DDF-B:1:08

DATA DOCUMENTATION FORM

TR 3880

This form should accompany all data submissions to NODC. Section A, Originator Identification, must be completed when the data are submitted. It is highly desirable for NODC to also receive the remaining pertinent information at that time. This may be most easily accomplished by attaching reports, publications, or manuscripts which are readily available describing data collection, analysis, and format specifics. Readable, handwritten submissions are acceptable in all cases. All data shipments should be sent to the above address.

A. ORIGINATOR IDENTIFICATION

THIS SECTION MUST BE COMPLETED BY DONOR FOR ALL DATA TRANSMITTALS

1. NAME AND ADDRESS OF INSTITUTION, LABORATORY, OR ACTIVITY WITH WHICH SUBMITTED DATA ARE ASSOCIATED

Dr. D.W.S. Westlake,
Department of Microbiology,
University of Alberta,
Edmonton, Alberta
T6G 2E9

2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED

Sixth Sampling Trip
Puget Sound, Washington, waters and beaches. (MESA)

3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT

TRIP06

4. PLATFORM NAME(S)	5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.)	6. PLATFORM AND OPERATOR NATIONALITY(IES)		7. DATES	
		PLATFORM	OPERATOR	FROM: MO/DAY/YR	TO: MO/DAY/YR
NA	NA	NA	NA	8/13/78	8/14/78

8. ARE DATA PROPRIETARY?

[X] NO [ ] YES

IF YES, WHEN CAN THEY BE RELEASED FOR GENERAL USE? YEAR____ MONTH____

9. ARE DATA DECLARED NATIONAL PROGRAM (DNP)?

(I.E., SHOULD THEY BE INCLUDED IN WORLD DATA CENTERS HOLDINGS FOR INTERNATIONAL EXCHANGE?)

[✓] NO [ ] YES [ ] PART (SPECIFY BELOW)

10. PERSON TO WHOM INQUIRIES CONCERNING DATA SHOULD BE ADDRESSED WITH TELEPHONE NUMBER (AND ADDRESS IF OTHER THAN IN ITEM-1)

Dr. Westlake
(403)432-3277

11. PLEASE DARKEN ALL MARSDEN SQUARES IN WHICH ANY DATA CONTAINED IN YOUR SUBMISSION WERE COLLECTED.

GENERAL AREA

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
salinity	parts per thousand	Yellow Springs SCT meter #33	not applicable	no processing
water temperature	°C	Yellow Spring SCT meter #33	not applicable	no processing
acidity	pH (NBS)	Radiometer pH meter #29	not applicable	no processing
dissolved oxygen	parts per million	Yellow Springs Oxygen meter #57	not applicable	no processing
bacterial count	number/ml or number/g (dry weight)	not applicable	standard plate count procedure medium: (per litre distilled water) NaCl, 23.4g; KCl, 0.75g; $MgSO_4 \cdot 7H_2O$, 7.0g; Peptone, 1g; Yeast extract, 1g; Agar 20g. Temperature of incubation is given in Data Record I. The time of incubation depends on the temperature and is summarized below: Temperature(°C) Time (Days) 8 21 or 28 14 21 20 or 30 7	mean and standard deviation
H_2S from $SO_4^=$	0=absence 1=present	Deposition of FeS on Iron nail in medium	Modified Butlin's medium (Fedorak, M.Sc. Thesis, University of Alberta). Incubation temperature:22°C Incubation time: 21 days	none
H_2S from $SO_3^=$ and/or $SO_4^=$	0=absence 1=present	Deposition of FeS on Iron nail in medium	Modified Butlin's medium plus Na_2SO_3. Incubation temperature:22°C Incubation time: 21 days	none

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
Degradation of Prudhoe Bay oil	see Code D	Varian aerograph gas chromatograph model 1740. 20 ft. x 1/8" stainless steel column, 3% SE30 Ultraphase on chromosorb W(AW-DMCS) 80/100 mesh. Carrier gas N_2 at 15 ml/min. Program 50°C for 2 min, 50° to 300° C at 10°/min, held at 300° for 20 min.	Crude oil plus 200 ml sea water without and with 118mg $PO_4^{\equiv}$ and 0.2g NH_4NO_3 added. Crude oil plus 10g sand in 200 ml of solution containing (per litre), NaCl, 23.4g; KCl, 0.75g; $MgSO_4 \cdot 7H_2O$, 7.0g (without or with $PO_4^{\equiv}$ and NH_4NO_3 added as above). Amount of oil, temperature and time of incubation are given in data records. Pentane extract injected in GLC column.	visual; loss of n-alkane peaks
Kjeldahl-N	µg/unit (see file 059 unit code)	not applicable	Methods of Soil Analysis Part 2 Chemicals and Microbiological Properties. American Society of Agronomy (1965).	none
Available -P	µg/unit (see file 059 unit code)	not applicable	Extraction: Methods of Soil Analysis Part 2. Chemical and Microbiological Properties. American Society of Agronomy (1965) Analysis: Standard Methods for the Examination of Water and Wastewater. 14th Ed. Amer. Public Health Assoc. (1976) Method 425F. min detectable limit 0.05 µg/g	None

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
Bacterial Taxonomy	NODC Taxonomy Code	Isolates were picked on the basis of colonial morphology on the plates used to determine the bacterial count.	Gram stain; microscope morphology; oxidase and catalase activity; glucose and lactose utilization (aerobically and anaerobically); motility, by wet mount; spore test by heating.	none
Suspended solids	mg/1	not applicable	Standard Methods for the Examination of Water and Wastewater. 14th Ed. American Public Health Assoc. (1976)	means of replicates
Mineralization rate with radio-active substrate	mg/unit/day (see file 059 unit code)	Searle 6881-C Mark III Analytic Scintillation Counter.	Replicate stoppered flasks contain 25 ml of sample (water column undiluted or 1:3 dilutions of sediment) were incubated (plus N and P) with shaking at 8° in the presence of ^{14}C-1-naphthal-ene or hexadecane) and Prudhoe Bay oil. At appropriate times a culture in one of these flasks was acidified to stop bacterial action and to release CO_2; CO_2 trapping agent was added and the agent counted in Monophase-40 fluor. Corrected using ESP method (external standardization). Blanks are identical to test flasks, but are poisoned with $HgCl_2$ before incubation.	dpm from $^{14}CO_2$ trapped was plotted against incubation time. The slope of this plot was calculated and the initial rate determined taking into account blanks, sample dilutions and specific activity of the labelled compound (diluted by cold substrate in crude oil).

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
Total organic-C	µg/unit (see file 059 unit code)	Beckman Model 915A Total organic carbon analyzer	Standard Methods for the Examination of Water and Wastewater, 14th Ed. APHA (1976) Method 505	mean of replicates
Ammonia-N	µg/unit (see file 059 unit code)	not applicable	Watersamples: Standard Methods for the Examination of Water and Wastewater. 14th Edition APHA. (1976). Methods 418A and 418B. Min detection level 100 µg/l. Solid samples (i.e. sand): (a) distillation using 2N KCl and MgO. Methods of Soil Analysis. Part 2. American Society of Agronomy (1965). (b) analysis, method 418B above, min detectable level 3 µg/g	none
Nitrate -N	µg/unit (see file 059 unit code)	not applicable	Water samples: Standard Methods for the Examination of Water and Wastewater.14th Ed. APHA (1976) Method 419D. Solid samples: (a) extraction using 0.2% $CaSO_4$. Methods of Soil Analysis. Part 2. American Society of Agronomy (1965). (b) Analysis Method 419D above.	none

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
Grease and Oil	µg/unit (see file 059 unit code)	not applicable	Standard Methods for the Examination of Water and Wastewater. 14 Ed. APHA (1976). Water samples - Method 502B. Solid samples - Method 502D.	None
Total Ortho PO_4-P	µg/unit (see file 059 unit code)	not applicable	Standard Methods for the Examination of Water and Wastewater. 14 Ed. APHA (1976). Method 425F.	None

1. LIST RECORD TYPES CONTAINED IN THE TRANSMITTAL OF YOUR FILE
   GIVE METHOD OF IDENTIFYING EACH RECORD TYPE

<u>File 059 Microbiological Degradation Format</u>

Only the following record types were used: (a) File Header, (b) Station Header, (c) Text Record, (d) Data Record 1, (e) Data Record II, (f) Data Record IX.

2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

File sorted by station number and sequence number to obtain proper sequence

Punch cards converted to tape at NODC with tape characteristics as outline under blocks #5 → #13 below.

3. ATTRIBUTES AS EXPRESSED IN ☐ PL-1 ☐ ALGOL ☐ COBOL
☒ FORTRAN ☐ _____ LANGUAGE

4. RESPONSIBLE COMPUTER SPECIALIST:
   NAME AND PHONE NUMBER Phil Fedorak - 403-432-3670
   ADDRESS Department of Microbiology, University of Alberta, Edmonton, Alberta

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

5. RECORDING MODE	9. LENGTH OF INTER-RECORD GAP (IF KNOWN) ☑ 3/4 INCH ☐ _____
☐ BCD ☐ BINARY	
☐ ASCII ☒ EBCDIC	**10. END OF FILE MARK** ☑ OCTAL 17 ☐ _____
☐ _____	
6. NUMBER OF TRACKS (CHANNELS) ☐ SEVEN	**11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)**
☒ NINE	FTP #059
☐ _____	Vol = Ser = 07750 (orig.)
7. PARITY ☒ ODD	Vol = Ser = 05405 (o/c for QUADI)
☐ EVEN	
8. DENSITY	
☐ 200 BPI ☒ 1600 BPI	**12. PHYSICAL BLOCK LENGTH IN BYTES** 4800
☐ 556 BPI	
☐ 800 BPI	**13. LENGTH OF BYTES IN BITS**
☐ _____	8

RECORD FORMAT DESCRIPTION

RECORD NAME __File Header - Microbiological Degradation Format__   12-16-77

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	A3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '1'
Sampling Interval	11	17	Bytes	I2,5(A1,I2)	xx/xx/xx - xx/xx/xx Beginning yr/mo/day; Ending yr./mo./day
Investigator/ Institution	28	53	Bytes	53A1	Left justified text

NOAA FORM 24-13

RECORD NAME___Station Header – Microbiological Degradation Format___12-16-77

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	A3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '2'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator.
Date, (GMT)					
Year	19	2	Bytes	I2	00-99
Month	21	2	Bytes	I2	01-12
Day	23	2	Bytes	I2	01-31
Time, (GMT)					
Hours	25	2	Bytes	I2	00-23
Minutes	27	2	Bytes	I2	00-59
Latitude,					
Degrees	29	2	Bytes	I2	
Minutes	31	2	Bytes	I2	
Seconds	33	2	Bytes	I2	
Hemisphere	35	1	Bytes	A1	'N' or 'S'
Longitude,					
Degrees	36	3	Bytes	I3	
Minutes	39	2	Bytes	I2	
Seconds	41	2	Bytes	I2	
Hemisphere	43	1	Bytes	A1	'E' or 'W'
Weather	44	1	Bytes	A1	WMO Code 4501
Wave Height	45	1	Bytes	A1	WMO Code 1555
Water Temperature	46	3	Bytes	I3	Degrees C. to tenths
Salinity	49	3	Bytes	I3	Parts/thousand to tenths
pH	52	3	Bytes	I3	pH units to tenths
pH Scale	55	1	Bytes	I1	1 NBS 2 Sorenson 3 Hansson
Dissolved Oxygen	56	3	Bytes	I3	
Habitat Code	59	3	Bytes	3A1	Use file 100 Habitat Code

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
Beach Sample Temperature	62	3	Bytes	I3	Degrees C. to tenths
Water Depth	65	5	Bytes	I5	Meters to tenths
Blank	70	8	Bytes	8x	
Sequence Number	78	3	Bytes	I3	Ascending numeric to order records within station

RECORD NAME ___Text Record – Microbiological Degradation Format___   _12-16-77_

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	A3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '3'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Text	19	59	Bytes	59A1	Descriptive information
Sequence Number	78	3	Bytes	I3	Ascending numeric to order records within station

NOAA FORM 24-13

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	A3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '4'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use file 059 Treatment Code
Temperature of Incubation	21	3	Bytes	I3	Degrees C. to tenths
Time of Incubation	24	3	Bytes	I3	Days to tenths
Ave. Bacterial Density	27	3	Bytes	I3	Whole number (Per unit, byte 77)
Standard Deviation (For Plate Count)	30	3	Bytes	I3	To tenths
Dilution Counted	33	2	Bytes	I2	Always a minus sign in byte 33
Units	35	1	Bytes	A1	Use File 059 Unit Code
Plate Count #1	36	3	Bytes	I3	Whole numbers
Plate Count #2	39	3	Bytes	I3	Whole numbers
Plate Count #3	42	3	Bytes	I3	Whole numbers
Plate Count #.4	45	3	Bytes	I3	Whole numbers
Plate Count # 5	48	3	Bytes	I3	Whole numbers
H_2S from $SO_4^=$	51	1	Bytes	A1	0 - absent
H_2S From $SO_4^=$ and/or $SO_3^=$	52	1	Bytes	A1	1 - present 9 - sample not done
Kjeldahl - N	53	4	Bytes	I4	µg/unit (byte 35)

RECORD NAME Data Record I - Microbiological Degradation Format (continued)

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
Total - P	57	4	Bytes	I4	µg/unit (byte 35)
Total Organic -C	61	4	Bytes	I4	µg/unit (byte 35)
Suspended Solids	65	5	Bytes	A5	mg/l (three significant figures, sign for exponent, exponent - e.g. 123+2 = 12300)
Available - P	70	4	Bytes	I4	µg/unit (byte 35)
Blank	74	3	Bytes	3x	
Unit for Average Bacterial Density (Bytes 27-29)	77	1	Bytes	A1	Use File 059 Unit Code
Sequence Number	78	3	Bytes	I3	Ascending numeric to order records within station

1. FIELD NAME	15. POSITION FROM - 1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	A3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '5'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use File 059 Treatment Code
Temperature of Incubation	21	3	Bytes	I3	Degrees C. to tenths
Time of Incubation	24	3	Bytes	I3	Days to tenths
Initial Oil Concentration	27	5	Bytes	I5	mg/l to tenths
Degradation Code	32	1	Bytes	A1	Use File 059 Degradation Code
Mineralization determined gravimetrically	33	4	Bytes	I4	Percent weight loss to tenths (float sign if negative)
Rate	37	5	Bytes	I5	mg/week to hundredths
Nitrogen Supplement	42	3	Bytes	I3	To hundredths: Concentration of nutrient(s) as given in DDF is equal to concentration times this factor. Blank and 100 are equivalent and the factor equals 1.00 (000 means no supplement)
Phosphorous Supplement	45	3	Bytes	I3	
Incubation Temperature with Radioactive Substrate	48	3	Bytes	I3	Degrees celsius to tenths
Mineralization Rate with Radioactive Substrate	51	5	Bytes	I5	To thousandths: mg of selected compounds/unit (byte 56)/day

FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
Unit	56	1	Bytes	A1	Use File 059 Unit Code
Radioactive Sub-strate	57	1	Bytes	A1	Use File 059 Substrate Code
Blank	58	20	Bytes	20x	
Sequence Number	78	3	Bytes	I3	Ascending numeric to order records

RECORD NAME Data Record III – Microbiological Degradation Format   12-16-77

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH NUMBER	UNITS	17. ATTRIBUTES	18. USE AND MEANING
File Type	1	3	Bytes	A3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '6'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use File 059 Treatment Code
Taxonomic Code	21	10	Bytes	5A2	NODC Taxonomic Code
Number of Colonial types in this group	31	2	Bytes	I2	Whole numbers
Percent of Average Density	33	2	Bytes	I2	Whole numbers
Taxonomic Code	35	10	Bytes	5A2	NODC Taxonomic Code
Number of Colonial types in this group	45	2	Bytes	I2	Whole numbers
Percent of Average Density	47	2	Bytes	I2	Whole numbers
Taxonomic Code	49	10	Bytes	5A2	NODC Taxonomic Code
Number of Colonial types in this group	59	2	Bytes	I2	Whole numbers
Percent of Average Density	61	2	Bytes	I2	Whole numbers
Taxonomic Code	63	10	Bytes	5A2	NODC Taxonomic Code

RECORD NAME __Data Record IV - Microbiological Degradation Format__   12-16-77

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	A3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '7'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3.	Originator's sample designator .
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use File 059 Treatment Code
Number of Colonial types which could not be classified	21	2	Bytes	I2	Whole numbers
Percent of Average Density	23	2	Bytes	I2	Whole numbers
Number of Colonial types which did not survive first transfer	25	2	Bytes	I2	Whole numbers
Percent of Average Density	27	2	Bytes	I2	Whole numbers
Blank	29	49	Bytes	49x	
Sequence Number	78	3	Bytes	I3	Ascending numeric to order records within station

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
Number of Colonial types in this group	73	2	Bytes	I2	Whole numbers
Percent of Average Density	75	2	Bytes	I2	Whole numbers
Blank	77	1	Bytes	1x	
Sequence Number	78	3	Bytes	I3	Ascending number to order records within station

ECORD NAME Data Record V – Microbiological Degradation Format   4-19. 75

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g., bits, bytes)	16. LENGTH NUMBER	UNITS	17. ATTRIBUTES	18. USE AND MEANING
File Type	1	3	Bytes	I3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date. (YYMMDD)
Record Type	10	1	Bytes	I1	Always '8'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use file 059 Treatment Code
Sample Depth	21	5	Bytes	I5	Meters to tenths
Sample Temperature	26	3	Bytes	I3	Degrees C to tenths
pH	29	4	Bytes	I4	pH units to hundredths
Eh	33	4	Bytes	I4	Millivolts
% Moisture	37	3	Bytes	I3	Percent to tenths; Sediment samples only
ATP Concentration	40	6	Bytes	I6	Nanograms to tenths (per liter for water sample; per gram dry weight for sediment sample)
Glycolic Acid	46	4	Bytes	I4	Micrograms to tenths (per liter for water sample; per gram dry weight for sediment sample)
Urea	50	5	Bytes	I5	Micrograms to hundredths (per liter for water sample; per gram dry weight for sediment sample)
Core Length	55	3	Bytes	I3	Centimeters to tenth (if sediment core taken)
Dry Weight Sediment per ml Undiluted Sea Water	58	6	Bytes	I6	Grams to ten thousandths
Blank	64	14	Bytes	14x	
Sequence Number	78	3	Bytes	I3	Ascending numeric within station number

RECORD NAME ___ Data Record VI – Microbiological Degradation Format _____ 4-17-06

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	I3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '9'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use file 059 treatment code
Sample Depth	21	5	Bytes	I5	Meters to tenths
Log of Direct Counts per ml Undiluted	26	8	Bytes	I8	To millionths
% Cocci	34	3	Bytes	I3	Percent to tenths
% Short Rods	37	3	Bytes	I3	Percent to tenths
% Long Rods	40	3	Bytes	I3	Percent to tenths
% Spirals	43	3	Bytes	I3	Percent to tenths
% Coccobacillary	46	3	Bytes	I3	Percent to tenths
% Filaments	49	3	Bytes	I3	Percent to tenths
% Others	52	3	Bytes	I3	Percent to tenths
Blank	55	23	Bytes	23x	
Sequence Number	78	3	Bytes	I3	Ascending numeric within station number

FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g., bits, bytes)	16. LENGTH NUMBER	UNITS	17. ATTRIBUTES	18. USE AND MEANING
File Type	1	3	Bytes	I3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always 'A'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use file 059 treatment code
Sample Depth	21	5	Bytes	I5	Meter to tenths
Medium Code	26	2	Bytes	I2	Use file 059 medium code
Incubation Type	28	1	Bytes	I1	0 = anaerobic, 1 = aerobic
Time of Incubation	29	2	Bytes	I2	Whole days
Temperature of Incubation	31	2	Bytes	I2	Degrees Celsius
Average Log of Colony Forming Units per ml Undiluted	33	6	Bytes	I6	To ten thousandths
Average Log of Pigmented Colonies per ml Undiluted	39	6	Bytes	I6	To ten thousandths
Average Log of Non-pigmented Colonies per ml Undiluted	45	6	Bytes	I6	To ten thousandths
Average Log of Fungi per ml Undiluted	51	6	Bytes	I6	To ten thousandths

RECORD NAME __Data Record VII – Microbiological Degradation Format (Con't)__

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
Average Log of Actinomycete-like per ml Undiluted	57	6	Bytes	I6	To ten thousandths
Number of Repli-cates in Average	63	2	Bytes	I2	Whole number
Blank	65	13	Bytes	13x	
Sequence Number	78	3	Bytes	I3	Ascending numeric within station number

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN (c.f., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	I3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	A1	Always 'B'
Station Number	11	5	Bytes	A5	File 100 station code may be used.
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use file 059 treatment code
Sample Depth	21	5	Bytes	I5	Meters to tenths
Type of Kinetics	26	1	Bytes	I1	0 = Saturation, 1 = First Order
Medium	27	2	Bytes	I2	Use file 059 medium code
Medium Concentration	29	5	Bytes	I5	Nanomoles to thousandths
Incubation Time	34	5	Bytes	I5	Hours to thousandths (t)
t/f	39	6	Bytes	I6	Hours to thousandths (incubation time in hours/fraction of medium utilized)
Turnover Time	45	6	Bytes	I6	Hours to hundredths
$k_T + s_N$	51	6	Bytes	I6	Nanomoles to hundredths (transport constant plus natural medium concentration)
V_{max}	57	6	Bytes	I6	Nanomoles/hour to hundredths (maximum medium consumption rate)
s_N	63	6	Bytes	I6	Nanomoles to hundredths (in situ natural medium (substrate) concentration)
V_d	69	6	Bytes	I6	Nanomoles/hour to hundredths (uptake rate)
Blanks	75	3	Bytes	3x	
Sequence Number	78	3	Bytes	I3	Ascending numeric within Station

1. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (p.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	A3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	A1	Always 'C'
Station Number	11	5	Bytes	A5	File 100 Station Code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use File 059 Treatment Code
Temperature of Incubation	21	3	Bytes	I3	Degrees C. to tenths
Time of Incubation	24	3	Bytes	I3	Days to tenths
Average Fungal Density	27	3	Bytes	I3	Whole number (per unit, byte 77)
Standard Deviation (for Plate Count)	30	3	Bytes	I3	To tenths
Dilution Count	33	2	Bytes	I2	Always a minus sign in byte 33
Units	35	1	Bytes	A1	Use File 059 Unit Code
Plate Count #1	36	3	Bytes	I3	Whole numbers
Plate Count #2	39	3	Bytes	I3	Whole numbers
Plate Count #3	42	3	Bytes	I3	Whole numbers
Plate Count #4	45	3	Bytes	I3	Whole numbers
Plate Count #5	48	3	Bytes	I3	Whole numbers
Ammonia - N	51	4	Bytes	I4	µg/unit (byte 35)
Nitrate - N	55	4	Bytes	I4	ug/unit (byte 35)
Grease and Oil	59	4	Bytes	I4	ug/unit (byte 35)

ECORD NAME Data Record IX - Microbiological Degradation Format   · (con't) 11-27-78

FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
Total Ortho PO$_4$-P	63	4	Bytes	I4	μg/unit (bytes 35)
Blank	67	10	Bytes	10x	
Unit for Average Fungal Density (Bytes 27-29)	77	1	Bytes	A1	Use File 059 Unit Code
Sequence Number	78	3	Bytes	I3	Ascending numeric to order records within station

Code A   Weather Code

        blank - no information
           0 - clear (no cloud at any level)
           1 - partly cloudy (scattered or broken)
           2 - continuous layer(s) of cloud(s)
           3 - sandstorm, duststorm, or blowing snow
           4 - fog, thick dust or haze
           5 - drizzle
           6 - rain
           7 - snow or rain and snow mixed
           8 - shower(s)
           9 - thunderstorm(s)

Code B   Wave Height - WMD code 1555

           0 - less than 1/4 m (1 ft)
           1 - 1/2 m (1 1/2 ft)
           2 - 1 m (3 ft)
           3 - 1 1/2 m (5 ft)
           4 - 2 m (6 1/2 ft)
           5 - 2 1/2 m (8 ft)
           6 - 3 m (9 1/2 ft)
           7 - 3 1/2 m (11 ft)
           8 - 4 m (13 ft)
           9 - 4 1/2 m (14 ft)
           x - Height not determined

Code C   Sample Type

           0 - water, surface   9 - intertidal sediment
           1 - beach, sand
           2 - beach, shell
           3 - beach, mud
           4 - sediment, sand
           5 - sediment, shell
           6 - sediment, mud
           7 - algae
           8 - sea weed

Code D   Degradation Code

           N - No evidence of biodegradation
           S - Selective biodegradation - low molecular weight n-alkanes
              (up to $\sim C_{19}$) are selectively utilized with little or no apparent
              changes in higher molecular weight n-alkanes or isoprenoids.
           P - Partial biodegradation - Pristane and phytane are typically
              the major peaks remaining, but reduced n-alkane peaks are also
              present
           I - Incomplete biodegradation - Pristane and phytane remain as well
              as a few other small peaks but there is no pattern of remaining
              alkanes.
           C - "Complete Biodegradation" - Only the envelope remains with very
              small or no peaks remaining.
           X - Not done
           Y - No sample

Code E   Sample Treatment

        1 - Microbiological examination
        2 - Enrichment with crude oil
        3 - Enrichment with crude oil and N and P
        4 - Microbial counts after enrichment with N, P and varying
            concentrations of crude oil
        5 - Microbial counts - dilutions and plating done at the
            sampling site
        6 - Examination of samples after cold storage

Code F   Habitat Code

The Habitat Code consists of three digits - a combination of three
different parameter codes.

Digit 1 - wave energy/beach gradient
        1 - low wave energy, low beach gradient (slope less than 15%)
        2 - low wave energy, moderate beach gradient (30%>slope>15%)
        3 - low wave energy, high beach gradient (slope greater than 30%)
        4 - moderate wave energy, low beach gradient
        5 - moderate wave energy, moderate beach gradient
        6 - moderate wave energy, high beach gradient
        7 - high wave energy, low beach gradient
        8 - high wave energy, moderate beach gradient
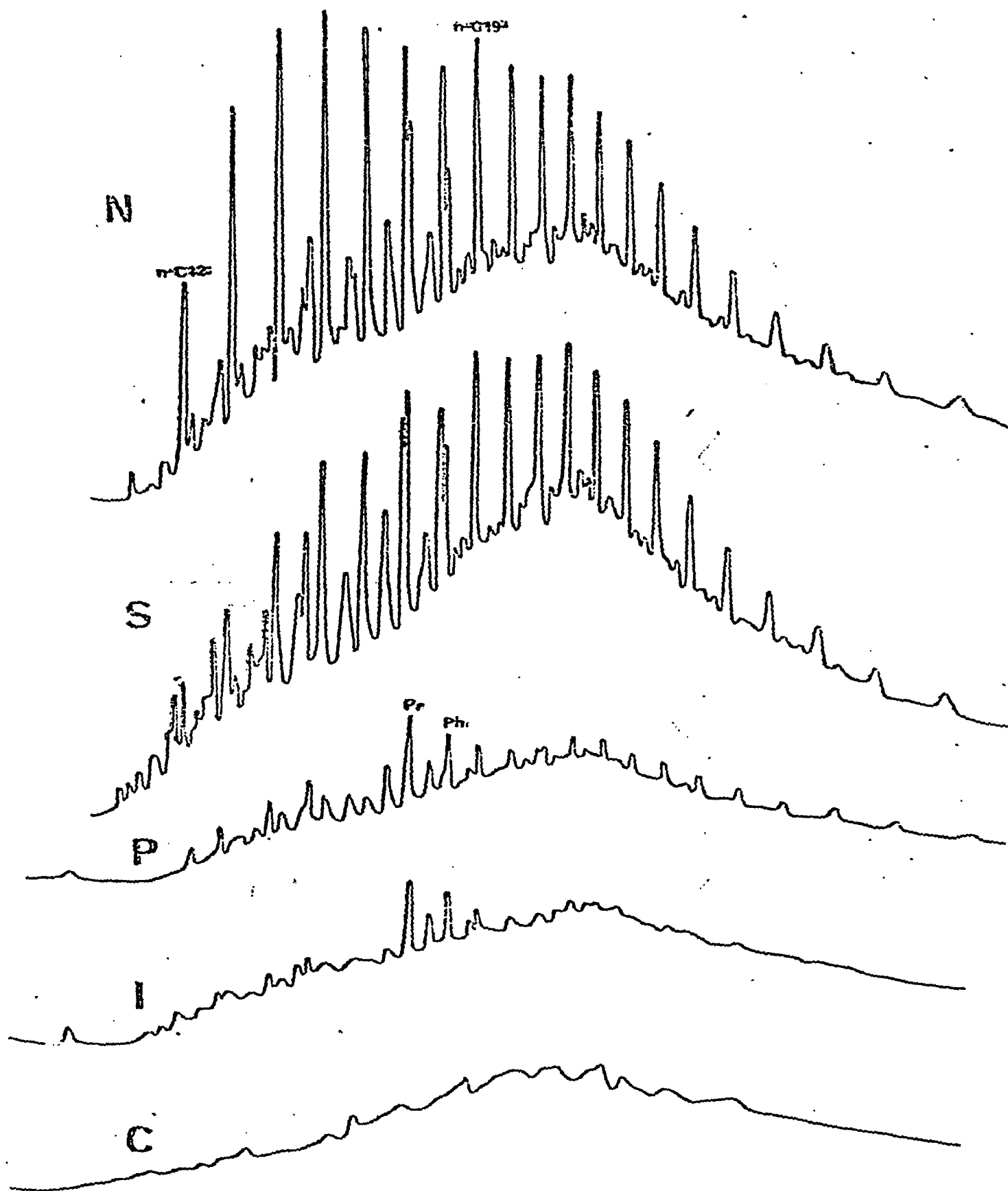   9 - high wave energy, high beach gradient

Digit 2 - sediment size
        0 - rock, continuous strata
        1 - boulder (greater than 256mm)
        2 - cobble (64mm to 256mm)
        3 - gravel (4mm to 64mm)
        4 - coarse sand (.5mm to 4mm)
        5 - medium sand (.06mm to .25mm)
        6 - fine sand (.06mm to .25mm)
        7 - silt (.004mm to .06mm)
        8 - clay (less than .004mm)
        A - mixture of boulders and cobbles
        B - mixture of cobbles and gravel
        C - mixture of gravel and sand
        D - mixture of sand and silt
        E - mixture of silt and clay
        F - artificial substrate - vertical piling

Digit 3 - surface characterization (organics)
        1 - chiefly shell fragments
        2 - detrious - accumulated wood, sticks and undecayed coarse organics
        3 - fibrous peat
        4 - pulpy peat
        5 - muck - completely decomposed organic materials
        6 - eelgrass
        7 - kelp
        8 - periphyton
        9 - no organic material evident
        A - fouling organisms

Code D

N

S

P

I

C

Code G   Radioactive substrates

        H - n-[1-^{14}C] - Hexadecane

        O - n-[1-^{14}C] - Octadecane

        N - [1-^{14}C]   - Naphthalene

File 059 Unit Code

U = microgram^{-1} (dry weight)

G = gram^{-1} (dry weight)

H = hectogram^{-1} (dry weight)

K = kilogram^{-1} (dry weight)

M = milliliter^{-1}

L = liter^{-1}

D. INSTRUMENT CALIBRATION

This calibration information will be utilized by NOAA's National Oceanographic Instrumentation Center in their efforts to develop calibration standards for voluntary acceptance by the oceanographic community. Identify the instruments used by your organization to obtain the scientific content of the DDF (i.e., STD, temperature and pressure sensors, salinometers, oxygen meters, velocimeters, etc.) and furnish the calibration data requested by completing and/or checking ("✓") the appropriate spaces. Add the interval time (i.e., 3 months, 6 months, 9 months, etc.) if the fixed interval calibration cycle is checked.

INSTRUMENT TYPE (MFR., MODEL NO.)	DATE OF LAST CALIBRATION	INSTRUMENT WAS CALIBRATED BY		CHECK ONE: INSTRUMENT IS CALIBRATED					INSTRUMENT IS NOT CALIBRATED
		YOUR ORGANIZATION (✓)	OTHER ORGANIZATION (GIVE NAME)	AT FIXED INTERVALS (✓)	BEFORE OR AFTER USE (✓)	BEFORE AND AFTER USE (✓)	ONLY AFTER REPAIR (✓)	ONLY WHEN NEW (✓)	(✓)
Dissolved ozygen meter (Yellow Springs # 57)	Nov. 1978	X				X			
Salinity-temperature meter (Yellow Springs SCT meter #33)	Nov. 1978	X				X			
Analytic 81 liquid Scintillation Counter (Searle Analytical)	July, 1978		Searle Analytical		X				

NOAA FORM 24-13   USCOMM-DC 44247-1

DATA DOCUMENTATION FORM 7900064   TR3881

NOAA FORM 24-13
(4-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEANOGRAPHIC DATA CENTER
. RECORDS SECTION
ROCKVILLE, MARYLAND 20852

TR3881   F059

FORM APPROVED
O.M.B. No. 41-R2651

This form should accompany all data submissions to NODC. Section A, Originator Identification, must be completed when the data are submitted. It is highly desirable for NODC to also receive the remaining pertinent information at that time. This may be most easily accomplished by attaching reports, publications, or manuscripts which are readily available describing data collection, analysis, and format specifics. Readable, handwritten submissions are acceptable in all cases. All data shipments should be sent to the above address.

A. ORIGINATOR IDENTIFICATION

THIS SECTION MUST BE COMPLETED BY DONOR FOR ALL DATA TRANSMITTALS

1. NAME AND ADDRESS OF INSTITUTION, LABORATORY, OR ACTIVITY WITH WHICH SUBMITTED DATA ARE ASSOCIATED

Dr. D.W.S. Westlake
Department of Microbiology,
University of Alberta,
Edmonton, Alberta
T6G 2E9

2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED

Seventh Sampling Trip
Puget Sound, Washington, waters
and beaches . (MESA)

3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT

TRIP07

4. PLATFORM NAME(S)	5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.)	6. PLATFORM AND OPERATOR NATIONALITY(IES)		7. DATES	
		PLATFORM	OPERATOR	FROM: MO, DAY, YR	TO: MO, DAY, YR
NA	NA	NA	NA	10/1/78	10/3/78

8. ARE DATA PROPRIETARY?

[X] NO [ ] YES

IF YES, WHEN CAN THEY BE RELEASED FOR GENERAL USE? YEAR_____ MONTH_____

9. ARE DATA DECLARED NATIONAL PROGRAM (DNP)?

(I.E., SHOULD THEY BE INCLUDED IN WORLD DATA CENTERS HOLDINGS FOR INTERNATIONAL EXCHANGE?)

[✓] NO [ ] YES [ ] PART (SPECIFY BELOW)

10. PERSON TO WHOM INQUIRIES CONCERNING DATA SHOULD BE ADDRESSED WITH TELEPHONE NUMBER (AND ADDRESS IF OTHER THAN IN ITEM-1)

Dr. Westlake

(403) 432-3277

11. PLEASE DARKEN ALL MARSDEN SQUARES IN WHICH ANY DATA CONTAINED IN YOUR SUBMISSION WERE COLLECTED.

GENERAL AREA

NOAA FORM 24-13

USCOMM-DC 44289-P72

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
salinity	parts per thousand	Yellow Springs SCT meter #33	not applicable	no processing
water temperature	°C	Yellow Spring SCT meter #33	not applicable	no processing
acidity	pH (NBS)	Radiometer pH meter #29	not applicable	no processing
dissolved oxygen	parts per million	Yellow Springs Oxygen meter #57	not applicable	no processing
bacterial count	number/ml or number/g (dry weight)	not applicable	standard plate count procedure medium: (per litre distilled water) NaCl, 23.4g; KCl, 0.75g; $MgSO_4 \cdot 7H_2O$, 7.0g; Peptone, 1g; Yeast extract, 1g; Agar 20g. Temperature of incubation is given in Data Record I. The time of incubation depends on the temperature and is summarized below: Temperature(°C) Time (Days) 8 — 21 or 28 14 — 21 20 or 30 — 7	mean and standard deviation
H_2S from $SO_4^=$	0=absence 1=present	Deposition of FeS on Iron nail in medium	Modified Butlin's medium (Fedorak, M.Sc. Thesis, University of Alberta). Incubation temperature:22°C Incubation time: 21 days	none
H_2S from $SO_3^=$ and/or $SO_4^=$	0=absence 1=present	Deposition of FeS on Iron nail in medium	Modified Butlin's medium plus Na_2SO_3. Incubation temperature:22°C Incubation time: 21 days	none

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
Degradation of Prudhoe Bay oil	see Code D	Varian aerograph gas chromatograph model 1740. 20 ft. x 1/8" stainless steel column, 3% SE30 Ultraphase on chromosorb W(AW-DMCS) 80/100 mesh. Carrier gas N_2 at 15 ml/min. Program 50°C for 2 min, 50° to 300° C at 10°/min, held at 300° for 20 min.	Crude oil plus 200 ml sea water without and with 118mg $PO_4^=$ and 0.2g NH_4NO_3 added. Crude oil plus 10g sand in 200 ml of solution containing (per litre), NaCl, 23.4g; KCl, 0.75g; $MgSO_4 \cdot 7H_2O$, 7.0g (without or with $PO_4^=$ and NH_4NO_3 added as above). Amount of oil, temperature and time of incubation are given in data records. Pentane extract injected in GLC column.	visual; loss of n-alkane peaks
Kjeldahl-N	µg/unit (see file 059 unit code)	not applicable	Methods of Soil Analysis Part 2 Chemicals and Microbiological Properties. American Society of Agronomy (1965).	none
Available -P	µg/unit (see file 059 unit code)	not applicable	Extraction: Methods of Soil Analysis Part 2. Chemical and Microbiological Properties. American Society of Agronomy (1965) Analysis: Standard Methods for the Examination of Water and Wastewater. 14th Ed. Amer. Public Health Assoc. (1976) Method 425F. min detectable limit 0.05 µg/g	None

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
Bacterial Taxonomy	NODC Taxonomy Code	Isolates were picked on the basis of colonial morphology on the plates used to determine the bacterial count.	Gram stain; microscope morphology; oxidase and catalase activity; glucose and lactose utilization (aerobically and anaerobically); motility, by wet mount; spore test by heating.	none
Suspended solids	mg/l	not applicable	Standard Methods for the Examination of Water and Wastewater. 14th Ed. American Public Health Assoc. (1976)	means of replicates
Mineralization rate with radioactive substrate	mg/unit/day (see file 059 unit code)	Searle 6881-C Mark III Analytic Scintillation Counter.	Replicate stoppered flasks contain 25 ml of sample (water column undiluted or 1:3 dilutions of sediment) were incubated (plus N and P) with shaking at 8° in the presence of ^{14}C-1-naphthalene or hexadecane) and Prudhoe Bay oil. At appropriate times a culture in one of these flasks was acidified to stop bacterial action and to release CO_2; CO_2 trapping agent was added and the agent counted in Monophase-40 fluor. Corrected using ESP method (external standardization). Blanks are identical to test flasks, but are poisoned with $HgCl_2$ before incubation.	dpm from $^{14}CO_2$ trapped was plotted against incubation time. The slope of this plot was calculated and the initial rate determined taking into account blanks, sample dilutions and specific activity of the labelled compound (diluted by cold substrate in crude oil).

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
Total organic-C	µg/unit (see file 059 unit code)	Beckman Model 915A Total organic carbon analyzer	Standard Methods for the Examination of Water and Wastewater, 14th Ed. APHA (1976) Method 505	mean of replicates
Ammonia-N	µg/unit (see file 059 unit code)	not applicable	Watersamples: Standard Methods for the Examination of Water and Wastewater. 14th Edition APHA. (1976). Methods 418A and 418B. Min detection level 100 µg/l. Solid samples (i.e. sand): (a) distillation using 2$\underline{N}$ KCl and MgO. Methods of Soil Analysis. Part 2. American Society of Agronomy (1965). (b) analysis, method 418B above, min detectable level 3 µg/g	none
Nitrate -N	µg/unit (see file 059 unit code)	not applicable	Water samples: Standard Methods for the Examination of Water and Wastewater.14th Ed. APHA (1976) Method 419D. Solid samples: (a) extraction using 0.2% $CaSO_4$. Methods of Soil Analysis. Part 2. American Society of Agronomy (1965). (b) Analysis Method 419D above.	none

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
Grease and Oil	µg/unit (see file 059 unit code)	not applicable	Standard Methods for the Examination of Water and Wastewater. 14 Ed. APHA (1976). Water samples - Method 502B. Solid samples - Method 502D.	None
Total Ortho PO_4-P	µg/unit (see file 059 unit code)	not applicable	Standard Methods for the Examination of Water and Wastewater. 14 Ed. APHA (1976). Method 425F.	None

1. LIST RECORD TYPES CONTAINED IN THE TRANSMITTAL OF YOUR FILE
   GIVE METHOD OF IDENTIFYING EACH RECORD TYPE

File 059 Microbiological Degradation Format

Only the following record types were used: (a) File Header, (b) Station
Header, (c) Text Record, (d) Data Record I, (e) Data Record II,
(f) Data Record III, (g) Data Record IV, (h) Data Record IX.

2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

File sorted by station number and sequence number to obtain proper sequence

Punch cards converted to tape at NODC with tape characteristics
as outlined under blocks #5→ #13 below.

3. ATTRIBUTES AS EXPRESSED IN   ☐ PL-1   ☐ ALGOL   ☐ COBOL
                                 ☒ FORTRAN   ☐ _____ LANGUAGE

4. RESPONSIBLE COMPUTER SPECIALIST:
         NAME AND PHONE NUMBER   Phil Fedorak, 403-432-3670
                   ADDRESS Department of Microbiology, University of Alberta, Edmonton, Alberta

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

5. RECORDING MODE	9. LENGTH OF INTER-RECORD GAP (IF KNOWN) ☑ 3/4 INCH
☐ BCD ☐ BINARY ☐ ASCII ☒ EBCDIC ☐ _____	☐ _____
	10. END OF FILE MARK ☑ OCTAL 17
	☐ _____
6. NUMBER OF TRACKS (CHANNELS) ☐ SEVEN ☒ NINE ☐ _____	**11. PASTE-ON-PAPER LABEL DESCRIPTION** *(INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)* FTP #059 Vol = Ser = 07750 (orig.) Vol = Ser = 05405 (o/c for QUADI)
7. PARITY ☒ ODD ☐ EVEN	
8. DENSITY ☐ 200 BPI ☒ 1600 BPI ☐ 556 BPI ☐ 800 BPI ☐ _____	**12. PHYSICAL BLOCK LENGTH IN BYTES** 4800
	13. LENGTH OF BYTES IN BITS 8

RECORD NAME __File Header – Microbiological Degradation Format__   12-16-77

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	A3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '1'
Sampling Interval	11	17	Bytes	I2,5(A1,I2)	xx/xx/xx – xx/xx/xx Beginning yr/mo/day; Ending yr./mo./day
Investigator/ Institution	28	53	Bytes	53A1	Left justified text

RECORD NAME   Station Header – Microbiological Degradation Format   12-16-77

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	A3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '2'
Station Number	11	5	Bytes	A5	File 100 station code may be used.
Sample Site Number	16	3	Bytes	A3	Originator's sample designator.
Date, (GMT)					
Year	19	2	Bytes	I2	00-99
Month	21	2	Bytes	I2	01-12
Day	23	2	Bytes	I2	01-31
Time, (GMT)					
Hours	25	2	Bytes	I2	00-23
Minutes	27	2	Bytes	I2	00-59
Latitude,					
Degrees	29	2	Bytes	I2	
Minutes	31	2	Bytes	I2	
Seconds	33	2	Bytes	I2	
Hemisphere	35	1	Bytes	A1	'N' or 'S'
Longitude,					
Degrees	36	3	Bytes	I3	
Minutes	39	2	Bytes	I2	
Seconds	41	2	Bytes	I2	
Hemisphere	43	1	Bytes	A1	'E' or 'W'
Weather	44	1	Bytes	A1	WMO Code 4501
Wave Height	45	1	Bytes	A1	WMO Code 1555
Water Temperature	46	3	Bytes	I3	Degrees C. to tenths
Salinity	49	3	Bytes	I3	Parts/thousand to tenths
pH	52	3	Bytes	I3	pH units to tenths
pH Scale	55	1	Bytes	I1	1 NBS 2 Sorenson 3 Hansson
Dissolved Oxygen	56	3	Bytes	I3	
Habitat Code	59	3	Bytes	3A1	Use file 100 Habitat Code

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH NUMBER	UNITS	17. ATTRIBUTES	18. USE AND MEANING
File Type	1	3	Bytes	A3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '4'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use file 059 Treatment Code
Temperature of Incubation	21	3	Bytes	I3	Degrees C. to tenths
Time of Incubation	24	3	Bytes	I3	Days to tenths
Ave. Bacterial Density	27	3	Bytes	I3	Whole number (Per unit, byte 77)
Standard Deviation (For Plate Count)	30	3	Bytes	I3	To tenths
Dilution Counted	33	2	Bytes	I2	Always a minus sign in byte 33
Units	35	1	Bytes	A1	Use File 059 Unit Code
Plate Count #1	36	3	Bytes	I3	Whole numbers
Plate Count #2	39	3	Bytes	I3	Whole numbers
Plate Count #3	42	3	Bytes	I3	Whole numbers
Plate Count # 4	45	3	Bytes	I3	Whole numbers
Plate Count # 5	48	3	Bytes	I3	Whole numbers
H_2S from $SO_4^=$	51	1	Bytes	A1	0 - absent
H_2S From $SO_4^=$ and/or $SO_3^=$	52	1	Bytes	A1	1 - present 9 - sample not done
Kjeldahl - N	53	4	Bytes	I4	µg/unit (byte 35)

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	A3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '3'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Text	19	59	Bytes	59A1	Descriptive information
Sequence Number	78	3	Bytes	I3	Ascending numeric to order records within station

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
Beach Sample Temperature	62	3	Bytes	I3	Degrees C. to tenths
Water Depth	65	5	Bytes	I5	Meters to tenths
Blank	70	8	Bytes	8x	
Sequence Number	78	3	Bytes	I3	Ascending numeric to order records within station

RECORD NAME __Data Record I - Microbiological Degradation Format (continued)__

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
Total - P	57	4	Bytes	I4	µg/unit (byte 35) ﹨4'
Total Organic -C	61	4	Bytes	I4	µg/unit (byte 35)
Suspended Solids	65	5	Bytes	A5	mg/1 (three significant figures, sign for exponent, exponent - è.ᴚ. 123+2 = 12300)
Available - P	70	4	Bytes	I4	µg/unit (byte 35)
Blank	74	3	Bytes	3x	
Unit for Average Bacterial Density (Bytes 27-29)	77	1	Bytes	A1	Use File 059 Unit Code
Sequence Number	78	3	Bytes	I3	Ascending numeric to order records within station

1. FIELD NAME	15. POSITION FROM -1 MEASURED IN bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	A3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '5'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use File 059 Treatment Code
Temperature of Incubation	21	3	Bytes	I3	Degrees C. to tenths
Time of Incubation	24	3	Bytes	I3	Days to tenths
Initial Oil Concentration	27	5	Bytes	I5	mg/1 to tenths
Degradation Code	32	1	Bytes	A1	Use File 059 Degradation Code
Mineralization determined gravimetrically	33	4	Bytes	I4	Percent weight loss to tenths (float sign if negative)
Rate	37	5	Bytes	I5	mg/week to hundredths
Nitrogen Supplement	42	3	Bytes	I3	To hundredths: Concentration of nutrient(s) as given in DDF is equal to concentration times this factor. Blank and 100 are equivalent and the factor equals 1.00 (000 means no supplement)
Phosphorous Supplement	45	3	Bytes	I3	
Incubation Temperature with Radioactive Substrate	48	3	Bytes	I3	Degrees celsius to tenths
Mineralization Rate with Radioactive Substrate	51	5	Bytes	I5	To thousandths: mg of selected compounds/unit (byte 56)/day

3. FIELD NAME	15. POSITION FROM - 1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
Unit	56	1	Bytes	A1	Use File 059 Unit Code
Radioactive Sub-strate	57	1	Bytes	A1	Use File 059 Substrate Code
Blank	58	20	Bytes	20x	
Sequence Number	78	3	Bytes	I3	Ascending numeric to order records

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	A3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '6'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use File 059 Treatment Code
Taxonomic Code	21	10	Bytes	5A2	NODC Taxonomic Code
Number of Colonial types in this group	31	2	Bytes	I2	Whole numbers
Percent of Average Density	33	2	Bytes	I2	Whole numbers
Taxonomic Code	35	10	Bytes	5A2	NODC Taxonomic Code
Number of Colonial types in this group	45	2	Bytes	I2	Whole numbers
Percent of Average Density	47	2	Bytes	I2	Whole numbers
Taxonomic Code	49	10	Bytes	5A2	NODC Taxonomic Code
Number of Colonial types in this group	59	2	Bytes	I2	Whole numbers
Percent of Average Density	61	2	Bytes	I2	Whole numbers
Taxonomic Code	63	10	Bytes	5A2	NODC Taxonomic Code

RECORD NAME   Data Record III – Microbiological Degradation Format (continued) 12-16-77

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
Number of Colonial types in this group	73	2	Bytes	I2	Whole numbers
Percent of Average Density	75	2	Bytes	I2	Whole numbers
Blank	77	1	Bytes	1x	
Sequence Number	78	3	Bytes	I3	Ascending number to order records within station

RECORD NAME Data Record IV – Microbiological Degradation Format   12-16-77

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	A3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '7'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use File 059 Treatment Code
Number of Colonial types which could not be classified	21	2	Bytes	I2	Whole numbers
Percent of Average Density	23	2	Bytes	I2	Whole numbers
Number of Colonial types which did not survive first transfer	25	2	Bytes	I2	Whole numbers
Percent of Average Density	27	2	Bytes	I2	Whole numbers
Blank	29	49	Bytes	49x	
Sequence Number	78	3	Bytes	I3	Ascending numeric to order records within station

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	I3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '8'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use file 059 Treatment Code
Sample Depth	21	5	Bytes	I5	Meters to tenths
Sample Temperature	26	3	Bytes	I3	Degrees C to tenths
pH	29	4	Bytes	I4	pH units to hundredths
Eh	33	4	Bytes	I4	Millivolts
% Moisture	37	3	Bytes	I3	Percent to tenths; Sediment samples only
ATP Concentration	40	6	Bytes	I6	Nanograms to tenths (per liter for water sample; per gram dry weight for sediment sample)
Glycolic Acid	46	4	Bytes	I4	Micrograms to tenths (per liter for water sample; per gram dry weight for sediment sample)
Urea	50	5	Bytes	I5	Micrograms to hundredths (per liter for water sample; per gram dry weight for sediment sample)
Core Length	55	3	Bytes	I3	Centimeters to tenth (if sediment core taken)
Dry Weight Sediment per ml Undiluted Sea Water	58	6	Bytes	I6	Grams to ten thousandths
Blank	64	14	Bytes	14x	
Sequence Number	78	3	Bytes	I3	Ascending numeric within station number

RECORD NAME　　Data Record VI – Microbiological Degradation Format　　4-17-76

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	I3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always '9'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use file 059 treatment code
Sample Depth	21	5	Bytes	I5	Meters to tenths
Log of Direct Counts per ml Undiluted	26	8	Bytes	I8	To millionths
°/o Cocci	34	3	Bytes	I3	Percent to tenths
°/o Short Rods	37	3	Bytes	I3	Percent to tenths
°/o Long Rods	40	3	Bytes	I3	Percent to tenths
°/o Spirals	43	3	Bytes	I3	Percent to tenths
°/o Coccobacillary	46	3	Bytes	I3	Percent to tenths
°/o Filaments	49	3	Bytes	I3	Percent to tenths
°/o Others	52	3	Bytes	I3	Percent to tenths
Blank	55	23	Bytes	23x	
Sequence Number	73	3	Bytes	I3	Ascending numeric within station number

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN Bytes (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	I3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	I1	Always 'A'
Station Number	11	5	Bytes	A5	File 100 station code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use file 059 treatment code
Sample Depth	21	5	Bytes	I5	Meter to tenths
Medium Code	26	2	Bytes	I2	Use file 059 medium code
Incubation Type	28	1	Bytes	I1	0 = anaerobic, 1 = aerobic
Time of Incubation	29	2	Bytes	I2	Whole days
Temperature of Incubation	31	2	Bytes	I2	Degrees Celsius
Average Log of Colony Forming Units per ml Undiluted	33	6	Bytes	I6	To ten thousandths
Average Log of Pigmented Colonies per ml Undiluted	39	6	Bytes	I6	To ten thousandths
Average Log of Non-pigmented Colonies per ml Undiluted	45	6	Bytes	I6	To ten thousandths
Average Log of Fungi per ml Undiluted	51	6	Bytes	I6	To ten thousandths

RECORD NAME __Data Record VII - Microbiological Degradation Format (Con't)__

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g. bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
Average Log of Actinomycete-like per ml Undiluted	57	6	Bytes	I6	To ten thousandths
Number of Repli-cates in Average	63	2	Bytes	I2	Whole number
Blank	65	13	Bytes	13x	
Sequence Number	78	3	Bytes	I3	Ascending numeric within station number

RECORD NAME __Data Record VII - Microbiological Degradation Format (Con't)__

FIELD NAME	15. POSITION FROM-1 MEASURED IN ____ (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	I3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	A1	Always 'B'
Station Number	11	5	Bytes	A5	File 100 station code may be used.
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use file 059 treatment code
Sample Depth	21	5	Bytes	I5	Meters to tenths
Type of Kinetics	26	1	Bytes	I1	0 = Saturation, 1 = First Order
Medium	27	2	Bytes	I2	Use file 059 medium code
Medium Concentration	29	5	Bytes	I5	Nanomoles to thousandths
Incubation Time	34	5	Bytes	I5	Hours to thousandths (t)
t/f	39	6	Bytes	I6	Hours to thousandths (incubation time in hours/fraction of medium utilized)
Turnover Time	45	6	Bytes	I6	Hours to hundredths
$k_T + s_N$	51	6	Bytes	I6	Nanomoles to hundredths (transport constant plus natural medium concentration)
V_{max}	57	6	Bytes	I6	Nanomoles/hour to hundredths (maximum medium consumption rate)
s_N	63	6	Bytes	I6	Nanomoles to hundredths (in situ natural medium (substrate) concentration)
V_d	69	6	Bytes	I6	Nanomoles/hour to hundredths (uptake rate)
Blanks	75	3	Bytes	3x	
Sequence Number	78	3	Bytes	I3	Ascending numeric within Station

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
File Type	1	3	Bytes	A3	Always '059'
File Identifier	4	6	Bytes	A6	Unique cruise number or date (YYMMDD)
Record Type	10	1	Bytes	A1	Always 'C'
Station Number	11	5	Bytes	A5	File 100 Station Code may be used
Sample Site Number	16	3	Bytes	A3	Originator's sample designator
Sample Type Code	19	1	Bytes	A1	
Treatment Code	20	1	Bytes	A1	Use File 059 Treatment Code
Temperature of Incubation	21	3	Bytes	I3	Degrees C. to tenths
Time of Incubation	24	3	Bytes	I3	Days to tenths
Average Fungal Density	27	3	Bytes	I3	Whole number (per unit, byte 77)
Standard Deviation (for Plate Count)	30	3	Bytes	I3	To tenths
Dilution Count	33	2	Bytes	I2	Always a minus sign in byte 33
Units	35	1	Bytes	A1	Use File 059 Unit Code
Plate Count #1	36	3	Bytes	I3	Whole numbers
Plate Count #2	39	3	Bytes	I3	Whole numbers
Plate Count #3	42	3	Bytes	I3	Whole numbers
Plate Count #4	45	3	Bytes	I3	Whole numbers
Plate Count #5	48	3	Bytes	I3	Whole numbers
Ammonia - N	51	4	Bytes	I4	μg/unit (byte 35)
Nitrate - N	55	4	Bytes	I4	ug/unit (byte 35)
Grease and Oil	59	4	Bytes	I4	ug/unit (byte 35)

ECORD NAME Data Record IX - Microbiological Degradation Format   · (con't) 11-27-78

4. FIELD NAME	15. POSITION FROM-1 MEASURED IN Bytes (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
Total Ortho PO$_4$-P	63	4	Bytes	I4	µg/unit (bytes 35)
Blank	67	10	Bytes	10x	
Unit for Average Fungal Density (Bytes 27-29)	77	1	Bytes	A1	Use File 059 Unit Code
Sequence Number	78	3	Bytes	I3	Ascending numeric to order records within station

Code A   Weather Code

        blank - no information
           0 - clear (no cloud at any level)
           1 - partly cloudy (scattered or broken)
           2 - continuous layer(s) of cloud(s)
           3 - sandstorm, duststorm, or blowing snow
           4 - fog, thick dust or haze
           5 - drizzle
           6 - rain
           7 - snow or rain and snow mixed
           8 - shower(s)
           9 - thunderstorm(s)

Code B   Wave Height - WMD code 1555

           0 - less than 1/4 m (1 ft)
           1 - 1/2 m (1 1/2 ft)
           2 - 1 m (3 ft)
           3 - 1 1/2 m (5 ft)
           4 - 2 m (6 1/2 ft)
           5 - 2 1/2 m (8 ft)
           6 - 3 m (9 1/2 ft)
           7 - 3 1/2 m (11 ft)
           8 - 4 m (13 ft)
           9 - 4 1/2 m (14 ft)
           x - Height not determined

Code C   Sample Type

           0 - water, surface   9 - intertidal sediment
           1 - beach, sand
           2 - beach, shell
           3 - beach, mud
           4 - sediment, sand
           5 - sediment, shell
           6 - sediment, mud
           7 - algae
           8 - sea weed

Code D   Degradation Code

           N - No evidence of biodegradation
           S - Selective biodegradation - low molecular weight n-alkanes
               (up to $\sim C_{19}$) are selectively utilized with little or no apparent
               changes in higher molecular weight n-alkanes or isoprenoids.
           P - Partial biodegradation - Pristane and phytane are typically
               the major peaks remaining, but reduced n-alkane peaks are also
               present
           I - Incomplete biodegradation - Pristane and phytane remain as well
               as a few other small peaks but there is no pattern of remaining
               alkanes.
           C - "Complete Biodegradation" - Only the envelope remains with very
               small or no peaks remaining.
           X - Not done
           Y - No sample

Code E   Sample Treatment

     1 - Microbiological examination
     2 - Enrichment with crude oil
     3 - Enrichment with crude oil and N and P
     4 - Microbial counts after enrichment with N, P and varying
         concentrations of crude oil
     5 - Microbial counts - dilutions and plating done at the
         sampling site
     6 - Examination of samples after cold storage

Code F   Habitat Code

The Habitat Code consists of three digits - a combination of three
different parameter codes.
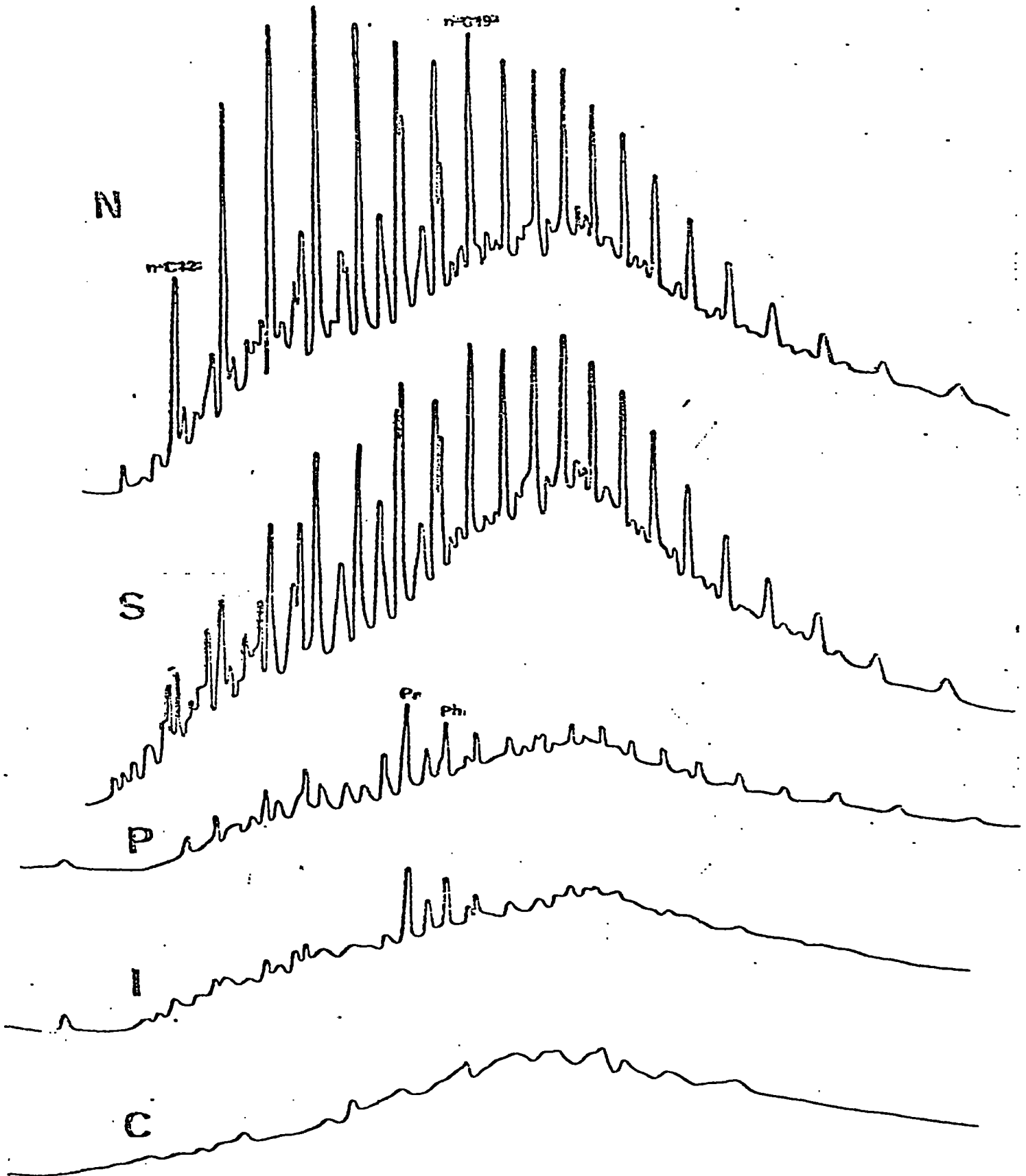
Digit 1 - wave energy/beach gradient
     1 - low wave energy, low beach gradient (slope less than 15%)
     2 - low wave energy, moderate beach gradient (30%>slope>15%)
     3 - low wave energy, high beach gradient (slope greater than 30%)
     4 - moderate wave energy, low beach gradient
     5 - moderate wave energy, moderate beach gradient
     6 - moderate wave energy, high beach gradient
     7 - high wave energy, low beach gradient
     8 - high wave energy, moderate beach gradient
     9 - high wave energy, high beach gradient

Digit 2 - sediment size
     0 - rock, continuous strata
     1 - boulder (greater than 256mm)
     2 - cobble (64mm to 256mm)
     3 - gravel (4mm to 64mm)
     4 - coarse sand (.5mm to 4mm)
     5 - medium sand (.06mm to .25mm)
     6 - fine sand (.06mm to .25mm)
     7 - silt (.004mm to .06mm)
     8 - clay (less than .004mm)
     A - mixture of boulders and cobbles
     B - mixture of cobbles and gravel
     C - mixture of gravel and sand
     D - mixture of sand and silt
     E - mixture of silt and clay
     F - artificial substrate - vertical piling

Digit 3 - surface characterization (organics)
     1 - chiefly shell fragments
     2 - detrious - accumulated wood, sticks and undecayed coarse organics
     3 - fibrous peat
     4 - pulpy peat
     5 - muck - completely decomposed organic materials
     6 - eelgrass
     7 - kelp
     8 - periphyton
     9 - no organic material evident
     A - fouling organisms

N

n-C12

n-C19

S

P

Pr

Ph

I

C

Code G   Radioactive substrates

H - n-$[1-^{14}C]$ - Hexadecane

O - n-$[1-^{14}C]$ - Octadecane

N - $[1-^{14}C]$ - Naphthalene

File 059 Unit Code

U = microgram^{-1} (dry weight)

G = gram^{-1} (dry weight)

H = hectogram^{-1} (dry weight)

K = kilogram^{-1} (dry weight)

M = milliliter^{-1}

L = liter^{-1}

D. INSTRUMENT CALIBRATION

This calibration information will be utilized by NOAA's National Oceanographic Instrumentation Center in their efforts to develop calibration standards for voluntary acceptance by the oceanographic community. Identify the instruments used by your organization to obtain the scientific content of the DDF (i.e., STD, temperature and pressure sensors, salinometers, oxygen meters, velocimeters, etc.) and furnish the calibration data requested by completing and/or checking ("✓") the appropriate spaces. Add the interval time (i.e., 3 months, 6 months, 9 months, etc.) if the fixed interval calibration cycle is checked.

INSTRUMENT TYPE (MFR., MODEL NO.)	DATE OF LAST CALIBRATION	INSTRUMENT WAS CALIBRATED BY		CHECK ONE: INSTRUMENT IS CALIBRATED					INSTRUMENT IS NOT CALIBRATED
		YOUR ORGANIZATION (✓)	OTHER ORGANIZATION (GIVE NAME)	AT FIXED INTERVALS (✓)	BEFORE OR AFTER USE (✓)	BEFORE AND AFTER USE (✓)	ONLY AFTER REPAIR (✓)	ONLY WHEN NEW (✓)	(✓)
Dissolved oxygen meter (Yellow Springs #57)	January,1979	X				X			
Salinity-temperature meter (Yellow Springs SCT meter #33)	Janaury, 1979	X				X			
Analytic 81 liquid Scintillation Counter (Searle Analytical)	December,1978	X				X			

NOAA FORM 24-13

USCOMM-DC 44283-1

Filetype 59

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
ENVIRONMENTAL DATA SERVICE
NATIONAL OCEANOGRAPHIC DATA CENTER
Washington, DC   20235

July 11, 1979 ·   D751/EVC

To : OA/D781 - James B. Ridlon

From: OA/D751 - Elaine V. Collins

Subj: File Type 059 Data from Dr. D. W. S. Westlake

In TRIPØ6, Accession No. 79-0064, TR3881, station 02083 includes
the unknown taxonomy code 02050302. Could you please find out what it
should be? I plan to finalize the data now and make this single
correction later.   *memo 11-30-78*

valid as Aeromonas

TAPE ASSIGNMENT SHEET (MRL) 11/6/78

ACCESSION NO: 79-0064   FT059

TYPE OF TAPE	TAPE NUMBER	LABEL	LRECL	BLKSIZE	RECFM	REMARKS
ORIGINATOR	07750	NL	80	4800	FB	
DUPLICATE	05405	NL	80	4800	FB	
REFORMATTED						
FIRST USER						
FINAL USER	006143	SL	80	4000	FB	DSN=7R3880
CORRECTED (BKUP)	012950	SL	80	4000	FB	DSN=7R3880

RECORD NAME _79-0064   TR 3880-1   F(059)_

FIELD NAME	15. POSITION FROM - 1 MEASURED IN ____ (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
(1)					CHANGES CITED ON ENCLOSED LETTER DATED 5/29/79 HAVE BEEN MADE.

NOAA FORM 24-13

May 29, 1979   D781/JBR

TO: OA/D781 - Sid Stillwaugh

FROM: OA/D781 - James Ridlon

SUBJ: Corrections Required for File Type #059 Data Set

The following are required corrections to the Accession #79-0064
(Track #TR3880-1, File Type #059) data set from Westlake:

(1) Missing taxonomic codes in the record type "6"s of:

File ID	Track No.	Station No.	Sample Site No.
TRIP0&7	TR3881	02083	23
TRIP0&7	TR3881	02084	24

SEP
NO.
21
20

LAST

6) (2) Invalid Habitat Code; a zero used as the ~~first~~ digit (column
~~59~~) in this field of columns 59-61 of the following record type "2"
(requires a 1 to 9 digit):

File ID	Track No.	Station No.	Sample Site No.
TRIP0&7	TR3881	02095	34

1

cc: J. Anderson, D7514

TRANSMITTAL AND RECEIPT RECORD
(Please sign and return carbon copy acknowledging receipt)

TO: NOAA/EDIS/NODC 2001 Wisconsin Ave. N.W. Washington D.C. 20235	REFER TO
	ATTENTION Dr. James B. Ridlon, MESA Data Coordinator

THE ITEM(S) LISTED BELOW WERE FORWARDED TO YOU BY

☐ ORDINARY MAIL ☐ REGISTERED MAIL ☐ AIR MAIL ☒ CERTIFIED MAIL ☐ GOVERNMENT TRUCK ☐ BY HAND ☐ OTHER

cert. no. 523070

Please find enclosed the following items:

1) 1 listing with FT 059, Habitat Code and Beach Temp. code corrections for TRIP07, there are no additions to the taxonomic codes, the blanks were intentional.

- Habitat Code byte 59-61 rt. 6, sample site no. 34, seq. no. 1 should be 1C2.
- Beach Temp. code byte 62-64, rt.6, sample site no. 34, seq. no. 1 should be 210.

2) Simenstad data tape containing corrections/additions, File I.D. 781901 - 781915, that contains the missing record types 1,3,4, and 5's.

3) 1 of corrections for Simenstad data sets Acc.# 78-0023, Acc.# 79-0109, and Acc. # 78-0857.

4) 1 ROSCOP, MESA, from Dr. Bruce McCain's central and south Puget Sound multi-disciplinary study (field period 4-16-79 to 5-3-79).

FORWARDED BY (Signature) Sid Stillwaugh	TITLE Seattle L.O.	DATE FORWARDED 6-7-79
RECEIVED BY (Signature)	TITLE	DATE RECEIVED

May 29, 1979   D781/JBR

TO: OA/D781 - Sid Stillwaugh

FROM: OA/D781 - James Ridlon

SUBJ: Corrections Required for File Type #059 Data Set

The following are required corrections to the Accession #79-0064
(Track #TR3880-1, File Type #059) data set from Westlake:

(1) Missing taxonomic codes in the record type "6"s of:

File ID	Track No.	Station No.	Sample Site No.
TRIP06	TR3881	02083	23
TRIP06	TR3881	02084	24

no data entered,
so no taxonomic codes

(2) Invalid Habitat Code; a zero used as the first diget (column
59) in this field of columns 59-61 of the following record type "2"
(requires a 1 to 9 digit):

File ID	Track No.	Station No.	Sample Site No.
TRIP06	TR3881	02095	34

cc: J. Anderson, D7514

Habitat Code, should read "1C2"; also, the "210" (beach temperature) should be shifted to columns #62-64

Info. received by phone from S.S. on 6/6/79. Memo plus print-out will follow by mail.

DEPARTMENT OF MICROBIOLOGY
TELEPHONE (403) 432-3279

THE UNIVERSITY OF ALBERTA
EDMONTON. CANADA
T6G 2E9

. January 9, 1979.

Mr. Sid Stillwaugh,
U.S. Department of Commerce,
NOAA.
Environmental Research Laboratories,
MESA Puget Sound Project,
7600 Sand Point Way, N.E.,
Seattle, Washington.
U.S.A. 98115

Dear Sid:

Enclosed are:

FTP #059

1. the data decks for TRIP06 and TRIP07
2. a listing of these decks
3. the corresponding DDF's

In cases where the concentration of a component is below the detection limit of the analysis, the data field has been left blank (as per our telephone conversations), and a text record has been added (at the end of each station number) to state this situation. The detection limits are given in the "scientific content" of the DDF's.

Within a few months these decks will be replaced by new decks which will include the fungal taxonomy data that is not yet completed. This will require another data record, but at this point, we have no proposed format.

For Trips 6 and 7, we have added another radioactive substrate code:

.·' N = 1-^{14}C – Naphthalene, and for Trip 8, we will need another sample type code: A = cobbles.

Would you get NODC's approval for this latter code and notify me on their decision. Once I hear from you, we will be ready to submit the data deck for Trip 8.

Thanks.

Yours sincerely,

Phil

Phil Fedorak,
Faculty Service Officer.

PF/hg.

Agreed to in telecom between Sid S. and R. Stein (0752).
Now in the format.

TRANSMITTAL AND RECEIPT RECORD
(Please sign and return carbon copy acknowledging receipt)

TO: NOAA/EDIS/NODC 2001 Wisconsin Ave. N.W. Washington D.C. 20235	REFER TO
	ATTENTION Dr. James B. Ridlon, MESA Data Coordinator

THE ITEMS LISTED BELOW WERE FORWARDED TO YOU BY

☐ ORDINARY MAIL   ☐ REGISTERED MAIL   ☐ AIR MAIL   ☒ CERTIFIED MAIL   ☐ GOVERNMENT TRUCK   ☐ BY HAND   ☐ OTHER

cert. no. 523062

Enclosed, find punch cards and associated documentation for:

Westlake/Univ. of Alberta - FT 059 data, field period 8/13/ to 8/14/78
        File I.D. TRIP06

Westlake/Univ. of Alberta - FT 059 data, field period 10/1 to 10/3/78,
        File I.D. TRIP07

FORWARDED BY (Signature) Sidney D. Stillwaugh	TITLE Seattle L.O.	DATE FORWARDED
RECEIVED BY (Signature)	TITLE	DATE RECEIVED 19 JAN 1979

NOAA FORM 24-5 (8-73)

Data Set Route Sheet

Accession #_____

Step	Completion Date/Init.		Tape #,	# of Files	BLKSIZE,	LRECL
1. Originator Tape #	1/24/79	~~Rtt~~	07750	1	4800	80
2. QUADI Duplicate Tape #	1/26/79	~~RBN~~	05405	1	4800	80
3. DDF Evaluation						
4. Quality Review						
5. Preliminary Data Sort						
6. Preliminary Check						
7. First User Tape #						
8. Final User Tape #						
9. Final Check						
10. NAPIS Inventory						
11. DIP Inventory						
12. Data Set 'Finalized'						

DATE:

TO:

FROM:

SUBJECT: Error Correction in Processing of Data Set - Accession #_**79-0064**_

 1) File Type:_**#059**_

 2) Project Ident.:_**Puget Sound/PSERP**_

 3) Track Nos.:_**TR3880-1**_

I. Error Corrections as reported to Principal Investigator:

 Error   Correction Completed (Check)

II. Additional error corrections:

 Error   Correction Completed (Check)

III. Processor Name:_____

Filetype   059

SDF1   001073
SDF2   020079
ANSI   020647

TR   2033, 2034, 3026-3028, 3880, 3881, 4115, 4325,
     4512-4515

4278

Accession No: 79-0064
I D: Puget Sound/PSERP

```
Password:
 accNo    fleA refNo  proj inst ship    startDate  cruise   catId
 -------  ---- ------ ---- ---- ------- ---------- -------- ----------
 7900064 F059 TR3880 0082 1822 1899    1978/08/13 TRIP06       308909
 7900064 F059 TR3881 0082 1822 1899    1978/10/01 TRIP07       308910

(2 rows affected)
```

```
Password:
 accNo    fleA refNo   ship staCnt recCnt startDate   endDate
 -------  ---- ------  ---- ------ ------ ----------  ----------
 7900064  F059 TR3880  1899 3      56     78/08/13    78/08/14
 7900064  F059 TR3881  1899 13     195    78/10/01    78/10/03

(2 rows affected)
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