases to examine samples "as-is" and looks very promising for the determination of speciation where the various chemical forms have a different volatility. This method, which is called dual plasma emission spectrometry, utilizes a separate controlled temperature heating chamber connected to a capacitively-coupled plasma torch (CCP). The characteristic emission is then analyzed using one or more monochrometers with electron multiplier detectors. A diagram of the dual plasma torch unit is shown in figure 1. In this example the sample (which may be liquid or solid) is shown inside the coils of a small induction furnace which is programmed through a specific, and known, heating cycle. The evolved species are carried by the argon/nitrogen carrier directly into the CCP where emission of the characteristic wavelength takes place. For very refractory samples a high temperature plasma can be formed within the sample chamber. Alternately the induction furnace can be replaced with a simple resistance furnace and/or cooling coils to permit the sample to be taken through any desired heating, cooling cycle.

The unit has been used to date to examine air particulate filters, adsorption tubes with vapor samples and a variety of water, sediments, tissue, yeast and other samples to examine these for various species of lead, mercury, chromium and arsenic contained within the samples.
Two examples of the application of this method are shown here. In figure 2 is shown the change in intensity of the Hg line as a sample of lyophilized tuna fish is heated through the temperature cycle shown. The peak starting at 184 °C has been shown to be due to mercuric chloride and that starting at 353 °C is due to mercuric oxide. A typical working curve for mercuric chloride is shown in figure 3. Similar curves have been obtained for ocean sediments and sea water, both of which show a lower temperature peak determined to be methyl mercury, but this has not as yet been examined quantitatively.

A similar effect has been noted for chromium in yeast (figure 4). In this case the chromium line at 4289 Å has been repeatedly scanned as the temperature was increased to look for any possible changes in background. The low temperature peak is believed to be an organo-chromium compound although it has not as yet been identified. The higher temperature peak is inorganic chromium. In neither case have the amounts of chromium been determined quantitatively although this should be possible.

The potential of this method to determine chemical speciation in a wide variety of samples and for a number of elements has been demonstrated. Much work remains to be done to further identify organo-metallic species and to determine these quantitatively. This aspect is being explored for chromium in yeast and mercury in fresh fish, sediment and water. Other applications will be explored in the future.
Hg in Tuna Fish (SRM)

Hg; 2536.52 Å

Relative Intensity

184 °C

353 °C

πη

10 20 30 40 50 60 70 80
Figure 3

WORKING CURVE FOR Hg

Relative Intensity

Hg: 2536.52 Å

C = 5.4 %

Hg (ng)
Cr in Yeast

Cr: 4289.7 Å
4285 ~ 4295 Å

28°C  100°C

Time  10 (min)
ANNUAL REPORT

Research Unit: #153/155
Reporting Period: 1 July 1975 thru 1 April 1976
Number of Pages: 99

Distribution of Light Hydrocarbons, C₁-C₄,
in the Northeast Gulf of Alaska and the
Southeastern Bering Shelf

Dr. Joel Cline
Dr. Richard Feely

Pacific Marine Environmental Laboratory
Seattle, Washington  98105

March 25, 1976
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<td>Station locations in the southeastern Bering Sea. The PMEL grid is denoted by 0; the IMS grid by . Surface stations near Izenbeck Lagoon are shown in lower case letters (i.e., a,b,c, etc.).</td>
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<td>5-1</td>
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<tr>
<td>5-2A</td>
<td>Chromatographic response for the C1-C4 aliphatic hydrocarbons. Retention times are given in minutes. The sample was a Matheson certified standard containing methane (21.8 ppmv), ethane (1.3 ppmv), propane (1.25 ppmv), and n-butane (1.1 ppmv). Separation of the hydrocarbons was effected isothermally at 30°C on Poropak® Q (3/16&quot; x 8') with a helium carrier flow of 60 ml/min. Integration was performed by a Hewlett Packard® model 3380 reporting integrator.</td>
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<td>5-2B</td>
<td>Chromatographic response of the C1-C4 aliphatic and olefinic hydrocarbons. Retention time in minutes is shown above the individual components. The sample was a Matheson certified standard containing methane (102.7 ppmv), ethane (5.0 ppmv), ethylene (1.9 ppmv), propane (5.0 ppmv), propylene (2.0 ppmv), iso-butane (5.1 ppmv) and n-butane (2.0 ppmv). Separation of the hydrocarbons was carried out on a Poropak® Q column (3/16&quot; x 8') in series with an activated alumina column (3/16&quot; x 2&quot;) impregnated with silver nitrate (1% by weight). Temperature programming between 110°C - 150°C was used to accelerate the analysis. Integration was performed on a Hewlett-Packard® model 3380 reporting integrator.</td>
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<td>6-1</td>
<td>Surface distribution of methane in Bristol Bay during Sept-Oct. 1975. Concentrations are given in nt/l (NPT).</td>
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Figure | Page
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1. GENERAL SUMMARY

1.1 Objectives

The low molecular weight hydrocarbon program was initiated in the OCS of Alaska in response to the environmental guidelines set forth in the Environmental Study Plan for the Gulf of Alaska, Southeastern Bering Sea and the Beaufort Seas (January, 1975). Briefly, the purpose was to establish the spatial and temporal variations (seasonal and diurnal) in the dissolved hydrocarbon fraction composed of methane, ethane, ethylene, propane, propylene, isobutane and n-butane. These data are being collected in order to establish baseline levels of naturally-occurring hydrocarbons in the lease areas prior to exploration, development, and production of fossil fuel reserves. These components have proven to be valuable indicators of petroleum input arising from drilling, production, and transportation of crude oil and refined products.

In support of the basic objectives, attention is being given to natural hydrocarbon sources, namely gas and oil seeps, production of hydrocarbons from near-surface sediments, and biogenic sources within the euphotic zone.

1.2 Conclusions

Field studies were conducted in the Northeast Gulf of Alaska and the Southeastern Bering Sea (Bristol Bay) during the Fall of 1975. No seasonal data are yet available.
1.21 Bristol Bay

Dissolved methane is the dominant and most variable hydrocarbon observed in the waters of Bristol Bay. Near-bottom concentrations of methane ranged from 600 nl/l near Unimak Pass to 60 nl/l in the extreme northern and eastern extremities of Bristol Bay. Surface concentrations were less variable, averaging near atmospheric equilibrium values of 50-70 nl/l. Anomalous surface concentrations of methane were observed near Izenbeck Lagoon and Herendeen Bay.

The C$_2$-C$_3$ fraction was much less variable, ranging from 0.3 nl/l to 1.5 nl/l. In general, ethane and ethylene increased with depth toward the bottom as did methane, indicating this region is a probable source. Propane and propylene were generally invariant with depth, averaging 0.5 nl/l for the sum. An apparent source of ethane exists near the Izenbeck Lagoon, but the data are inconclusive at this point.

Correlations between the near-bottom concentrations of methane, ethane, and ethylene and organic carbon concentration in surface sediments is apparent.

The concentrations of isobutane and n-butane was uniformly near or below the detection limit of 0.03 nl/l. Maximum values near 0.1 nl/l were observed in selected samples, but these results may be biased from shipboard contamination.

1.22 Northeast Gulf of Alaska

Not unlike the Bering Sea, methane is the dominant dissolved hydrocarbon at all depths, exceeding the concentration of all other components by a factor of 100 or more. Near-bottom concentrations of methane in the shelf region were uniformly greater than 200 nl/l in sharp contrast to the
normal conditions observed in the Bering Sea. Extremely high concentrations of methane were observed in the Hinchinbrook Sea Valley just south of the island of the same name. Here, the concentration of methane reached a maximum of nearly 1600 nL/l within 5 m of the bottom. The apparent plume of methane-rich water arising from this source could be traced toward the east, over Tarr Bank, to a point near the Copper River Delta. It is not certain whether the observed trajectory of methane is due to circulation or a bottom source of methane arising from the fine-grained sediments north of Tarr Bank (MoInia and Carlson, 1975).

Surface concentrations of methane were unusually high over the shelf, rarely falling below 100 nL/l. Surface concentrations exceeding 250 nL/l were observed near Kayak Island, although the source is not known. Accumulations of methane in surface waters are observed (Lamontagne et al., 1971, 1973a), but the relationship to biological processes is obscure.

Concentrations and spatial variations of ethane, ethylene, propane and propylene were similar to those observed in Bristol Bay. Ethane and ethylene demonstrated a weak correlation with methane, although the methane/ethane ratios observed were much larger in the Gulf of Alaska than in Bristol Bay. It is not known why this is true, however, it appears that increased methane production from shelf sediments in the Gulf of Alaska is not supported by increases in other hydrocarbons.

The concentrations of ethane, ethylene, propane, and propylene were generally less than 1 nL/l. Iso- and n-butane, were near or below the detection limit of 0.03 nL/l.

Without additional corroborating evidence, it would appear that the concentrations of hydrocarbons observed in the OCS study areas arose from the bottom and the immediate surface layers. Methane production from
organic-rich sediments is reasonably well understood, but the mechanisms leading to the production of ethane and ethylene from the same sediments is not clear. Increased concentrations of hydrocarbons in the mixed layer, not supported by a bottom source, appears to be biological in origin, although the mechanisms are not understood.

1.3 Implications to Oil and Gas Development

These studies were enacted as a part of the baseline characterization of dissolved natural hydrocarbons on the OCS of Alaska. The hope was to establish concentration levels, temporal and spatial variability of hydrocarbon components common to petroleum or natural gas prior to actual production. These measurements were felt to be an invaluable precursor to future monitoring efforts.

Measurements to date in the Bering Sea and Gulf of Alaska have established ambient concentration levels, and spatial variations, but have not addressed seasonal changes or source areas. The remainder of the field studies, largely to be completed in FY 1976, will address the remaining objectives outlined above, although somewhat incompletely.

A cursory examination of our present findings indicate that the LMWH will be excellent tracers of petroleum input in the Bering Sea because of their naturally low ambient concentrations. Surface methane concentrations in the northeast Gulf of Alaska are higher and more variable than those observed in the Bering Sea, which will reduce its effectiveness as a tracer of petroleum. On the other hand, the concentrations of the C$_2$-C$_4$ fractions are extremely low, providing a monitoring team with excellent tag of petroleum or natural gas containing these components. Our studies have also shown that normal production of methane from shelf sediments can be traced for distances greater than 100 km from known sources. Based on these preliminary
observations, it is concluded that surface exchange and \textit{in situ} consumption of a low molecular weight hydrocarbons may be sufficiently slow so as to allow them to be used as tracers of the soluble fractions of crude oil. Of course, the value of these components as tracers will depend critically on the magnitude of the input, whether it is at depth or at the surface, and the prevailing hydrographic and meteorological conditions at the point of input. The extent to which microbial metabolism of the volatile hydrocarbon fractions is important is not clear at this time.

The distribution of methane may also serve as a qualitative or semi-quantitative measure of local circulation. If benthic fluxes can be estimated, together with \textit{in situ} consumption rates of methane, subtle near-bottom circulation processes may be characterized that are not resolved readily by routine velocity field observations. A case in point is the near-bottom methane plume observed near Tarr Bank and the Copper River Delta.
2. INTRODUCTION

2.1 General Nature of Study

The development of petroleum resources in the Gulf of Alaska may result in the release of toxic hydrocarbons to the marine environment with possible deleterious effects on the pelagic, benthic, and intertidal biota. Increases in the natural levels of petroleum-derived hydrocarbons are likely to occur from the normal activities associated with exploration, production and transportation of crude and refined products within the region. Thus, it is of environmental importance that baseline levels of both naturally occurring and petroleum-derived hydrocarbons be established prior to the development of fossil fuel resources in the area.

Petroleum contains three broad classes of compounds: alkanes, cycloalkanes, and aromatics, but not olefinic hydrocarbons. The proportions of each varies in petroleum, depending on the geologic and geographic sources, but on the average paraffins represent about 30% of the total (Wilson, 1975). The low molecular weight hydrocarbons (LMWH) probably represent no more than 5% of the total, although the exact amount would depend on the natural gas content of the source rock.

It is presently believe that the most toxic fractions of crude oil are the low boiling point aliphatics and aromatics as well as the polynuclear aromatics (Blumer, 1971). Also associated with these complex fractions are the LMWH, in varying amounts. While these compounds are of lower toxicity than the aforementioned fractions (Sackett and Brooks, 1974), they are more soluble and hence are likely to be dispersed by normal mixing.
processes. Although the evaporation rates of the low molecular weight compounds are quite rapid (McAuliffe, 1966), significant injection of these volatile hydrocarbons into the water column can occur under conditions of turbulence.

Because of their relatively high solubility and low natural abundance, the temporal and spatial distributions of \( C_1-C_4 \) hydrocarbons are valuable indicators of petroleum pollution arising from offshore drilling and production platforms, ballast tank discharge, and shipping and transfer operations involving petroleum and petrochemicals (Brooks and Sackett, 1973; Sackett and Brooks, 1974).

The occurrence of light hydrocarbons in the water column may arise from both petroleum production activities and natural marine sources. Gaseous hydrocarbons may exchange across the sea surface in response to a concentration gradient (Broecker and Peng, 1974) diffuse from underlying sediments (Frank et al., 1970), escape in the form of bubbles from natural occurring gas and oil seeps (Link, 1952; Geyer and Sweet, 1973), or be produced by \textit{in situ} biological processes (Lamontagne et al., 1973b).

Methane (\( \text{CH}_4 \)) is a significant component of natural gas and is also produced in anoxic sediments by bacterial \( \text{CO}_2 \) reduction and fermentation reactions (Claypool, 1974). Thus, the presence of excess methane in the water column overlying organic-rich sediments is not an unequivocal indicator of a petroleum source, unless viewed jointly with the distribution of the heavier fractions, \( C_2-C_4 \) (Brooks and Sackett, 1973).

Above saturation values of methane, ethylene and propylene also have been observed in the surface layers of open ocean and are believed to be related to biological activity or photochemical reactions involving
organic matter (Swinnerton and Lamontagne, 1974; Lamontagne et al., 1973b).

2.2 Objectives

In conjunction with and in support of the OCSEAP program, the LMWH studies were carried out in the northeast Gulf of Alaska and the southeastern Bering Sea. The objectives of the program are to determine the distributions and natural sources of methane, ethane, ethylene, propane, propylene, isobutane and n-butane prior to drilling activity. Observational activities include areal and seasonal coverage to denote biological processes, benthic sources, as well as short-term time series to elucidate diurnal changes.

As a secondary objective, known offshore seeps were investigated to ascertain the composition of natural gas seeps and to evaluate the merits of naturally-injected LMWH as tracers of petroleum input. The successful implementation of this subprogram depends critically on seep composition and activity, depth of water and unconsolidated sediment cover, mean current fields, and topographic structures (Fischer and Stevenson, 1973).

2.3 Relevance to OCSEAP

The principal concern surrounding the distributions, sources, and sinks of LMWH is not their direct impact on biota, but rather as tracers of more toxic hydrocarbon fractions commonly found in crude oils. Of particular value is the use of LMWH to identify probable trajectories of the toxic dissolved fractions (e.g., PAH) during a spill or a well blowout. Because some of the hydrocarbons common to petroleum are also manufactured by marine organisms, it becomes necessary to evaluate the normal background levels of hydrocarbons before an accurate assessment of anthropogenic input can be made.
Accidental introduction of crude oil onto the surface of the ocean can be readily traced by a variety of visual techniques (e.g., remote sensing). However, the dispersion of soluble hydrocarbon fractions cannot be so easily traced, except with the expenditure of considerable time in sampling and laboratory analysis. In all likelihood, the results would not be available for days, or possibly weeks. The LMWH becomes valuable short-term tracers of dissolved hydrocarbon fractions because of the sensitivity of the method (i.e., parts per trillion), ease of the analysis, and real time data access. Utilizing a pumping system, sample processing, extraction and analysis can be readily accomplished in less than 10 minutes, or nearly in real time. This provides the monitoring team with the capability of ascertaining the time and space scales of the subsurface dispersion plume and to outline probable lateral boundaries for more detailed hydrocarbon sampling.

The success of the method depends on the nature of the accident, hydrographic and meteorological conditions, input concentration of hydrocarbons, and the natural ambient levels against which increases can be measured. Observations conducted in the Gulf of Mexico show that propane and butane are enriched by factors of $10^3$ to $10^4$ over ambient background levels in areas of known petroleum input (Brooks and Sackett, 1973).

The overall objective is to provide the criteria for an early warning detection of petroleum-derived hydrocarbons and to establish the feasibility of using light hydrocarbons as dispersion tracers, particularly in reference to near-bottom mixing and resuspension processes. In the event of a spill, it is likely that the C$_1$-C$_4$ fraction may be useful in guiding a sampling protocol for the relatively soluble toxic fractions of crude oil.
3. CURRENT KNOWLEDGE

Prior to these investigations, no observations had been made on the ambient concentrations of LMWH in the Gulf of Alaska or the Bering Sea (Rosenberg, 1972). In contrast, a few analyses are available from Cook Inlet (Kinney et al., 1970). In this investigation elevated concentrations of methane were observed in the vicinity of the Forelands, north of Kalgin Island, but no definitive conclusions could be drawn as to the probable source. Gas seeps were cited as a possible source, but benthic methane production could not be ruled out. Unfortunately, the analysis of the C₂-C₄ fraction was not reliable, hence confirming data on the possible source of the methane was not available.

Recent studies carried out by us in the northeast Gulf of Alaska and the southeastern Bering Sea have determined characteristic LMWH distributions for the late fall season. Local hydrocarbon sources have been identified and some measure of the diurnal variability documented. Both vertical and horizontal distributions are available from our observations. Details of our findings to date will be presented in sections 6 and 7 of this report.
4. STUDY AREAS

4.1 Bering Sea

Observations for LMWH were conducted according to the station grid shown in Figure 4-1. The PMEL survey grid was developed primarily for the suspended particulate matter program, but because of its uniform coverage it was adopted as a preliminary operation grid for hydrocarbons as well. The PMEL grid was supplemented by observations from the Institute of Marine Science (IMS) cruise track, which increased the areal coverage toward the west. A total of 80 stations were occupied, 69 of which (51 PMEL and 18 EBBS stations) were sampled in vertical profile. Because of the shallow depths encountered in Bristol Bay, 3-4 nominal depths were selected at each station. The remaining 18 PMEL stations were involved to investigate the surface transport of LMWH from Izenbeck Lagoon. Only surface sample were acquired at these stations.

4.2 Northeast Gulf of Alaska

Observations for LMWH were conducted at the stations shown in Figure 4-2. The grid shown in Figure 4-2 was developed primarily to investigate the distributions of suspended particulate matter, but because of its uniform coverage it was adopted as a preliminary operational sampling grid for hydrocarbons as well. A total of 47 stations were occupied in vertical profile, usually 5-6 discrete depths being sampled at each station. Surface and near bottom samples (bottom -5 m) were taken uniformly at each station.
Figure 4-1 Station locations in the southeastern Bering Sea. The PMEL grid is denoted by 0; the IMS grid by ○. Surface stations near Izenbeck Lagoon are shown in lower case letters (i.e., a, b, c, etc.)
Figure 4-2 Station locations in the northeastern Gulf of Alaska. Investigations of gas-charged sediments near Kayak Island were conducted near station 22.
An attempt was made to identify gas seeps or gas-charged sediments along the southeast site of Kayak Island. However, the probable locations were in shallow, uncharted depths and it was not possible to sample the proposed sites without endangering the vessel (DISCOVERER).
5. METHODOLOGY

5.1 Sample Concentration

LMWH are stripped from 1 l volume of seawater using the procedure recommended by Swinnerton and Linnenbom (1967). A diagram of the gas phase equilibrator is shown in Figure 5-1. Although the system actually used in these studies is somewhat simpler in detail than that shown in Figure 5-1, the principle remains the same.

Hydrocarbons are removed in a stream of ultra-pure He (120 ml/min) and condensed on an activated alumina trap maintained at -196°C. Approximately 12 minutes of stripping are required to quantitatively remove the hydrocarbons (>98%) from solution, after which time the trap is warmed to 90-100°C and the absorbed gases are allowed to pass into the gas chromatograph (GS).

5.2 Gas Chromatography

The hydrocarbons are chromatographed on a column (3/16" x 8') of Poropak\textsuperscript{(R)} Q, 60-80 mesh, and detected sequentially with a flame ionization detector (FID) as they emerged from the column. The GC is a Hewlett packard model \textsuperscript{(R)}5711, equipped with dual FID's. Analysis was carried out isothermally at 30°C with a GC He flow rate of 60 ml/min. Total chromatographic analysis time through the \textsubscript{C}_4's was approximately 15 minutes. A typical chromatogram of aliphatic components is shown in Figure 5-2A.

In order to be prepared for the 1975 field season, sufficient time was not available to adequately develop optimal GC analytical parameters
Figure 5-1

Low molecular weight hydrocarbon extraction system (Swinnerton and Linnenbom, 1967; Swinnerton et al., 1968). The extraction system shown is a recent modification given to us by Mr. R. Lamontagne of the Naval Research Laboratories, Wash. D.C.
Figure 5-2A Chromatographic response for the C₁-C₄ aliphatic hydrocarbons. Retention times are given in minutes. The sample was a Matheson certified standard containing methane (21.8 ppmv), ethane (1.3 ppmv), propane (1.25 ppmv), and n-butane (1.1 ppmv). Separation of the hydrocarbons was effected isothermally at 30°C on Poropak® Q (3/16" x 8') with a helium carrier flow of 60 ml/min. Integration was performed by a Hewlett Packard® model 3380 reporting integrator.

Figure 5-2B Chromatographic response of the C₁-C₄ aliphatic and olefinic hydrocarbons. Retention time in minutes is shown above the individual components. The sample was a Matheson certified standard containing methane (102.7 ppmv), ethane (5.0 ppmv), ethylene (1.9 ppmv), propane (5.0 ppmv), propylene (2.0 ppmv), iso-butane (5.1 ppmv) and n-butane (2.0 ppmv). Separation of the hydrocarbons was carried out on a Poropak® Q column (3/16" x 8') in series with an activated alumina column (3/16" x 2") impregnated with silver nitrate (1% by weight). Temperature programming between 100° - 150°C was used to accelerate the analysis. Integration was performed on a Hewlett-Packard® model 3380 reporting integrator.
(i.e., flow rates, solid supports, temperature programming, etc.). However, during the last 3 months, considerable effort has been given to the rapid chromatographic analysis of LMWH. The original Poropak\textsuperscript{(R)} Q column has been supplemented with an activated alumina column (3/16" x 2") impregnated with 1% silver nitrate by weight. This modification, coupled with temperature programming from 110-150°C, has resulted in sharper peaks, better separation and reduced retention times for all components (Figure 5-2B). Although the total analysis time is now regulated by stripping time (i.e., 12 minutes), we are currently developing a vacuum extractor to reduce the stripping time to less than 3 minutes.

5.3 Quality Control

5.3.1 Standardization and Accuracy

The LMWH analysis was referenced to specially prepared hydrocarbon mixtures supplied and certified by Matheson Gas Products. The concentrations of the individual components were adjusted to meet the naturally-occurring hydrocarbon levels expected in the OCS study areas, although concentrations less than 1 ppm could not be reliably prepared. To confirm the analysis, one of the standards was sent to NBS for LMWH analysis, the results of which are given in Table 5-1. The NBS analyzed standard will be used to calibrate the remaining hydrocarbon standards.
TABLE 5-1. Analysis of Matheson certified hydrocarbon standard by National Bureau of Standards

<table>
<thead>
<tr>
<th>Component</th>
<th>Matheson</th>
<th>NBS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nominal Concentration ppmv</td>
<td></td>
</tr>
<tr>
<td>methane</td>
<td>23 ± 1</td>
<td>21.8 ± 0.8</td>
</tr>
<tr>
<td>ethane</td>
<td>1 ± 0.1</td>
<td>1.3 ± 0.1</td>
</tr>
<tr>
<td>propane</td>
<td>2 ± 0.2</td>
<td>1.25 ± 0.02</td>
</tr>
<tr>
<td>n-butane</td>
<td>1 ± 0.1</td>
<td>1.1 ± 0.02</td>
</tr>
</tbody>
</table>

5.32 Precision

Precision of analysis was accomplished in two ways. First, precision errors associated with standard injection and GC response were determined by replicate injection of standard gases. Injection of gas standard was accomplished with the aid of a Carle(R) sampling valve fitted with a calibrated 1 cm sample loop. The results of this experiment are depicted in Table 5-2, together with estimates of the relative error. It is readily seen that individual component precisions are better than 2.2%. Relative error increases as carbon number increases.

The overall error in precision, which includes water sampling, sample stripping, and GC response characteristics, was estimated from replicate analysis of near surface sea water. Water samples were taken in a 10 l Niskin(R) sampler and subdivided for replicate analyses. This experiment was repeated 7 times, 4 in the Bering Sea and the remainder in the northeast Gulf of Alaska. The results of this study are shown in Table 5-3 in terms of mean concentrations (\(\bar{X}\)), standard deviation (S), and the relative error in percent. A blank column indicates that hydrocarbon concentrations were too low to produce an integrated response. Ignoring spurious values, it may
be noted that the relative errors, except for n-butane, were generally less than 10%. Precise measurement of low concentrations of n-butane presented a problem, primarily because of inherent difficulties in obtaining quantitative stripping of the \( C_4 \) fraction.

The detection limit for each component was estimated from the nominal background noise. Interpreted peak areas less than 200 counts were considered insignificant, placing a defined lower limit on the detectability. The values are, based on the data shown in Table 5-2, methane - 0.12 nl/l, ethane - 0.06 nl/l, ethylene - 0.07 nl/l, propane - 0.04 ml/l, propylene - 0.04 nl/l, isobutane -0.03 nl/l, and n-butane - 0.03 nl/l.

<table>
<thead>
<tr>
<th>Component</th>
<th>Conc. A</th>
<th>Area ( \sigma A )</th>
<th>% Error</th>
<th>N No. Samples</th>
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<td>Isobutane</td>
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<td>30584</td>
<td>454</td>
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<td>n-Butane</td>
<td>2.0</td>
<td>11970</td>
<td>270</td>
<td>2.2</td>
</tr>
</tbody>
</table>

5.4 Data Collection Rationale

The original scope of the baseline study was to determine horizontal, vertical, and seasonal variations of LMWH in the study areas as a precursor to petroleum development. Stress was placed on the distribution of propane and butanes as their presence in elevated amounts is much stronger evidence for petroleum hydrocarbon input. The investigation of seeps was only
Replicate analyses at 7 stations in the Bering Sea and northeast Gulf of Alaska. The mean ($\bar{X}$) and standard deviation ($S_x$) are based on 3 replicate analyses at each station. Relative error (R.E.) is the quotient of the standard deviation and the mean, given in percent. All concentrations are given in nL/L (NPT).

<table>
<thead>
<tr>
<th>Stations</th>
<th>Methane</th>
<th>Ethane</th>
<th>Ethylene</th>
<th>Propane</th>
<th>Propylene</th>
<th>n-Butane</th>
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<tbody>
<tr>
<td></td>
<td>$\bar{X}$</td>
<td>$S_x$</td>
<td>R.E.</td>
<td>$\bar{X}$</td>
<td>$S_x$</td>
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<tr>
<td>Bering Sea</td>
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<tr>
<td>EBB 59</td>
<td>63.9</td>
<td>3.6</td>
<td>5.6</td>
<td>0.63</td>
<td>0.06</td>
<td>9.5</td>
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<tr>
<td>PML 5</td>
<td>55.0</td>
<td>2.4</td>
<td>4.3</td>
<td>0.37</td>
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<td>EBB 43</td>
<td>60.6</td>
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<td>0.43</td>
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<td>EBB 41</td>
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<td>0.41</td>
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<td>NEGOA</td>
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<td>PML 1</td>
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<td>0.5</td>
<td>0.53</td>
<td>0.10</td>
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<tr>
<td>PML 40</td>
<td>591.6</td>
<td>20.6</td>
<td>3.5</td>
<td>0.44</td>
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<tr>
<td>PML 9</td>
<td>123.6</td>
<td>1.0</td>
<td>0.8</td>
<td>0.16</td>
<td>18.7</td>
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</table>
tangentially approached as our sampling grid was not "tight" enough to unequivocally locate seeps. We did, however, attempt to locate seeps along the 10-fathom fault line southeast of Kayak Island with a dedicated 12 hour study (Carlson et al., 1975).

In addition to the baseline survey, two 36-hour time series stations were occupied in each area. The purpose of these investigations was to ascertain the short term temporal changes in hydrocarbons, and thereby establish normal ambient variability against which future observations might be compared.

Ethylene and propylene, while not characteristic components of natural gas, were determined routinely in conjunction with the normal aliphatic components. Chromatographic separation of the olefins from the parent aliphatics results in a more accurate assessment of the concentrations of the latter, since the unsaturates are usually found in greater amounts.

In addition to the investigations carried out on the distribution of LMWH, considerable effort was mounted to elucidate natural hydrocarbon sources. To accomplish this, surface and near bottom samples were taken. In the Gulf of Alaska, sampling of the surface layers was carried out in conjunction with the productivity observations to ascertain possible hydrocarbon input due to photosynthetic or related biological processes. Near bottom samples were taken to characterize hydrocarbon sources in sediments. The origin of natural hydrocarbons must be understood before effective monitoring measures can be effectively mounted.
6. RESULTS

6.1 Bering Sea (Bristol Bay)

A total of 72 stations were occupied in Bristol Bay, comprising PMEL and IMS grids (see Figure 4-1). Usually 3 to 5 standard depths were sampled at each station, depending on the depth of water, hydrographic conditions, and sampling logistics. Analytical difficulties were encountered during segments of the cruise, resulting in an incomplete data record. Considerable difficulty was encountered with ship-induced petroleum contamination of the water samplers.

The results of our findings will be described in terms of areal distributions of significant hydrocarbon, their relationship to known source regions, and short term variability in concentrations brought about by tidal influences and/or meteorological events. Complete analysis of the hydrocarbon data in terms of hydrographic parameters has not been accomplished to date, but will be discussed in the final report (October 1976).

6.11 Areal Distributions of Methane

Surface methane concentrations in nл/l are shown in Figure 6-1.

A strong surface source of methane is indicated in the region of Izenbeck Lagoon and Herendeen Bay with normal equilibrium concentrations found elsewhere. Solubility calculations for methane have not been completed as yet, but surface sea water in equilibrium with the atmosphere should contain between 50-70 нл/l NPT of methane (Lamontagne et al., 1973b). Values less than 60 нл/l were observed in the delta regions of the Kuskokwim and Kvichak
Figure 6-1  Surface distribution of methane in Bristol Bay during Sept-Oct. 1975. Concentrations are given in nl/l (NPT).
rivers, which presumably represent fresh water influence or the absence of a bottom methane source.

The distribution of methane in the near-bottom waters demonstrates the marked influence of benthic sources (Figure 6-2). Methane concentrations exceeding 700 nl/l were found north of Unimak Pass and presumably indicate localized organic-rich sediments. This observation is borne out by the surface sediment distribution of organic carbon (Sharma, 1974), which are significantly higher in this region as compared to eastern Bristol Bay. In contrast, regimes characterized by river discharge plumes reveal low methane concentrations indicative of coarse grained sediments low in organic carbon (Sharma, 1974).

The zonal plume of relatively high methane concentrations lying along 58°N latitude may be due in part to the intrusion of cold water from the north. Near bottom temperatures for stations EBBS 38, 46, and 56 were in the range 0-1°C, whereas higher temperatures in the range 3-6°C were observed both to the north and to the south. The origin of this water is not precisely known, but is thought to arise in the Gulf of Anadyr (Takenouti and Ohtani, 1974). The methane also may be of local origin, but sediment size frequency and organic carbon concentrations in surface sediments would suggest an advective source (Sharma, 1974). More detailed measurements are needed to clarify the issue, however.

6.12 Areal Distributions of Ethane and Ethylene

Surface concentrations of ethane are shown in Figure 6-3. The ethane distribution shows little horizontal variations; concentrations range from lows of 0.3 nl/l to highs near 0.6 nl/l. The average for all surface values was 0.5 nl/l. A lobe of relatively high ethane concentration appears to
Areal distribution of methane 5 m from the bottom in Bristol Bay during Sept-Oct. 1975. Concentrations are given in nl/l (NPT).
Figure 6-3  Surface distribution of ethane in Bristol Bay during Sept-Oct. 1975. Concentrations are given in nl/l (NPT).
emerge from the lagoon areas and move counterclockwise around the eastern Bering Sea. Because of low ambient concentrations of ethane and relatively high analytical uncertainty, it is difficult to predict at this time whether the observations are reliable. It is of interest, however, that the highest ethane values observed at the surface, occurred near Herendeen Bay.

Near bottom concentrations of ethane shown in Figure 6-4 revealed a pattern similar to that observed for methane, although the localized maxima and minima are highly attenuated. Vertical profiles near Izenbeck Lagoon and Herendeen Bay indicate that the sediments are probably not the source of the high ethane concentrations shown in Figure 6-3. The low contour frequency in Figure 6-3 simply reflects the rather uniform horizontal distribution of ethane.

Concentrations of ethylene showed no discernible spatial patterns. The range of values observed fell between 0.1 and 1.5 nl/l, the highest concentrations normally occurred near the bottom. Average surface values were identical to the ethane average of 0.5 nl/l.

In general, ethane and ethylene increased with depth and correlated with methane concentrations. This situation is graphically displayed in Figure 6-5 for all samples. Although the correlation is not good, the trend suggests a common source for these homologs.

6.13 Distributions of Propane, Propylene, Isobutane and n-Butane

The distribution of propane plus propylene in the surface waters of Bristol Bay shows little spatial variation (Figure 6-6). Concentrations range from a low of 0.3 nl/l to a high of 0.9 nl/l. The average for all samples is 0.5 nl/l. Because of incomplete chromatographic separation of propane and propylene during segments of the cruise, the integrated
Figure 6-4 Areal distribution of ethane 5 m from the bottom in Bristol Bay during Sept-Oct. 1975. Concentrations are given in nL/L (NPT).
Figure 6-5  Methane versus ethane for all samples analyzed in Bristol Bay.
Figure 6-6  Surface distribution of propane plus propylene in Bristol Bay during Sept-Oct. 1975. Concentrations are given in nl/l (NPT). Approximately 2/3 of the total is propylene, based on complete chromatographic analysis at selected stations.
responses for the two components were combined. From the analyses of samples in which separation was effected, it appears that propylene equals or exceeds the concentration of propane. Most samples showed an enrichment of propylene over propane by a factor of 2.

Near-bottom concentrations of propane plus propylene indicate two major source areas as depicted in Figure 6-7. One near Herendeen Bay, the other in the central portion of Bristol Bay. As cited above, approximately 2/3 of the total is propylene. The average for all bottom samples is near 0.4 nℓ/l, only slightly less than the surface values. The absence of a bottom source for propane and propylene, combined with strong vertical mixing would result in a homogeneous water column with respect to these components.

The concentrations of the C₄'s are not shown since their concentrations were everywhere near or below the detection limit. Normally, the concentrations of n-butane ranged from a trace (0.03 nℓ/l) to approximately 0.1 nℓ/l. Higher concentrations were observed during the initial phase of the cruise, but contaminated water samplers were thought to be the cause.

6.14 Time Series

Short-term temporal changes in hydrocarbons were monitored at stations EBBS-37 (36 hours) and PMEL-46 (24 hours). These results are shown in terms of the time variation of methane at the surface and near-bottom (Figure 6-8).

Station 37, located in central Bristol Bay, showed systematic variations in methane in the surface layers and almost none in the near-bottom layer. Variations seen in the bottom layer largely reflect analytical imprecision. The periodicity seen in the surface layers is probably related
Figure 6-7  Areal distribution of propane plus propylene 5 m from the bottom in Bristol Bay during Sept-Oct. 1975. Concentrations are given in nL/L (NPT). Approximately 2/3 of the total is propylene, based on complete chromatographic analysis at selected stations.
Figure 6-8  Diurnal variations in the concentration of methane at the surface and 5 m from the bottom at stations EB 037(A) and PM 046(B) in Bristol Bay. Observations were conducted in late September 1975.
EB 037

METHANE [nl/n]

BOTTOM

SURFACE

(A)

PM 046

METHANE [nl/l]

BOTTOM

SURFACE

(B)
to tidal components, although it is impossible at this time to be specific about the actual source of the perturbations.

In contrast to the rather static conditions at station 37, large perturbations were observed in the Unimak Pass area. Over a 24-hour period, bottom methane concentrations varied by more than a factor of 2 (Figure 6-8B). Again, the periodicity suggests tidal influences, but here the relationships between source areas and circulation become quite important (cf. Figures 6-1 and 6-2). We propose that the large perturbations seen in the near-bottom layer are related to the large benthic methane source to the north, whereas low concentrations of methane may represent additions of water depleted in methane. The source of this water is probably to the east or south.

The maximum surface methane concentration noted at 0400 hrs may represent the biological production of methane in the upper layers. Complete analysis of the vertical profile taken at this time reveals that the water column was rather uniform with respect to methane, but not temperature. The concentration of methane increased from a surface concentration of 190 nM/l to 260 nM/l at 11 m, then decreased monotonically with depth to a near-bottom value of 185 nM/l. The intermediate maximum in methane concentration may be biologically related (Lamontagne et al., 1973b).

6.15 Typical Vertical Profiles

Typical vertical profiles of methane, ethane, ethylene, and propane plus propylene are shown in Figure 6-9A,B for two stations in Bristol Bay. Although it is difficult to choose a typical profile from any of the regions, the occurrence of ethane and ethylene appears to correlate with methane concentrations as noted earlier. The two stations chosen represent...
Figure 6-9  Vertical distributions of methane, ethane, ethylene, and propane plus propylene at stations PM 014(A) and PM 045 (B) in Bristol Bay during Sept-Oct. 1975.
diverse benthic environments in order to identify the importance of the bottom in regulating hydrocarbon concentrations. PMEL-14 (Figure 6-9A) is located near Cape Newenham and shows little bottom influence on the distributions of hydrocarbons. The sediments here are coarse-grained and the organic carbon concentrations is low (Sharma, 1974).

In contrast, station 45 (Figure 6-9B) located just to the north of Unimak Pass shows striking increases in methane, ethane, and ethylene with water depth. Again, propane and propylene do not appear to be generated within the sediment column.

As new data become available, hydrocarbon distributions will be analyzed in terms of biological parameters and sedimentological provinces to clarify the significance of surface productivity and CO$_2$ reduction in sediments.

6.2 Northeast Gulf of Alaska

A total of 51 stations were occupied in the northeast Gulf of Alaska, including Prince William Sound. The station grid, shown in Figure 4-2, was developed for the survey of suspended particulate matter and was adopted for this program as well.

Sample analysis included 274 normal depths and 84 samples arising from time series at stations 46 and 62. These hydrocarbon analyses were supplemented by an intense near-bottom study off the southern tip of Kayak Island in which two 5-l Niskin bottles were suspended 2 and 4 m above the bottom. Hydrocasting was conducted along the surface exposure of the 10-fathom fault line, which was suggested as a possible source of hydrocarbons (Dr. Bruce Molnia, USGS, Menlo Park).
The results of these findings will be described in terms of areal distributions of significant hydrocarbons, their relationship to known source regions, and their temporal variability. As mentioned above, complete analysis of the hydrocarbon data in terms of hydrographic parameters has not been completed, but will be included in the final report (October 1976).

6.21 Areal Distribution of Methane

Surface methane concentrations over the shelf region were generally high. Concentrations of methane rarely fell below 100 nM/l except at stations seaward of the shelf break (Figure 6-10). Extremely high surface concentrations of methane were observed in the vicinity of Kayak Island as shown in Figure 6-10. The source of this methane may be the underlying sediments, but a cursory analysis of the vertical distributions at each of the stations often reveals a subsurface maximum in the concentrations of methane. It is indeed unusual to observe high concentrations of methane in surface waters where atmospheric exchange should rapidly reduce to the concentrations to 50-70 nM/l, particularly under conditions of intense wind mixing (Broecker and Peng, 1974).

It is possible that the high methane values observed near Kayak Island are due to gas seeps, however, as we shall see later; the ethane and propane components are not abnormal, at least not abnormally high compared to other shelf areas investigated.

In Figure 6-11 is shown the near-bottom distribution of methane. Concentrations of methane do not fall below 200 nM/l in the survey region, with an intense maximum centered south of Hinchinbrook Entrance. Actual near-bottom methane concentration at station 45 was 1577 nM/l, the highest
Figure 6-10  Surface distribution of methane in the northeast Gulf of Alaska during Oct-Nov. 1975. Concentrations are given in nL/L (NPT).
Figure 6-11  Areal distribution of methane 5 m from the bottom in the northeast Gulf of Alaska during Oct-Nov. 1975. Concentrations are given in nℓ/l (NPT).
value measured anywhere to date on the OCS of Alaska. Because station positions near Montague Island were not sufficiently dense, the actual source of the methane is not known. Based on the observations made at stations 43 and 44, it would appear that Prince William Sound is not the source.

The trajectory of the methane plume is east across Tarr Bank, a topographic high consisting of coarse-grained relict Holocene sediments, toward the Copper River delta. Without knowledge of the magnitude of the benthic sources in the region, it would appear that methane generated near Montague Island moves under the Copper River plume in response to estuarine circulation. Sampling occurred in early November and it is presumed that river discharge was low at this time of the year, thereby reducing the normal estuarine driving mechanism. A methane source to the west and north of Tarr Bank is suggested because of the occurrence of clayey muds, presumably high in organic carbon. Methane distributions in the near-surface sediments are required to resolve the extent and magnitude of the bottom source.

6.22 Areal Distribution of Ethane and Ethylene

The surface distribution of ethane is shown in Figure 6-12. There is no discernible areal pattern except for highly localized maxima and minima. The average surface concentration is 0.3 nl/l with a standard deviation of 0±0.2 nl/l. A single high value of 1.4 nl/l was observed west of Kayak Island, but its significance is not known at this time. A plot of ethane vs. methane for all samples is shown in Figure 6-13. The correlation is poor, but the trend suggests a common source for methane and ethane. A low methane-ethane ratio would indicate a possible petroleum source.
Surface distribution of ethane in the northeast Gulf of Alaska during Oct-Nov. 1975. Concentrations are given in nL/L (NPT).
Methane versus ethane for all samples analyzed in the northeast Gulf of Alaska.
The surface distribution of ethylene is similar to that of ethane, showing localized maxima and minima. In general, the concentrations are higher than ethane and reveal larger spatial variability. The average surface value was 0.7 nl/l with a standard deviation of the mean of ±0.20 nl/l.

Near-bottom ethane concentrations are presented in Figure 6-14. In general, the concentrations are greater than those observed at the surface, again indicating a sediment source. Slightly elevated concentrations of ethane were observed in the vicinity of Kayak Island, but the source of the ethane and its significance is not known at this time. Similarly, relatively high ethane values were observed south of Resurrection Bay. The average near-bottom ethane concentration is 0.5 nl/l, with a standard deviation of ±0.2 nl/l.

Analogous to the ethane distribution, the near-bottom ethylene distribution is variable and correlative with distribution of methane. These observations are indicated in Figure 6-15.

In general, elevated ethylene concentrations are observed in the shallow shelf region, and in particular the area south of the Copper River and Kayak Island. The average near-bottom concentration of ethylene in the shelf area is 1.1 nl/l with a standard deviation of the mean of ±0.3 nl/l. In general, lower concentrations are observed offshore at shelf depths and to the east in the region of Icy Bay and Yakutat Bay.

6.23 Propane, Propylene, Isobutane and n-Butane

Surface values of propane show little variation throughout the entire survey region, except in the vicinity of Kayak Island. The average surface value for all samples is 0.2 nl/l with a standard deviation of the mean of ±0.1 nl/l. To the west and south of Kayak Island, surface propane concentrations are in the range 0.3-0.4 nl/l.
Figure 6-14  Areal distribution of ethane 5 m from the bottom in the northeast Gulf of Alaska during Oct-Nov. 1975. Concentrations are given in nℓ/l (NPT).
Figure 6-15  Areal distribution of ethylene 5 m from the bottom in the northeast Gulf of Alaska during Oct-Nov. 1975. Concentrations are given in nl/l (NPT).
The concentrations of propane 5 m above the bottom are shown in Figure 6-16. The distribution is spatially uniform with an average value of 0.2 nJ/l and a standard deviation of the mean of ±0.04 nJ/l. The elevated propane values observed in the surface waters west and south of Kayak Island are not reflected in the near-bottom concentrations.

Propylene concentrations over the shelf were uniformly at or below the detection limit of 0.04 nJ/l at both the surface and at depth. Again, west and south of Kayak Island, measurable concentrations were observed, the range being 0.2 to 0.3 nJ/l. Chromatographic difficulties were encountered in the separation of propane and propylene, resulting in many incomplete peak integrations. Even so, it is apparent that the concentration of propylene was uniformly low throughout the region, which may have been caused by the late season and a corresponding reduction in photosynthetic activity (Lamontagne et al., 1973a).

Isobutane and n-butane concentrations were everywhere below the detection limit of 0.03 nJ/l.

6.24 Time Series

Two 36-hour time series were taken at stations 46 and 62 (Figure 4-2). The results of this study are depicted in Figure 6-17A,B. Station 46 is located on Tarr Bank, a region already shown to be characterized by high methane concentrations and strong lateral gradients. The bottom temporal sequence shows an eight-hour periodicity, characterized by asymmetrical amplitudes (Figure 6-17A). It is unfortunate that a longer time sequence could not be taken in order to document the frequency of the major perturbations. Surface values were nearly invariant, suggesting little vertical exchange with water rich in methane from below.
Figure 6-16  Areal distribution of propane 5 m from the bottom in the northeast Gulf of Alaska during Oct-Nov. 1975. Concentrations are given in nM/l.
Figure 6-17  Diurnal variations in the concentration of methane at the surface and 5 m from the bottom at stations PM 046(A) and PM 062(B). Observations were conducted in the northeast Gulf of Alaska during Oct-Nov. 1975.
(A) PM 046

Time (hr)

10/26 10/27

METHANE (nL/l)

BOTTOM

SURFACE

(B) PM 062

Time (hr)

11/5 11/6

METHANE (nL/l)

BOTTOM

SURFACE
Temporal variability of methane at station 62 is depicted in Figure 6-17B. Unlike the near-bottom observations at station 46, only modest excursions in methane were observed during the time series. Complete analysis of the mean flow and tidal current measurements has not been completed, but the modest changes in the concentration of methane reflect the fact that no large localized sources of methane exist in close proximity of station 62. Assuming mean tidal velocities of 10 cm/sec over a time interval of 8 hours (Schumacher, personal communication, 1976), we estimate that a significant methane source would have to be closer than 3 km to register in the time sequence. Inspection of Figure 6-11 reveals a rather "flat" horizontal methane distribution over a space scale of 3 km; hence little variation would be expected. Most of the variation may be attributed to imprecise depth position of the sampling bottle.

During the time study at station 62, the mean flow (35 hr filter) at 177 m was weak and variable. Early in the period it was toward the north at 10 cm/sec, diminishing to less than 5 cm/sec for the remainder of the period. Current direction was variable.

6.25 Typical Vertical Profiles

The vertical distributions of methane, ethane, ethylene and propane are shown for two stations in the Gulf of Alaska. Station 21 (Figure 6-18A) is located just south of Kayak Island, near the 100 fathom isobath. Methane, ethane, and ethylene concentrations increase monotonically with depth, suggesting a bottom source. There is an intermediate maximum in the concentration of methane and ethylene, which suggests lateral advection of hydrocarbon-rich water at 100 m or possible biological activity. The concentration of propane is uniform with depth, and appears not to be related to a bottom source.
Vertical distributions of methane, ethane, ethylene, and propane at two stations in the northeast Gulf of Alaska, PM 021(A) and PM 045(B). Observations were conducted during Oct-Nov. 1975.
Station 45 is located near Hinchinbrook Entrance and is characterized by extremely high concentrations of methane. Surface values are near 300 ml/l increasing to 1577 ml/l at depth. Corresponding increases in ethylene and ethane are also observed as the bottom is approached, with propane and propylene remaining invariant with depth.

6.26 Kayak Island Seep Study

Relying on verbal information from the U.S. Geological Survey at Menlo Park concerning the locations of gas-charged sediments, approximately 12 hours of ship time were dedicated to an intensive study of the 10 fathom fault exposure south and west of Kayak Island (Carlson et al., 1975). We had hoped to investigate the fault along the eastern boundary of the island, but shallow, uncharter waters prevented a study of most of the fault. Approximately 7 hours were used to run detailed transects for navigational purposes. At the same time, continuous fathometer readings were taken to delineate the fault and at the same time scan the waters for gas bubbles. None were conclusively observed.

Sampling was carried out along the fault every hour by lowering 2 Niskin bottles to within 2 and 4 m of the bottom. Sample bottle positioning was established by the PDR trace and a fix was taken at the moment the bottle was tripped. The results of the study are shown in Table 6-1 as time averages.

<table>
<thead>
<tr>
<th>Distance</th>
<th>Methane</th>
<th>Ethane</th>
<th>Ethylene</th>
<th>Propane</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ml/l</td>
<td>ml/l</td>
<td>ml/l</td>
<td>ml/l</td>
</tr>
<tr>
<td>2</td>
<td>442 ± (90)</td>
<td>0.4 ± (0.2)</td>
<td>1.0 ± (0.1)</td>
<td>0.2 ± (0.07)</td>
</tr>
<tr>
<td>4</td>
<td>442 ± (91)</td>
<td>0.4 ± (0.2)</td>
<td>1.0 ± (0.3)</td>
<td>0.2 ± (0.03)</td>
</tr>
</tbody>
</table>
No unusual concentrations of hydrocarbons were observed other than the normal variabilities in methane already discussed in section 6.24. Average and discrete methane, ethane, and propane concentrations were considered typical for the region near Kayak Island.

The failure to observe elevated concentrations of aliphatic hydrocarbons in the $C_2-C_4$ range indicates that gas seep activities were small or absent. Actual seep activity for the Kayak Island region has never been reported, only the presence of gas-charged sediments. Our investigation along the southern exposure of the fault would suggest that the gases in the underlying sediments are of normal biogenic origin, but analysis of dissolved gases in the surface sediments would be most helpful to confirm our suspicions.

Efforts are continuing with USGS to establish more precisely the location of the gas charged sediments, and seeps, near Kayak Island.
7. DISCUSSION

7.1 Sources of Hydrocarbons

Natural levels of LMWH in the marine environment occur via enzyme catalyzed biochemical reactions and the low temperature cracking of more complex organic molecules (Frank et al., 1970). Small, but significant, amounts of hydrocarbons are also produced in the surface layers of the ocean, presumably in response to photosynthetic activity there. The nature and extent of these processes in the surface layers of the ocean are not well understood, but seasonal correlations with productivity are apparent (Lamontagne et al., 1973a).

7.11 Benthic Hydrocarbon Indicators

Methane is the dominant hydrocarbon observed in shelf waters; its concentration often exceeds other LMWH components by a factor of 100-1000. The production of methane is presumably through the biochemical reduction of CO$_2$ within anoxic sediments. CO$_2$ reduction is actually a complex series of microbial reactions, the sum of which results in the conversion of organic matter into carbon dioxide and methane (Claypool, 1974). This process is carried out by strict anaerobes and is indicative of organic-rich sediments. Coarse-grained sediments, including the sand fraction, are usually low in organic matter and consequently do not support vigorous methane production. Similarly, river deltas characterized by coarse-grained sediments of low organic carbon content would not represent environments conducive to biogenic methane formation.
Our measurements in the Bering Sea and the Gulf of Alaska support the aforementioned generalizations. Although the sedimentary environments in the Gulf of Alaska have not been fully investigated as to their potential for the formation of biogenic methane, the conclusions arrived at in the Bering Sea will probably carry forward.

Near-bottom sampling in the Bering Sea and the Gulf of Alaska revealed a positive correlation between the methane concentrations and ethane (cf. Figures 6-5 and 6-13). In the Bering Sea the data are contained in an envelope delineated by methane-ethane ratios of 40 to 300, whereas the same ratios in the Gulf of Alaska range from 300 to 2000. The major difference between the two environments is the relatively larger methane concentrations in the Gulf of Alaska. Assuming equal solubilities for methane and ethane, it would appear that gas seeps would have to be characterized by ethane concentrations in excess of 2% in the Bering Sea and 0.3% in the Gulf of Alaska before environmental distinctions could be made. It is not clear at this time why the differences in the ratios for the two areas should be so great.

A more informative ratio to consider might be the ethylene-ethane ratio. An example of the relationship between ethane and ethylene is shown in Figure 7-1. The slope of the least-squares line is a 0.45 (ethane vs ethylene) or 2.6 if ethylene is regressed against ethane. The standard error of the slope is ±0.03. Because this relationship shows a much stronger correlation \( r = 0.66 \) than that observed in the plot of methane vs ethane, small variations in the ratio might be indicative of the hydrocarbon source. The ratio between ethane and ethylene should be extremely sensitive to petroleum or natural gas contribution because of the near zero levels of the olefins in natural gas.
Figure 7-1  The relationship between ethane and ethylene concentrations for all observations in the northeast Gulf of Alaska. The slope of the line is $0.45 \pm 0.03 (r = 0.66)$. 
In both Bristol Bay and the Gulf of Alaska, concentrations of the \( C_3 \) and \( C_4 \) fractions were exceedingly low. Because of the pristine nature of the Alaskan shelf environment, these parameters may well show the largest perturbations in LMWH arising from accidental spillage. This is certainly the situation observed in the Gulf of Mexico, where 100-fold increases were observed in the concentrations of propane and butanes 100 km off the Mississippi River delta (Brooks and Sackett, 1973).

7.12 Atmospheric Exchange Processes

Volatile hydrocarbons produced in the marine environment or introduced through petroleum development will eventually escape to the atmosphere. An unknown fraction of the total will be microbially degraded by indigenous marine organisms. The relative magnitudes of the two processes are unknown, but atmospheric exchange should be the easier to estimate (Broecker and Peng, 1974). Microbial degradation will depend on many environmental parameters, including salinity, temperatures, nutrients, nature and surface area of particulate matter, bacterial flora, and possible microbial synergistic effects.

Our measurements conducted on the shelf region near Kayak Island reveal anomalous concentrations of methane in the surface waters (cf. Figure 6-10). In view of the intense mixing characterizing these waters, particularly in late fall, it is indeed surprising to observe these elevated amounts. Inspection of vertical profiles in the region suggest a source of methane at the surface, rather than at depth. Comparison of surface methane values with chlorophyll-A and primary productivity did not yield meaningful correlations (Jerry Larrance, personal communications). We assume that the observed concentrations are the result of biological activity, but the mechanisms or processes are unknown that produce methane in
well-oxygenated waters (Claypool, 1974).

7.2 Hydrocarbon Tracers

One of the objectives of this hydrocarbon program was to establish the criteria under which LMWH might be useful as tracers of the toxic soluble fraction of crude oil. Although no major seep areas were identified conclusively, the high concentrations of methane generated on the shelf were used to characterize the space scales over which LMWH might be useful as tracers in the event a significant source were present.

To illustrate the potential, two vertical methane sections were constructed normal to the coast of Alaska. The first of these was constructed from observations made along the line of stations commencing in Resurrection Bay (cf. Figure 4-2), the latter originating in Yakutat Bay. The results are shown in Figures 7-2 and 7-3.

It is apparent that methane generated on the shelf of the upper slope has been transported off the shelf more than 100 km. Because the mean flow in the upper layers at this time of year is largely parallel to the isobaths or with a significant onshore component (Galt and Royer, 1976), we conclude that the distributions of methane shown in Figures 7-2 and 7-3 have arisen largely from lateral diffusion or from episodic offshore advective transport. At the time the eastern section was being occupied (Nov. 7-8, 1975), current measurements were being taken at station 62, located approximately 120 km to the west. Current measurements taken at 175 m and filtered for a 6-hour interval, show a weak flow to the west on 7 Nov., shifting to an onshore component of 10-15 cm/sec on 8 Nov. Concurrent observations taken at 104 m show a continuous NNW component at 15-20 cm/sec (Schumacher, personal communication). At this point, the actual source of the methane cannot be
The vertical distribution of methane along a north-south transect originating in Resurrection Bay (cf. Fig. 4-2). This line of stations (PM 001-PM 004) defines the western boundary of the survey region.
Figure 7-3  The vertical distribution of methane along a north-south transect originating in Yakutat Bay (cf. Fig. 4-2). This line of stations defines the eastern boundary of the survey region.
stated unequivocally. But it seems clear, based on a rather cursory examination of current meter data, that the apparent penetration of methane offshore may have resulted from advective transport of waters from the east enriched in methane. The expected attrition of methane in direction of mean flow due to in situ consumption would be supplemented by lateral diffusion from the shelf region. Ignoring for the moment the mechanism by which methane was transported off the shelf, it was unusual and totally unexpected to find high concentrations of methane in well-oxygenated water at relatively great distances from known sources.

Because of these observations, it would appear that the near-bottom methane plume observed to the west of and underlying the Copper River plume may be the result of circulation and not a benthic source (cf. Figure 6-11). Seasonal observations and methane profiles in the sediment should assist in the clarification of the issue.
8. CONCLUSIONS AND SUMMARY

The low molecular weight hydrocarbons, including methane, ethane, ethylene, propane, propylene, isobutane and n-butane were determined in Bristol Bay and the northeast Gulf of Alaska. The measurements were carried out in vertical profile in order that sources and sinks might be more clearly defined. This report indicates conditions as they existed during the fall of 1975.

In general, strong bottom sources of methane were identified in both the Bering Sea and the Gulf of Alaska. Just to the north of Unimak Pass in the region called the "Golden Triangle", methane concentrations exceeding 600 nl/l were observed within 5 m of the bottom. Without confirming evidence on the distribution of methane in surface sediments, it is assumed that the methane arose from microbial degradation of organic matter with subsequent diffusion to the overlying water. Sediments characterized by lower concentrations of organic carbon generally reflected diminished near-bottom concentrations of methane.

In the Gulf of Alaska, extremely high concentrations of methane were observed south of Hinchinbrook Entrance; the origin is presently unknown. Concentrations of methane near the bottom were uniformly high (>200 nl/l) over the entire shelf area and presumably reflect sedimentary carbon concentrations, although corroborating evidence is not at hand.

In the Bering Sea, surface methane values were generally in the range of 50-70 nl/l, indicating a diminished bottom source and equilibration with the atmosphere. In contrast, the northeast Gulf of Alaska
revealed high concentrations of methane in the surface waters, presumably
due to an underlying benthic source. In the region surrounding Kayak Is-
land, surface concentrations were greater than 250 nl/l, indicating a sharp
departure from equilibrium conditions. Again, the source of the methane
is not readily apparent, but appears to be a surface generated phenomenon.

Time series measurements made in both the Bering Sea and the Gulf
of Alaska suggest strong diurnal variations in the concentration of methane.
The magnitude of the variations depends on short term current fluctuations
and strong horizontal methane gradients. The periodicity of the fluctua-
tions suggest tidal frequencies, but a complete analysis has not been made
to date.

Correlations of ethane, ethylene, propane, and propylene have been
made against methane. With the exception of propane and propylene, the
others show a positive correlation with methane, suggesting a common ori-
gin. It is not known at this time whether the ethane and ethylene arose as
the direct result of a biochemical process or as the result of low tempera-
ture cracking of organic matter. The former process seems more likely.

An analysis of ethane-methane ratios in the near-bottom waters of
the Bering Sea and Gulf of Alaska suggests that ethane is never greater
than 2% of the methane (Bering Sea) and is significantly lower than that
in the Gulf of Alaska. There the ratio was highly variable, ranging from
a low of 0.03% to a high of 0.2%. If we assume that natural gas contains
more than 2% ethane by volume, we would conclude that no seep areas were
unequivocally located in these surveys.

The differences observed in the ethane-methane ratio for the two
environments may simply reflect a variable input of methane. As stated
above, concentrations of methane in the Gulf of Alaska were significantly
higher than those observed at comparable depths in the Bering Sea, but the concentrations of the $C_2$ and $C_3$ fractions are nearly the same in both areas. This may indicate that a saturation effect in which increased production of methane beyond a certain limit is not reflected in the concentrations of other hydrocarbon species. Additional studies are required to unravel the complexities of hydrocarbon production in marine sediments and in surface layers.

The concentrations of the $C_2$ and $C_3$ hydrocarbons were uniformly low in both the Bering Sea and the Gulf of Alaska. Concentrations generally averaged less than 1 nl/l, with only a few notable exceptions. Ethylene and propylene concentrations were generally two-fold greater in concentration than their aliphatic homologs, and did not show the high surface concentrations that are normally indicative of photosynthetic activity.

Measurements for iso- and n-butanes were carried out, but the concentrations were uniformly low in both survey areas. Concentrations rarely exceeded 0.1 nl/l and were usually near or below the detection limit of 0.03 nl/l. Values greater than 0.1 nl/l were generally attributed to contamination arising from the ship.
9. FUTURE RESEARCH ENDEAVORS

The present research activity centers largely on the seasonal and spatial variations in low molecular weight hydrocarbons with some attention being given to significant source regions. It is estimated that present field scheduling in the Bering Sea, Norton Sound, Chukchi Sea and the northeast Gulf of Alaska will, for the most part, satisfy our commitment to the establishment of baseline levels of LMWH in these areas. Since some of the geographical areas will be visited 3 times, others only once, seasonal information will be limited in scope in some areas, absent altogether in others. It would be desirable from a scientific point of view to continue our studies on the distributions, sources and ultimate fate of natural marine hydrocarbons, but we recognize that all of these goals may not be in the best interest or within the capabilities and jurisdiction of the OCS program. For these reasons, we feel that future research activities concerning LMWH should be redirected toward local source areas.

Future research activities should concentrate on known hydrocarbon inputs, whether they be natural or man-made. Included in these categories would be: a) anomalous hydrocarbon sources, b) natural gas and oil seeps, and c) existing petroleum platforms and producing wells. The aim of these studies would be to ascertain the sources and composition of the hydrocarbons, their input rates, and their usefulness as tracers of soluble hydrocarbons.

Detailed measurements of anomalous hydrocarbon sources, such as those revealed near Hinchinbrook Entrance and the Herendeen Bay in Bristol Bay,
should be undertaken. Emphasis should be placed on near-bottom gradients and trajectories of the hydrocarbon plume. These efforts should be supported with detailed examination of the hydrocarbon content of the underlying sediments, particularly on surficial gradients from which flux calculations can be carried out. Attention should be given to the composition of the gases with particular regard for the $C_2$-$C_5$ fraction. If the concentration of methane is sufficiently high, it should be extracted and analyzed isotopically for $\delta^{13}C$ composition. The isotopic composition of the methane should reveal its primary source, whether it be principally biogenic in origin or the result of the percolation of natural gas from underlying reservoir rocks.

Similar detailed studies of natural gas and petroleum seep would also be indicated. Here, the Geological Survey should be consulted as to the seep location, input activity, and possible hydrocarbon composition. We are continuing our dialogue with the Conservation Division and the Gas and Oil Branch of the USGS as to the location of promising seep areas in the OCS.

In the event that a hydrocarbon source appears to be derived from petroleum or natural gas, a supplementary program should be initiated to sample the higher molecular weight fractions, as appropriate for the source. For example, in the case of a conventional petroleum seep, the $C_6$-$C_{12}$ (gasoline and kerosene fraction) may be of interest as confirming evidence.

Lastly, we feel that the current production of petroleum in upper Cook Inlet should be examined in terms of LMWH. The results of Kinney et al. (1970) indicated elevated levels near the Forelands, which they ascribed to possible gas seeps. Observations will be conducted this spring.
in lower Cook Inlet and special attention will be given to the Forelands area. Based on these results, as well as geological data on the occurrence of seeps and sub-bottom geological structures, a study should be conducted into the sources of the hydrocarbons (i.e., platforms or natural seeps).

Sampling of localized sources of hydrocarbons should be carried out according to a high-density sampling grid. To be cost effective, sampling should be conducted with an in situ pumping system interfaced with a rapid gas extractor and chromatographic processor. Such a system has been built and will be field tested in May 1976.

Our findings in the Gulf of Alaska and the Bering Sea have shown interesting, but yet unexplained, relationships between methane, ethane, and ethylene. If the latter two components arise from the sediment, as we believe the bulk of the methane does, what are the processes that result in the formation of ethane and ethylene? Conceptually, we envision a biochemical origin for these gases, but the purely inorganic cracking of more complex organic molecules also may contribute significantly to their production.

In the broadest context of the environmental assessment program, it seems that a knowledgeable understanding of the sources of natural hydrocarbons, the rates of input, and the ultimate fates are of paramount importance. Traditionally, it is the investigation of natural contaminants under natural environmental conditions that results in more reliable predictions concerning capacities, stress tolerances, and rates of recovery of a given system.

The production and escape of LMWH from sediments ought to be studied in the context of environmental and geochemical factors. Relationships between hydrocarbons and environmental characteristics, such as sediment type, size frequency, organic carbon content and origin, redox potential,
sedimentation rates, pore water chemistry, and microbial populations, should be emphasized. Because the LMWH fraction is volatile, special coring apparatus must be constructed to eliminate exchange of gases with the atmosphere during sampling. As a first step, surficial hydrocarbon gradients and the loci of hydrocarbon production should be investigated in the upper 2 m of the sediment column. Depending on the outcome of these observations in promising localized areas, additional experiments should be developed to elucidate mechanisms and environmental control parameters.
10. SUMMARY OF 4TH QUARTER OPERATIONS

10.1 Task Objectives

In accordance with the guidelines set down by OCSEAP, two field programs have been conducted in the Bering Sea (RP-4-DI-75B-III) and in the northeast Gulf of Alaska (RP-4-DI-75C-I). The principal focus of these operations was to evaluate the spatial and temporal variations in the concentrations of the low molecular weight hydrocarbons (LMWH), methane, ethane, ethylene, propane, propylene, iso- and n-butane. Emphasis was also placed on natural sources of hydrocarbons, short term temporal variations, and potential seep areas. A detailed description of the program is presented in work unit #153/155.

10.2 Field Activities from January 1 - April 1, 1976

No field observations were conducted during the last quarter.

10.21 Laboratory Activities

During the winter months, work has continued on the development of rapid hydrocarbon analysis to augment our future field endeavors. Work has continued on the development of a vacuum gas extraction system to facilitate rapid sample processing. To supplement our ability to degas water samples rapidly, progress has been made in the optimization of the chromatography of LMWH. We have augmented the Poropak Q column (3/16" x 8') with an activated alumina column (3/16" x 2") impregnated with 1% silver nitrate by weight. This modification, together with temperature programming, has achieved sharper peaks and reduced retention times for all...
components. Chromatographic analysis has been reduced to under 7 minutes, compared to 15 minutes in the original procedure. Typical chromatographic responses are shown in Figure 5-2A,B of the annual report.

Plans are being initiated to develop, in cooperation with the biologists (J.D. Larrance and D.M. Damkaer), an in situ pumping system to which the vacuum extraction system will be interfaced. This will provide for increased mobility in the rapid and quantitative assessment of localized hydrocarbon inputs.

10.3 Laboratory Procedures

The procedure, originally developed by Swinnerton and Linnenbom (1967), has been modified slightly to facilitate field operations, including logistics. Samples are taken from either 5- or 10-1 Niskin\textsuperscript{(R)} samplers and stored temporarily in 1-l glass-stoppered bottles, to which has been added 100 mg of sodium azide to retard bacterial metabolism. Within two hours of sampling, hydrocarbons are quantitatively stripped from solution with ultra-pure helium and adsorbed on activated alumina at \(-196^\circ\text{C}\). After 12 minutes of stripping at a He flow rate of 120 ml/min, the cold trap is warmed to 90-100\(^{\circ}\text{C}\), and the released hydrocarbons chromatographed on a column of Poropak\textsuperscript{(R)} Q (3/16" x 8'). Complete sample analysis of dissolved hydrocarbons including stripping, through \(C_4\), requires less than 30 minutes.

10.4 Sampling Protocol

No field samples were taken during the reporting period.
10.5 Data Analysis

LMWV data collected during the aforementioned cruises were reduced and compiled according to the format designed by EDS/NODC. A copy of the format is shown in Appendix I.

Data for the cruises was submitted to Mr. Mauri Pelto, OCSEAP Data Manager, on February 12, 1976. Xerox copies of the data are included in Appendix II for your reference.

10.6 Results

The results of our field activities in late fall of 1975 are graphically displayed and discussed in sections 6 and 7 of the annual report and will not be reproduced here. Final data processing is continuing.

10.7 Financial Statement

The financial posture of the LMWV program, through April 1, 1976, is estimated on the following page. Because of salary overruns arising from unanticipated overtime commitments during scheduled cruises and the failure to carry forward FY 75 salary money, the anticipated salary shortages will be covered from existing supply and equipment funds. No hardship to the program is envisioned.
ESTIMATE OF FUNDS EXPENDED THROUGH 1 APRIL 1976

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<th>Allocated</th>
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<th>Balance</th>
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<td>42.8 K (b)</td>
<td>20.2 K</td>
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<td>17.5</td>
<td>9.0 (a)</td>
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<tr>
<td>Expendable supplies</td>
<td>17.5</td>
<td>8.4</td>
<td>9.1 (a)</td>
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<tr>
<td>Travel and per diem</td>
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<td>3.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Shipping</td>
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<td>1.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Publications</td>
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<td><strong>73.2 K</strong></td>
<td><strong>48.8 K</strong></td>
</tr>
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</table>

(a) reallocation necessary to pay future salaries

(b) 4K lost from FY 1975 (not carried over)
REFERENCES


Appendix 1 and 2 listed in the table of contents of this report are two sets of data not included here.

These data may be obtained by NAPIS # upon request from:
Jim Audet
NOAA/EDS/NODC
3300 Whitehaven St., N. W.
Washington, D. C. 20235

NAPIS # 76-0630 (Discoverer cruise, October 21-November 5, 1975) -- includes 500 punched cards

NAPIS # 76-0631 (Discoverer cruise, September 21-October 3, 1975) -- includes 700 punched cards