AMERICAN SAMOA ENVIRONMENTAL PROTECTION AGENCY
Executive Office Building
Pago Pago, American Samoa 96799

TAUESE P.F. SUNIA
Governor

TOGIOLA T.A. TULAFONO
Lt. Governor

TOGIPA TAUSAGA
Director

Phone: (684) 633-2304/2305
Fax: (684) 633-5801

December 13, 2000

Steven L. Costa, Ph.D.
Karen A. Glatzel, Ph.D.
gdc
216 Driftwood Lane
PO Box 1238
Trinidad, CA 95570-1238

Dear Drs. Costa and Glatzel:

My agency has received and reviewed the request for a water quality certification for the joint National Pollutant Discharge Elimination System (NPDES) permit for the discharge of effluent in Pago Pago Harbor, American Samoa, by Star-Kist Samoa and VCS Samoa Packing Co., Inc.

The discharge is found to be consistent with the protected uses for Pago Pago Harbor as stated in the American Samoa Water Quality Standards (ASWQS) and sections 301, 302, 303, 306, and 307 of the Clean Water Act. Certification is given for this discharge and the NPDES permit provided that all conditions of the NPDES permit and the ASWQS continue to be met.

If you have any questions on this certification, please feel free to contact me or Sheila Wiegman of my staff at (684) 633-2304.

Sincerely,

Togipa Tausaga, Executive Secretary
Environmental Quality Commission

Cc: John Duffy, ASEPA

AMERICAN SAMOA ENVIRONMENTAL PROTECTION AGENCY

December 19, 2000

To: Sara Roser, USEPA Region 9

From: Sheila Wiegman, ASEPA

Re: WQ Cert for the Canneries in AS

Please see the attached. Sorry for the delay.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

OFFICE OF THE
REGIONAL ADMINISTRATOR

In reply, please refer to: WTR-5

DEC 2 1 2000

Phil Thirkell, General Manager
StarKist Samoa, Inc.
P.O. Box 368
Pago Pago, Tutuila
American Samoa 96799

Re: StarKist Samoa, Inc.
NPDES Permit No. AS0000019

Dear Mr. Thirkell:

Enclosed is a copy of the above captioned National Pollution Discharge Elimination System (NPDES) permit. The NPDES permit is hereby issued upon the date of signature and shall become effective thirty-three (33) days from the date of this cover letter, unless a petition is filed with the Environmental Appeals Board (EAB) to review any conditions of the final permit under 40 CFR 124.19(a), as revised at 65 Fed. Reg. 30886, 30911 (May 15, 2000). A copy of such petition should be sent to the EPA address listed above.

The staff at the U.S. Environmental Protection Agency (EPA) has reviewed the NPDES permit application for the above captioned facility and have prepared a draft permit in accordance with the Clean Water Act (CWA). The EPA has also published a public notice of its tentative decision to issue this permit. After considering the expressed views of all interested persons and agencies, and pertinent Federal statutes and regulations, the EPA, pursuant to 40 CFR Part 124, prepared the above captioned final permit. The final permit conforms to the certification issued by the American Samoa EPA pursuant to 401(a) of the CWA.

As stated in newly-revised 40 CFR 124.19(a), within 33 days after EPA issues the final permit, any person who filed comments on the draft permit or participated in the public hearing may petition the EAB to review any condition of the permit decision. Any person who failed to file comments or failed to participate in a public hearing on the draft permit may petition for administrative review only with regard to changes made from the draft permit to the final permit. The petition shall include a statement of the reasons supporting the review, including a demonstration that any issue being raised was raised during the public comment period (including any public hearing) to the extent required by these regulations and, when appropriate, a showing that the condition in question is based on: (1) a finding of fact or conclusion of law which is clearly erroneous; or (2) an exercise of discretion or an important policy consideration which the EAB should, in its discretion, review. Under 40 CFR 124.16 and 124.60, a petition for review under 40 CFR 124.19 stays the force and effect of the contested conditions of the final permit until final

2001 Permit

agency action under 40 CFR 124.19(f).

The EPA will routinely deny any request for an evidentiary hearing which is postmarked later than the 33rd day from the date of this cover letter. If you have any questions regarding the procedures outlined above, please call Sara Roser at (415) 744-1914.

Sincerely,

Terry Oda, Chief
CWA Standards and Permits Office
Water Division

Enclosures

cc: Togipa Tausaga, Director
American Samoa Environmental Protection Agency
Office of the Governor
Pago Pago, AS 96799

Steve Costa
P.O. Box 1238
Trnidad, CA 95570-1238

Marie-Claude Filteau
Department of Marine and Wildlife Resources
American Samoa Government
Pago Pago, AS 96799

Nancy Daschbach
National Marine Sanctuaries
P.O. Box 4318
American Samoa Government
Pago Pago, AS 96799

Mike Dworsky
American Samoa Power Authority
P.O. Box PPB
Pago Pago, AS 96799

Permit No. AS0000019

AUTHORIZATION TO DISCHARGE UNDER THE

POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provision of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.; the "Act"),

StarKist Samoa, Inc.
P.O. Box 368
Pago Pago, Tutuila
American Samoa 96799

is authorized to discharge tuna processing wastewater from the cannery located at Pago Pago, American Samoa from outfall Discharge Serial No. 001:

Latitude:	14 deg.	17 min.	01 sec.	S
Longitude:	170 deg.	40 min.	02 sec.	W

to receiving waters named: Pago Pago Harbor in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in Sections A through G hereof.

This permit shall become effective on January 23, 2001.

This permit and the authorization to discharge shall expire at midnight, January 23, 2006.

Signed this 21st day of December, 2000.

For the Regional Administrator

Alexis Strauss, Director
Water Division

A. EFFLUENT LIMITS AND MONITORING REQUIREMENTS

1. During the period beginning with the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from Outfall 001.

The effluent shall be sampled prior to its commingling with the effluent from the other cannery.

Such discharge shall be limited and monitored by the permittee as specified below:[1]

Effluent Characteristics	Discharge Limitations		Monitoring Requirements	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow (MGD)	--	2.9	Continuous	Recorder
Biochemical Oxygen Demand (5-day)	[5]	[5]	Once/Month	Composite
Suspended Solids (lbs/day)	2996	7536	Once/Week	Composite
Oil and Grease (lbs/day)	763	1907	Once/Week	Grab[2]
Total Phosphorus (lbs/day)	192	309	One set/Month [3]	Composite
Total Nitrogen (lbs/day)	1200	2100	One set/Month [3]	Composite
Acute Toxicity	--	[4]	Once/6 Months	Composite
Total Ammonia (mg/l)	--	133	Once/Week	Composite
Temperature (^{o}F)	90	95	Continuous	Continuous
Total Copper (ug/l)	66	108	Once/Month	Composite
Total Zinc (ug/l)	1545	1770	Once/Month	Composite
pH	--	[6]	Continuous	Continuous

Notes:

(1) Where discharge monitoring data is reported as "below detection limit," both the detection limit obtained and the analytical method used shall be included on the monthly discharge monitoring report (DMR).

(2) Each oil and grease sample shall consist of four individual grab samples ("sub-samples") which shall be taken at even intervals during each production period in which samples are taken. Each sub-sample shall be separately analyzed and the mean value of the four sub-samples shall be reported for daily maximum and monthly average.

(3) Permittee is required to monitor monthly. Each month permittee shall sample twice in a single week on production days. Should the permittee wish to monitor the effluent on a non-production day(s), the permittee must monitor for the six consecutive days following the non-production day on which the first sample was taken. The average of all samples taken during that month will determine compliance with the "monthly average."

Should the canneries consistently comply with their TN and TP limitations and should the monitoring data show that the discharge is not impacting the water quality in the harbor or causing water quality violations for one year, the permit may be modified to incorporate a "weighted average" method of measuring compliance with the limitations. The numerical limitations themselves shall not be made any less stringent.

(4) See Section D "Toxicity" for monitoring requirements.

(5) No limit set at this time. Monitoring and reporting only.

(6) The pH is limited between 6.5 and 8.6 standard units. The total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calender month; and no individual excursions from the range of pH values shall exceed 60 minutes.

B. DISCHARGE SPECIFICATIONS

Samples taken at monitoring stations 8, 8A, 14, 15, 16, and 18 in the receiving water shall not reveal* any of the following in accordance with American Samoa Water Quality Standards:

1. Chlorophyll a levels in excess of 1.0 ug/l;

2. Light penetration depth less than 65 feet;

3. Objectionable color, odor, or taste, either alone or in combinations, or in the biota;

4. Visible floating materials, grease, oil, scum, foam, and other floating material; and,

5. Materials that will produce visible turbidity or settle to form objectionable deposits.

Samples taken at monitoring stations 8, 8A, 15, 16, and 18 in the receiving water (those stations outside the zone of initial dilution [ZID]) shall not reveal* any of the following in accordance with American Samoa Water Quality Standards:

1. Dissolved oxygen (DO) concentration less than 5.0 mg/l or 70% saturation;

2. Turbidity in excess of 0.75 nephelometric turbidity units; and

3. Toxicity to aquatic life.

Samples taken at monitoring stations 15, 16, and 18 in the receiving water (those stations outside the zone of mixing [ZOM]) shall not reveal* any of the following in accordance with the American Samoa Water Quality Standards:

1. A temperature more than 1.5 degrees Fahrenheit from conditions that would occur naturally;

2. A level of total nitrogen in excess of 200 ug/l; and

3. A level of total phosphorous in excess of 30 ug/l.

*Should any samples of ambient water reveal exceedances of the standards specified above and should ASEPA and/or USEPA determine that the canneries' discharge is the cause of the exceedance, the canneries may be required to undertake various actions including ceasing discharge and/or additional studies or monitoring to determine the cause of the exceedance. Violations of water quality standards shall be determined in accordance with American Samoa Water Quality Standards.

C. PROTECTED AND PROHIBITED USES

1. The protected uses of Pago Pago Harbor are as follows:

a. Recreational and subsistence fishing;
b. Boat-launching ramps and designated mooring areas;
c. Subsistence food gathering, e.g. shellfish harvesting;
d. Aesthetic enjoyment;
e. Whole and limited body-contact recreation, e.g. swimming, snorkeling, surfing, and scuba diving;
f. Support and propagation of marine life;
g. Industrial water supply;
h. Mari-culture development;
I. Normal harbor activities; e.g. ship movements, docking, loading and unloading, marine railways and floating drydocks; and
j. Scientific investigation.

2. Prohibited uses include but are not limited to:

a. Dumping or discharge of solid waste;
b. Animal pens over or adjacent to any shoreline;
c. Dredging and filling activities, except when permitted by the American Samoa Environmental Quality Commission (ASEQC) in accordance with the Environmental Quality Act (Title 24, American Samoa Code);
d. Hazardous and radioactive waste discharges;
e. Discharge of oil sludge, oil refuse, fuel oil, or bilge water, or any other wastewater from any vessel or unpermitted shoreside facility.

The permittee shall not engage in any of the above prohibited uses nor in any uses that would conflict with the protected uses of the harbor.

D. TOXICITY

1. Proposed Effluent Biomonitoring

Beginning within 180 days after the effective date of this permit, the permittee shall conduct, or have a contract laboratory conduct, semi-annual 96-hour static renewal acute bioassays on composite effluent samples according to the methods described in Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms (EPA/600/4-90/027F), August 1993 using the white shrimp, *Penaeus vannamei* postlarvae. In the event that *Penaeus vannamei* are not available for testing, *Mysidopis bahia* may be used. Every reasonable effort shall be made to ship the samples to the testing laboratory in a manner to meet holding times and maintain sample temperature at 4C. Tests shall be conducted using a $\leq$ 0.5 dilution series (i.e., 100%, 25%, 12.5%, 6.25%, 3.13%, 1.56%).

Use probit analysis to calculate the LC50 and 95% confidence intervals. Use

Analysis of Variance and Dunnett's multiple comparison test to calculate the No Observed Effect Concentrations (NOEC). These results will be reported on the permittee's Discharge Monitoring Report (DMRs).

Each cannery may conduct the tests individually or may conduct a test using a single combined flow weighted composite effluent. However, ASEPA or USEPA may require additional individual bioassay tests for each cannery after review of combined composite effluent tests.

2. Priority Pollutant Scan

The permittee shall conduct at least one priority pollutant scan of the effluent. This test shall be conducted prior to the application for renewal of the permit. The results shall be submitted to the USEPA and ASEPA prior to the application for renewal of the permit. If the toxicity tests indicate that the discharge causes, has a reasonable potential to cause, or contributes to non-compliance with American Samoa Water Quality Standards, then ASEPA and/or USEPA may require full or partial priority pollutant scans be conducted concurrent with the required semi-annual bioassay tests.

3. Toxicity Reopener

Should any of the monitoring indicate that the discharge causes, has reasonable potential to cause, or contributes to an excursion above a water quality criteria, the permit may be reopened for the imposition of water quality-based limits and/or whole effluent toxicity limits. Also, this permit may be modified, in accordance with the requirements set forth at 40 CFR 122.44 and 124.14, to include appropriate conditions or limits to address demonstrated effluent toxicity, or to implement any EPA-approved new state water quality standards or testing methods applicable to effluent toxicity.

E. RECEIVING WATER QUALITY MONITORING PROGRAM

To determine compliance with water quality standards, the receiving water quality monitoring program must document water quality at the outfall, at areas near the zone of initial dilution (ZID) and zone of mixing (ZOM) boundaries, at areas beyond these zones where discharge impacts might reasonably be expected, and at reference control areas. The canneries (StarKist Samoa and COS Samoa Packing) shall cooperatively perform, or cause to be performed, water quality monitoring at the specified stations at regular frequencies as detailed below.

Should any monitoring or studies reveal, in the judgement of either ASEPA or USEPA, that the water quality, coral reef, or overall biological health of the harbor is being impaired as a result of the joint cannery outfall discharge, either agency may at any time prohibit further discharge and/or require additional monitoring.

All water quality samples should be collected and processed according to the protocols found in the most recent edition of USEPA's guidance document entitled, Quality Assurance and Quality Control (QA/QC) for 301(h) Monitoring Programs: Guidance on Field and Laboratory Methods (EPA, 1987a, or the most recent edition). Monitoring reports shall be submitted to ASEPA and USEPA on a semi-annual basis.

Monitoring stations shall be designated and located as shown below (also see Figure 1):

Station	Vicinity	Location	Latitude	Longitude
5	Transition Zone	Harbor Mouth	14 17.713' S	170 39.733' W
8	Middle Harbor	Inside ZOM	14 16.843' S	170 40.098' W
8A	Middle Harbor	Inside ZOM	14 16.826' S	170 40.150' W
11	Inner Harbor	East End	14 16.480' S	170 40.947' W
13	Inner Harbor	West End	14 16.304' S	170 41.841' W
14	Middle Harbor	Diffuser	14 16.911' S	170 40.065' W
15	Middle Harbor	ZOM Edge	14 16.584' S	170 40.116' W
16	Middle Harbor	ZOM Edge	14 16.891' S	170 40.354' W
18	Outer Harbor	ZOM Edge	14 16.092' S	170 40.041' W

Note: Latitude and longitude and based on recorded GPS using the WGS coordinate system as employed in previous Receiving Water Quality Monitoring Reports, Pago Pago Harbor, American Samoa, 1995-1997.

It is recommended that the stations be located using the sextant angle resection positioning method or a positioning system that affords an equivalent degree of accuracy and precision. Other means may be used if, in the judgement of ASEPA and EPA Region 9, they are of sufficient accuracy and precision to allow reoccupation of the stations within plus or minus six (6) meters.

Monitoring shall be done semi-annually during the two predominant oceanographic season described as the tradewind and non-tradewind season. One sampling event should be done in the months of February through April and the other sampling event should be done in the months of August through October. Reports will be submitted to ASEPA and USEPA within 60 days of receipt of laboratory results.

Temperature, dissolved oxygen (DO), pH, conductivity, and turbidity shall be measured as continuous vertical profiles at each station. Salinity shall be calculated from temperature and conductivity. In the event of malfunctions of the sensors used to measure the continuous vertical profile parameters, direct measurement of grab samples, in the field, will be acceptable. Light penetration shall be measured at all stations by measurement of sechi depth. All other required parameters shall be measured in grab samples taken at one (1) meter below the surface, mid-depth, and one meter above the bottom. In locations where the depth is greater than 40 meters, samples shall be taken at one meter below the surface, 20 meters, and 40 meters.

The following parameters shall constitute the Water Quality Monitoring Program:

Parameter	Units	Stations	Sample Type
Temperature	F	5,8,18,14,15,16,8A,11,13	Vertical Profile
Salinity	PSU	5,8,18,14,15,16,8A,11,13	Vertical Profile
pH	SU	5,8,18,14,15,16,8A,11,13	Vertical Profile
Dissolved Oxygen	mg/l and %Sat	5,8,18,14,15,16,8A,11,13	Vertical Profile
Turbidity	NTU	5,8,18,14,15,16,8A,11,13	Vertical Profile
Turbidity	NTU	18, 14, 15, 16	Grab
Light Penetration	feet	5,8,18,14,15,16,8A,11,13	Direct Reading
Suspended Solids	mg/l	5,8,18,14,15,16,8A,11,13	Grab
Chlorophyll-a	mg/l	5,8,18,14,15,16,8A,11,13	Grab
Total Ammonia	mg/l	5,8,18,14,15,16,8A,11,13	Grab
Total Nitrogen	mg/l	5,8,18,14,15,16,8A,11,13	Grab
Total Phosphorous	mg/l	5,8,18,14,15,16,8A,11,13	Grab
Copper	g/l	5, 8, 8A,11,13,14,15	Grab
Zinc	g/l	5, 8, 8A,11,13,14,15	Grab
Lead	g/l	5,11,13,14	Grab
Mercury	g/l	5,11,13,14	Grab
Arsenic	g/l	5,11,13,14	Grab

The water quality analyses shall be expanded for one of the water quality monitoring events during the first year of the permit as described in Section H below.

F. SEDIMENT MONITORING

Sediment monitoring is conducted to determine the character of the sediments in relation to long-term high nutrient discharge by the permittee in the harbor and to determine if the harbor recovery will be affected by resuspension of the nutrients.

The canneries (StarKist Samoa and COS Samoa Packing) shall cooperatively perform a sediment monitoring program in Pago Pago Harbor in order to assess the concentration of nutrient and organic components, the distribution of stored nutrients, the size of the nutrient reservoir, and the rate of accumulation of nutrients. Seven sites shall be located within Pago Pago Harbor and analyzed for total nitrogen, total phosphorous, percent organics, percent solids, volatile solids, grain size distribution, oxidation-reduction potential, sulfides, copper, zinc, lead, mercury, and arsenic. Three sites shall be located in inner Pago Pago Harbor and four sites shall be located in the middle and outer portion of the harbor.

Monitoring stations shall be designated and located as shown below (see Figure 2):

Station	Vicinity	Location	Latitude	Longitude
IH1	Inner Harbor	Between old outfalls	14 16.626' S	170 41.146' W
IH2	Inner Harbor	Offshore of old outfalls	14 16.708' S	170 41.146' W
IH3	Inner Harbor	Off Pago Pago stream	14 16.655' S	170 41.854' W
OH1	Outer Harbor	400' NNW of outfall	14 17.076' S	170 40.100' W
OH2	Outer Harbor	400' SSE of outfall	14 17.186' S	170 40.025' W
OH3	Outer Harbor	Utulei outfall	14 17.243' S	140 40.425' W
OH4	Outer Harbor	Reference	14 17.537' S	170 40.067' W

Note: Latitude and longitude based on recorded GPS using the WGS coordinate system as employed in previous Sediment Monitoring Reports, Pago Pago American Samoa, 1993-1997.

The sites and study methods shall be the same as described in the previously approved study plan for the sediment monitoring conducted during 1993-1997. The sampling shall be conducted twice: once during the first year of the permit and once during the fourth year of the permit. A report of the sediment monitoring program shall be submitted to ASEPA and USEPA within 90 days after completion of the sampling.

The following parameters shall constitute the Sediment Monitoring Program:

Parameter	Units	Stations	Sample Type
Total Nitrogen (TKN)	mg/kg (dry)	All	Grab
Total Phosphorous	mg/kg (dry)	All	Grab
Total Sulfides	mg/kg (dry)	All	Grab
Redox Potential	mV	All	Grab[1]
Total Organic Carbon	%	All	Grab
Percent Solids	%	All	Grab
Total Volatile Solids	%	All	Grab
Grain Size	mm (distribution)	All	Grab
Copper	mg/kg	All	Grab
Zinc	mg/kg	All	Grab
Lead	mg/kg	All	Grab
Mercury	mg/kg	All	Grab
Arsenic	mg/kg	All	Grab

[1] Measured in the field when sample is acquired

The first sediment monitoring event shall be expanded during the first year of the permit as described in Section H below. If possible, the sediment sampling event conducted in conjunction with the fish tissue study will include core samples at the inner harbor stations. The canneries shall make a reasonable attempt to collect core samples and , if successful, analysis shall be done using material from two levels in the cores (or at the lower level from the core and a surficial grab sample).

G. CORAL REEF SURVEY

The canneries (StarKist Samoa and COS Samoa Packing) shall cooperatively continue the coral reef survey based on the previously approved study plan for the monitoring conducted during 1993-1997 with the modifications described below. The purpose of the study is to assess the potential impacts of the discharge on the nearby coral reef. The intent of the survey is to detect significant differences, if any, from the previous surveys. VCR formatted video copies and a report of results shall be submitted to the ASEPA and USEPA with reports within 120 days of the survey.

The survey will be done twice during the permit period, once in year two of the permit and once in year 5 of the permit. These surveys will include a subset of the previous transect locations. Transect locations to be surveyed are MH-1, MH-4, OH-5, and OH-1 (see Figure 3). After reviewing the results of the first survey, ASEPA and USEPA may require different or additional transects during the second survey and/or additional surveys.

H. FISH TISSUE STUDY

The canneries (COS Samoa Packing and StarKist Samoa) shall cooperatively perform a study during the first year of the permit that addresses the levels of selected parameters in the tissues of resident organisms in the Harbor. The study will be done concurrently with receiving water quality monitoring (Section E) and sediment monitoring (Section F) sampling. The water quality and sediment monitoring studies shall be expanded, for the sampling done in conjunction with the fish study, to include selected additional stations and parameters. The intent of the study is to assess the potential sources and levels of these substances and is a follow-up study to previous monitoring performed by ASEPA.

Within 120 days of the effective date of the permit, the canneries shall submit a study plan to ASEPA and USEPA-Region 9 for comment and approval. The study shall include the following elements:

1. Whole fish tissue analysis of mullet, mackerel, and crab (or acceptable substitute organisms) for lead, arsenic, mercury, PCBs (Aroclor 1260), selected pesticides (DDT, DDE, DDD), and dioxin. Analysis of dioxin will be required in only one composite sample of species collected from the inner harbor.

2. The study shall primarily address organisms captured in the harbor. Detailed station locations and parameters to be analyzed shall be described in the study plan. The following stations (See Figure 4) and parameters should be included in the study:

Parameter	Inner Harbor			Reference		
	Mullet Composite	Mackerel Composite	Crab Composite	Mullet Composite	Mackerel Composite	Crab Composite
Lead	X	X	X	X	X	X
Arsenic	X	X	X	X	X	X
Mercury	X	X	X	X	X	X
PCBs	X	X	X	X	X	X
Pesticides	X	X	X	X	X	X
Dioxin		X				

Notes: The inner harbor is that area described as shoreward of a line extending from Goat Island Point to the northern shoreline. The reference location shall be described in the study plan submitted within 120 days of the effective date of the permit.

3. The study shall include water quality samples for the same set of parameters (excluding dioxin, which will be considered for only one sample) at a minimum of six stations in the inner and middle harbor and a reference station. Detailed station locations and parameters to be analyzed will be described in the study plan. The following stations and parameters should be included in the study:

Parameter	Inner Harbor Stations				Middle Harbor Stations			Reference Station
	11	11A	12	13	8A	15	14	5
Lead	X	X	X	X	X	X	X	X
Arsenic	X	X	X	X	X	X	X	X
Mercury	X	X	X	X	X	X	X	X
PCBs	X			X				X
Pesticides	X			X				X
Dioxin				X				

Note: All stations are previously occupied harbor water quality stations.

4. The study shall include sediment samples for the same set of parameters (excluding dioxin, except at one station) at a minimum of six stations in the inner harbor and a reference station. If possible, the sediment sampling will include core samples at the inner harbor stations. The canneries shall make a reasonable attempt to collect core samples and, if successful, analysis shall be done using material from two levels in the cores (or at the lower level from the core and a surficial grab sample). Detailed station locations and parameters to be analyzed shall be described in the study plan. The following stations (See Figure 4) and parameters should be included in the study:

Parameter	Inner Harbor Stations						Reference Station
	Total organic carbon, total solids, total volatile solids, and grain size distribution will be analyzed for all samples.						
	IH-1	IH-2	IH-3	4	FD	SWM	OH-4
Lead	X	X	X	X	X	X	X
Arsenic	X	X	X	X	X	X	X
Mercury	X	X	X	X	X	X	X
PCBs			X				X
Pesticides			X				X
Dioxin			X				

Notes: IH-1, IH-2, IH-3, and OH-4 are the previously occupied sediment quality stations.
Station 4 is the previously occupied station for the CH2M HILL water quality field measurements (1/1/91). Stations FD and SWM will be adjacent to the fuel dock and the boat repair facility, respectively.

5. The study plan shall include descriptions of sampling locations, sampling methods, analytical laboratories to be used, laboratory methods, detection levels, and A/QC procedures.

6. A report shall be prepared and submitted to ASEPA and USEPA within 90 days of receipt of laboratory results.

I. SEA TURTLE REVIEW

In conjunction with the fish tissue study, the canneries will retain a recognized expert to review the effluent chemistry and bioassay data to determine if there is any anticipated impact on sea turtles in Pago Pago Harbor. The canneries will provide a report of the findings to EPA and ASEPA concurrent with the fish tissue study report.

J. POLLUTION PREVENTION PROGRAM

The canneries shall maintain the pollution prevention program developed in the previous permit period. The canneries shall submit an annual report documenting the effectiveness of the program and improvements to it. A copy of this report shall be available onsite.

K. DEFINITIONS

1. "Ambient conditions" means the existing conditions in the surrounding waters not influenced by the discharger's effluent.

2. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility whose operation is necessary to maintain compliance with the terms and conditions of this permit.

3. "Whole-effluent toxicity" is the aggregate toxic effect of an effluent measured directly with a "toxicity test."

4. "Composite sample" means, for other than flow rate measurements, the arithmetic mean of no fewer than eight individual measurements taken at equal intervals for 24 hours or for the duration of the discharge, whichever is shorter.

   "Composite sample" means, for other than flow rate measurement,

   a. A combination of at least eight individual portions of equal time intervals for 24 hours, or the duration of the discharge, whichever is shorter. The volume of each individual portion shall be directly proportional to the discharge flow rate at the time of sampling.

   OR

   b. A combination of at least eight individual portions of equal volume obtained over a 24-hour period. The time interval will vary such that the volume of wastewater discharged between samplings remains constant.

   The compositing period shall equal the specified sampling period, or 24 hours, if no period is specified.

5. "Daily discharge" means:

   a. For flow rate measurement, the average flow rate measured during a calender day or during any 24-hour period reasonably representative of the calender day for purposes of sampling.

   b. For pollutant measurements, the concentration or mass emission rate measured during a calender day or during any 24-hour period reasonably representative of the calender day for purposes of sampling.

6. "Daily maximum" limit means the maximum acceptable "daily discharge." For pollutant

measurements, unless otherwise specified, the results to be compared to the "daily maximum" limit are based on "composite samples."

7. "Duly authorized representative" is one whose:

   a. Authorization is made in writing by a principal executive office or ranking elected official;

   b. Authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

   c. Written authorization is submitted to the ASEPA and EPA. If an authorization becomes no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements must be submitted to ASEPA and EPA prior to or together with any reports, information, or other applications to be signed by an authorized representative.

8. "Grab sample" is defined as any individual sample collected in a short period of time not exceeding 15 minutes. "Grab samples" shall be collected during normal peak loading conditions for the parameter of interest, which may or may not be during hydraulic peaks. It is used primarily in determining compliance with "daily maximum" limits.

9. "Hazardous substance" means any substance designated under 40 CFR 116 pursuant to Section 311 of the Clean Water Act.

10. "Heavy metals" are, for the purposes of this permit, arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc.

11. "Indirect discharger" means a non-domestic discharger introducing pollutants into a publicly owned treatment and disposal system.

12. "Initial dilution" is the process which results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

    For a submerged buoyant discharge, characteristics of most municipal wastes that are released from the submarine outfalls, the momentum of the discharger and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is

completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

Numerically, initial dilution is expressed as the ratio of the volume of discharged effluent plus ambient water entrained during the process of initial dilution to the volume of discharged effluent.

13. "Mass emission rate" is obtained from the following calculations for any calender day:

$$\text{Mass emission rate (lb/day)} = 8.345/N \sum_{i=1}^{N} Qi\ Ci$$

$$\text{Mass emission rate (kg/day)} = 3.785/N \sum_{i=1}^{N} Qi\ Ci$$

in which 'N' is the number of samples analyzed in any calender day. 'Qi" and 'Ci' are the flow rate (MGD) and the concentration (mg/L), respectively, which are associated with each of the 'N' grab samples which may be taken in any calender day. If a composite sample is taken, 'Ci' is the concentration measured in the composite sample and 'Qi' is the average flow rate occurring during the period over which samples are composited.

The daily concentration of all constituents shall be determined from the flow-weighted average of the same constituents in the combined waste stream as follows:

$$\text{Daily concentration} = 1/Qt \sum_{i=1}^{N} Qi\ Ci$$

in which 'N' is the number of component waste streams. 'Qi' and 'Ci' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' waste streams. 'Qt' is the total flow rate of the combined waste streams.

14. "Monthly average" is the arithmetic mean of daily concentrations, or of daily "mass emission rates," over the specified monthly period:

$$\text{Average} = 1/N \sum_{i=1}^{N} Xi$$

in which 'N' is the number of days samples were analyzed during the period and 'Xi' is either the constituent concentration (mg/L) or mass emission rate (kg/day or lb/day) for each sampled day.

15. "100-year frequency flood" means a flood of unusually large magnitude and which is characterized by its infrequent occurrence.
16. "Open coastal waters" means marine waters bounded by 100 fathom (183 m; 600 ft) depth contour and the shoreline excluding bays named in section 24.0205 (e)(1)-(3) of the American Samoa water quality standards.

17. "Overflow" means the intentional or unintentional diversion of flow from the collection and transport systems, including the pumping facilities.

18. "Pesticides" are, for purposes of this permit, those six constituents referred to in 40 CFR 125.58 (m) (demeton, guthion, malathion, mirex, methoxychlor, and parathion).

19. "Pollutant-free wastewater" means infiltration and inflow, cooling waters, and condensates which are essentially free of pollutants.

20. "Priority pollutants" are those constituents referred to in 40 CFR 401.15 and listed in the EPA NPDES Application Form 2C, pp. V-3 through V-9.

21. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a "bypass" or "overflow." It does not mean economic loss by delays in production.

22. "Sludge" means the solid, semi-liquid suspension of solids, residues, screenings, grit, scum, and precipitates separated from, or created in wastewater by the unit processes of a treatment system. It also includes, but is not limited to, all supernatant, filtrate, centrate, decantate, and thickener overflow/underflow in the solids handling parts of the wastewater treatment system.

23. "Toxic pollutant" means any pollutant listed as toxic under Section 307 (a) (1) of the Clean Water Act or under 40 CFR 122, Appendix D. Violation of the maximum daily discharge limitations are subject to the 24-hour reporting requirement (section P.13.f).

24. "Toxicity test" is the means to determine the toxicity of a chemical or an effluent using living organisms. A toxicity test measures the degree of response of an exposed test organism to a specific chemical or effluent.

25. "Toxic unit chronic" is the reciprocal of the effluent dilution that causes no unacceptable

effect on the test organisms by the end of the chronic exposure period.

26. "Upset" means any exceptional incident in which there is unintentional and temporary noncompliance with effluent limitations in the permit because of factors beyond the reasonable control of the discharger. It does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, careless or improper operation, or those problems the discharger should have foreseen.

27. "Waste", waste discharge", "discharge of waste", and "discharge" are used interchangeably in this permit. The requirements of this permit are applicable to the entire volume of water, and the material therein, which is disposed of to marine waters.

28. "Weekly average" is the arithmetic mean of daily concentrations, or of daily mass emission rates, over the specified weekly period:

$$\text{Average} = 1/N \sum_{i=1}^{N} Xi$$

in which 'N' is the number of days samples were analyzed during the period and "Xi" is either the constituent concentration (mg/L) or the "mass emission rate" (kg/day or lb/day) for each sampled day.

29. "Zone of initial dilution" (ZID) means the region of initial mixing surrounding or adjacent to the end of the outfall pipe or difusser ports, providing that the ZID may not be larger than allowed by mixing zone restrictions in applicable water quality standards [40 CFR 125.58 (W)]. For purposes of designating monitoring stations, the region within a horizontal distance equal to a specified water depth (usually depth of outfall or average depth of diffuser) from any point of the diffuser or end of the outfall and the water column above and below that region, including the underlying seabed.

30. "Zone of mixing" (ZOM) means limited areas around outfalls and other facilities approved by ASEQC with the concurrence of EPA to allow for the initial dilution of waste discharges [American Samoa Water Quality Standards].

L. QUALITY ASSURANCE/QUALITY CONTROL

All waste material sampling procedures, analytical protocols, and quality assurance/quality control procedures shall be performed in accordance with guidelines specified by EPA. The following references shall be used by the permittee where appropriate:

1. EPA, 40 CFR 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act;

2. Tetra Tech, Inc. 1985. Summary of the U.S. EPA-approved methods and other guidance for 301 (h) monitoring variables. Final program document prepared for the Marine Operations Division, Office of Marine and Estuarine Protection, U.S. Environmental Protection Agency. EPA Contract No. 68-01-693. Tetra Tech, Inc., Bellevue, WA; and

3. Tetra Tech, Inc. 1986. Quality assurance and quality control guidance for 301 (h) monitoring programs. Final program document prepared for the Marine Operations Division, Office of Marine and Estuarine Protection, U.S. Environmental Protection Agency. EPA Contract No. 68-01-3968. Tetra Tech, Inc., Bellevue, WA.

M. REPORTING

Monitoring results obtained during the previous 3 months shall be summarized for each month and submitted quarterly on forms to be supplied by EPA, to the extent that the information reported may be entered on the forms. The results of all monitoring required by this permit shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this permit. Monitoring reports shall be postmarked no later than the 28th day of the month following the completed reporting period. The first report is due 4 months after the effective date of this permit. Signed copies of these and all other reports required herein shall be submitted to the EPA and the Government of American Samoa at the following addresses:

Environmental Protection Agency - Region 9
Attn: Pacific Insular Area Programs (CMD-5)
75 Hawthorne Street
San Francisco, CA 94105

Director
American Samoa Environmental Protection Agency
Office of the Governor
Pago Pago, American Samoa 96799

N. EPA REGION IX STANDARD CONDITIONS

See attachment.

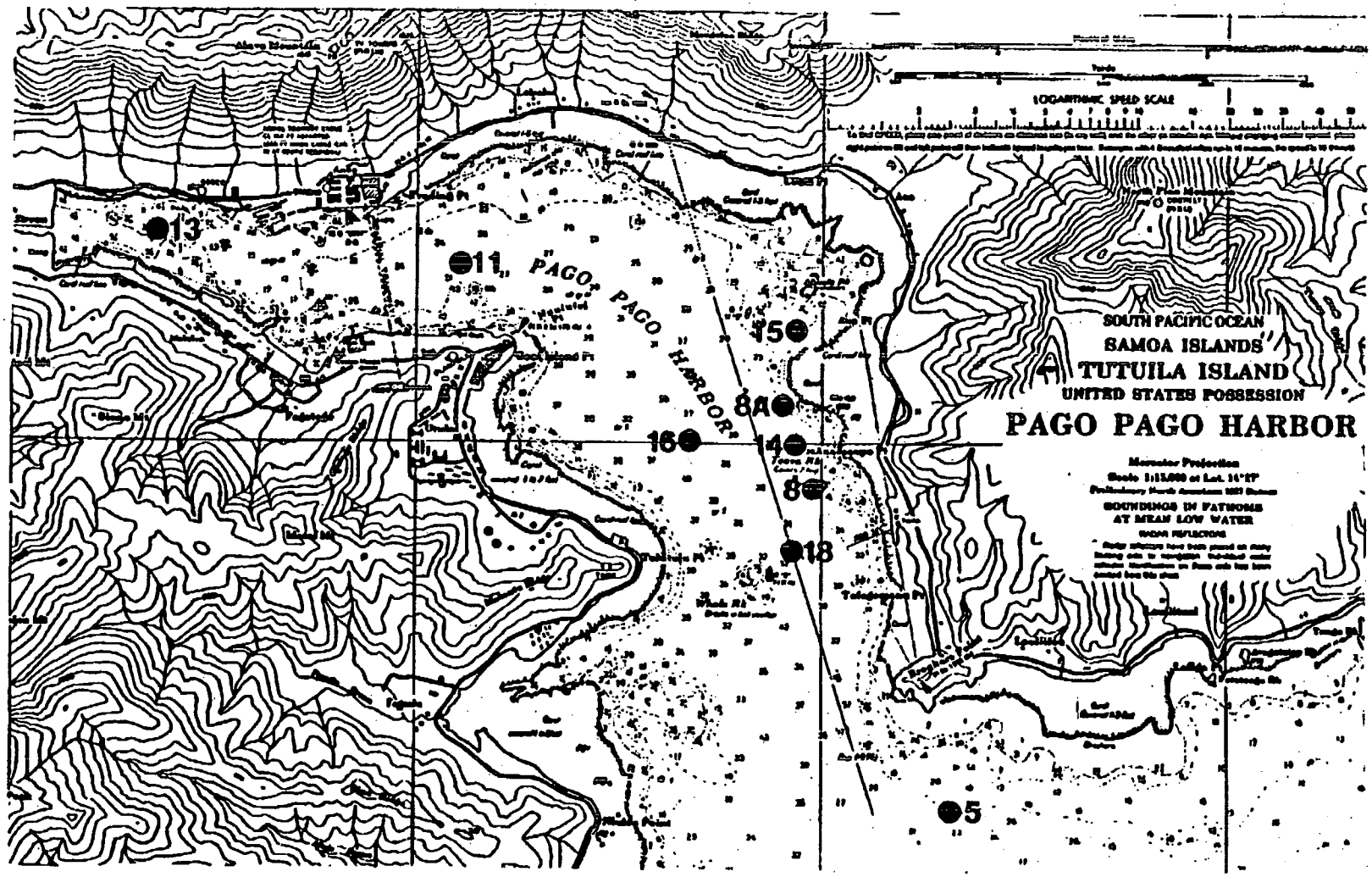


Figure 1. Receiving Water Quality Monitoring Stations

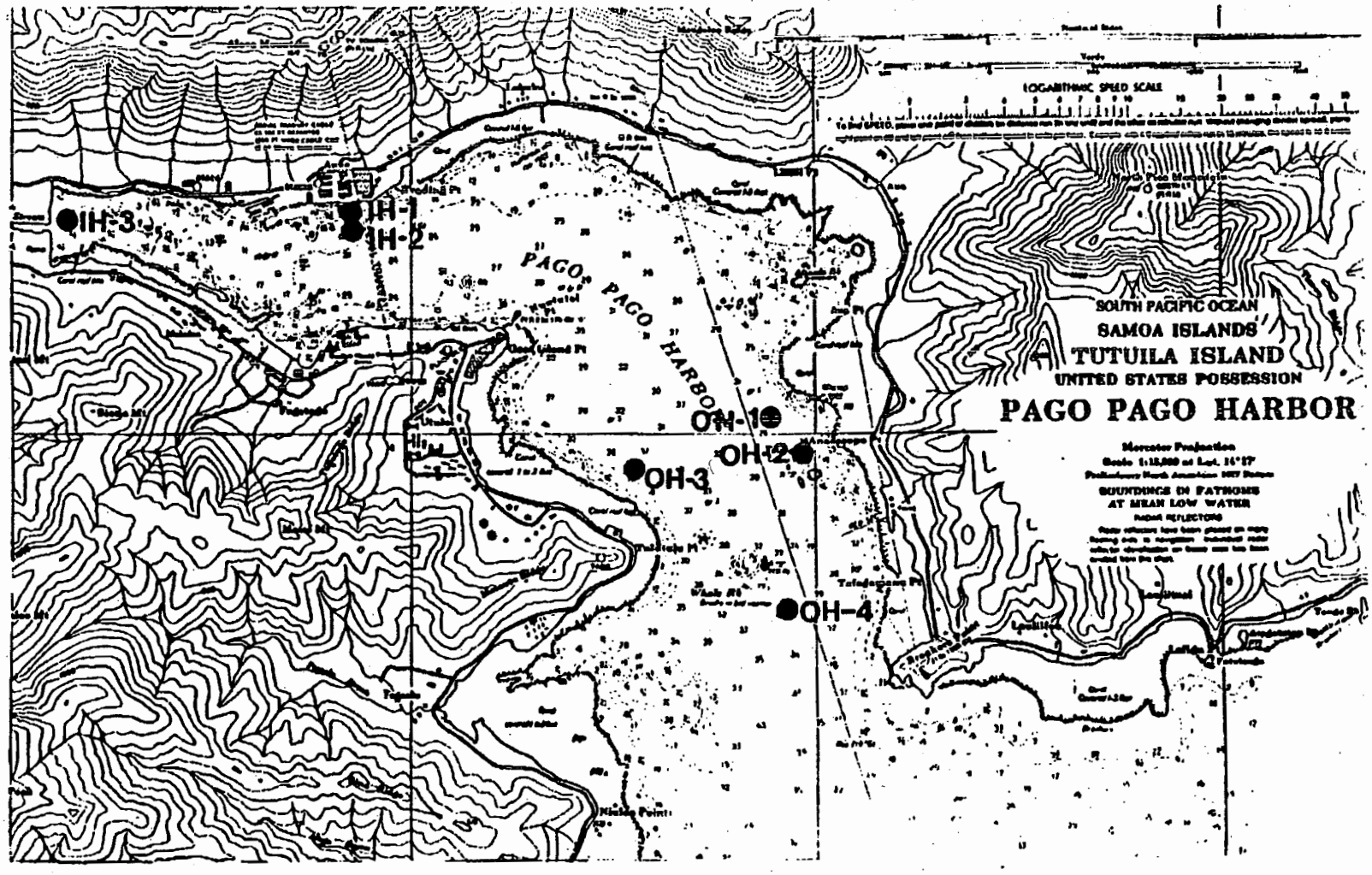


Figure 2. Sediment Monitoring Stations

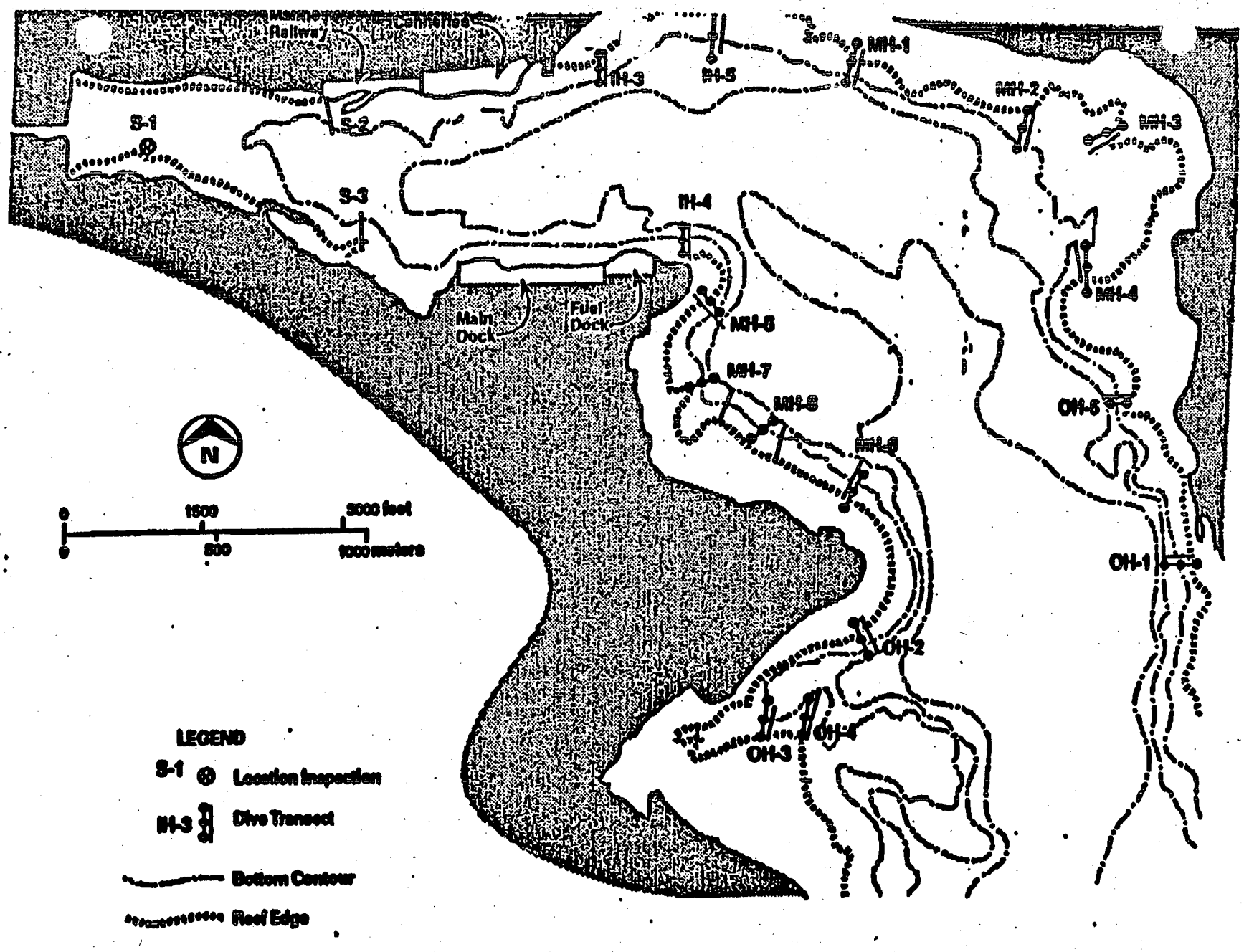


Figure 3. Coral Reef Survey Transect Locations

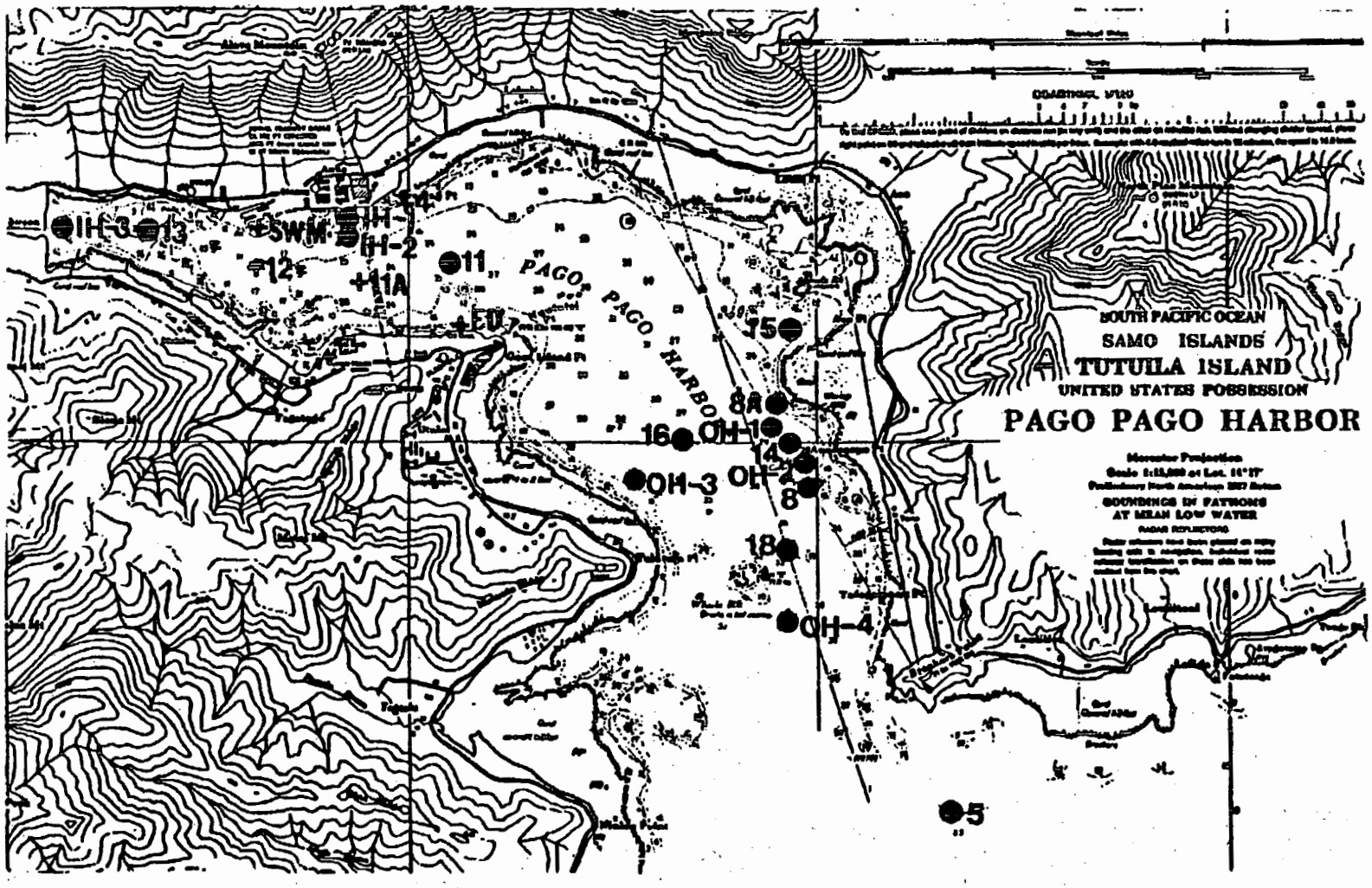


Figure 4. Fish Tissue Study Stations

Steven Costa

From: <Greiner.Sara@epamail.epa.gov>
To: "Steven Costa" <glatzeldacosta@suddenlink.net>
Sent: Thursday, July 19, 2007 9:22 AM
Subject: Re: Fw: Effluent Flow rate Question - StarKist Samoa

Sara N. Greiner
U.S. Environmental Protection Agency
Clean Water Act Standards and Permits Office
75 Hawthorne Street, WTR-5
San Francisco, California 94105
Telephone: 415-972-3042
Fax: 415-947-3545

TO

FROM
STEVE COSTA
707-677-0123

26 PAGES TOTAL
INCLUDING COVER

2001 Permit for Fact Sheet

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FACT SHEET

Permittee's Name: StarKist Samoa, Inc.

Mailing Address: P.O. Box 368
Pago Pago, Tutuila
American Samoa 96799

Plant Location: Tutuila Island, American Samoa

Contact Person: Phil Thirkel, General Manager

NPDES Permit No.: AS0000019

I. DESCRIPTION OF FACILITY

The applicant operates a tuna cannery located on Tutuila Island, American Samoa. Process discharges from the cannery enter Pago Pago Harbor at 14 deg. 17 min. 0l sec. South latitude and 170 deg. 40 min. 02 sec. West longitude. The cannery receives whole tuna which is processed into canned tuna and dried fish meal. Waste streams from this operation consist mainly of fish waste, fresh water, and sea water which are treated by Dissolved Air Floatation process. The DAF sludge and the high strength waste (pre-cooker condensate, press juice, fish meal plant wash water, etc.) are barged to sea for disposal. Approximately 454 tons of fish are processed per day. The resulting discharge to Pago Pago Harbor has been a maximum monthly average of 1.61 MGD and a long-term average of 1.27 MGD.

The 1990 American Samoa Water Quality Standards were amended by the American Samoa Environmental Quality Commission (EQC), and the amended water quality standards were adopted by the EQC in 1999. Section 24.0205 (e)(1) of the 1999 standards states that "Pago Pago Harbor has been designated by the American Samoa Government to be developed into a transhipment center for the South Pacific. Recognizing its unique position as an embayment where water quality has been degraded from the natural condition, the EQC has established a separate set of standards for Pago Pago Harbor." Section 24.0206 (m) specifies the standards that apply specifically to Pago Pago Harbor.

Administrative orders were issued by EPA in June 1990 to both StarKist Samoa and Samoa Packing Company for violations of water quality-based effluent limits of their respective 1987 NPDES permits. The orders established interim effluent limits and a schedule for compliance with water quality-based effluent limits by March 7, 1992. Concurrently, the American Samoa Government (ASG) also issued consent decrees

2001 Fact Sheet

mirroring EPA's compliance orders, with stipulated penalties for failure to meet interim effluent limits and compliance schedule deadlines.

Prior to the previous permit, both canneries were required by the orders and consent decrees to segregate high strength waste streams and dispose of these wastes and DAF sludge at a designated ocean disposal site beginning in August 1990. Feasibility studies were also required to be conducted by both canneries for alternatives by which they could achieve compliance with their NPDES permit effluent limits and ASG water quality standards for their remaining discharge into the harbor. The canneries chose to construct a 7,000-foot joint outfall which extends into the outer harbor. The new outfall is jointly operated by both canneries for discharge of their effluent.

The two canneries previously applied for a mixing zone consistent with the requirements set forth in Section 24.0207 of the American Samoa Water Quality Standards. The mixing zone requested extends approximately 1300 feet in radius from the discharge point. The mixing zone was approved by American Samoa EQC on November 27, 1991.

Discharge in compliance with this NPDES permit should ensure achievement of all applicable water quality standards. These standards are designed to prevent degradation of water quality. Therefore, compliance with this NPDES permit should prevent any "unreasonable degradation" of the marine environment, and in accordance with section 403(c) of the Clean Water Act, an NPDES permit may be issued.

II. EFFLUENT LIMITATIONS

Discharges from fish processing facilities are not subject to any effective EPA effluent limitations guidelines. Therefore, permit requirements were established using best professional judgment and specific water quality standards in order to ensure protection of the beneficial uses of the receiving waters.

A. pH

The Best Practicable Technology (BPT) limit for pH is "within the range of 6.0 to 9.0." However, water quality standards listed under 24.0206 (m) state: "The pH range shall be 6.5 to 8.6 and be within 0.2 pH units of that which would occur naturally." Because the water quality standards are more stringent, and because the mixing zone application states that "other water quality standards (beside total nitrogen, total phosphorus and temperature) will be met within the zone of mixing (e.g. pH, fecal coliform) ..." the more stringent standard will apply as the limit.

B. Temperature

Water quality standards specify a temperature limit of 85° F which is to apply to water at the edge of the mixing zone. It is the best professional judgement of this permit writer, that the water will cool at least 10° from the point it enters the discharge pipe to the edge of the mixing zone. Furthermore, modeling studies were performed by the canneries' consultant assuming the effluent was 85° F and 90° F with no significant difference in dilution rates. Therefore, the permit limit contains a 90° F monthly average and a 95° F daily maximum.

C. Oil and Grease

40 CFR 408.140 sets the BPT limit for oil and grease at a daily maximum of 2.1 lbs/1000 lbs of seafood processed and a monthly average of 0.84 lbs/1000 lbs of seafood processed. Limits for oil and grease were calculated by multiplying the BPT limits stated above by the average daily production level of 454 tons seafood processed/day. Thus the daily maximum for oil and grease is set at 1907 lbs/day and the monthly average at 763 lbs/day.

D. Total Suspended Solids

Limits were set for Total Suspended Solids (TSS) using the same rationale detailed in Section C (Oil and Grease). 40 CFR 408.140 sets the BPT limit for TSS at a daily maximum of 8.3 lbs/1000 lbs of seafood processed and a monthly average of 3.3 lbs/1000 lbs of seafood processed. Limits for TSS were calculated by multiplying the BPT limits stated above by the average daily production level of 454 tons seafood processed/day. Thus the daily maximum for TSS is set at 7536 lbs/day and the monthly average at 2996 lbs/day.

E. Total Nitrogen

The mixing zone analysis performed by the canneries' consultant, CH2M HILL, indicates that the mixing zone can assimilate 60,000 lbs, of total nitrogen per month. Assuming a 30-day month, an average of 2,000 lbs. of total nitrogen/day can be discharged between the two canneries. The two canneries have agreed between themselves to each assume a portion of this average. StarKist will assume 1,200 lbs/day as a monthly average limit for total nitrogen.

The canneries are required to sample once/month for total nitrogen on production days. Averaging only these samples will yield a number that assumes weekend values are equal to production days. The canneries have claimed that they discharge significantly less nutrients on the weekends. Therefore, should the permittee wish to monitor the effluent on a non-production day(s), the permittee must monitor for the six consecutive days following the non-production day on which the first sample was taken. The

these were interim limits set to exp in 1992

average of all samples taken during that month will determine compliance with the "monthly average". This requirement will ensure that the monitoring is representative of the discharge, and if the canneries are in compliance with their monthly average limits, the mixing zone's capacity of 60,000 lbs/month of total nitrogen will not be exceeded.

confused w/ assimilative capacity statement

was this interim limits or here?

StarKist's daily maximum effluent limit for total nitrogen was 2,440 lbs/day as stated in EPA's letter of October 30, 1991, amending its Administrative Order. Samoa Packing Company's daily maximum limit was 1,595 lbs/day, as set in EPA's Administrative Order of June 18, 1990. These limits were initially to be retained in the new permits. However, the canneries expressed a desire to allocate the total of 4,035 lbs/day between themselves. Since the combined number is the same, the canneries were permitted to do so. StarKist agreed to accept a limit of 2,100 lbs/day, and Samoa Packing Company agreed to a limit of 1,935 lbs/day.

The canneries have claimed that total nitrogen and total phosphorus levels in the effluent have no significant correlation to production levels, and their monitoring data supports such a statement (See Appendix B, "Technical Memorandum for Site-Specific Zone of Mixing Determination for Joint Cannery Outfall Project", CH2M HILL, August 26, 1991). Therefore these effluents limits for total nitrogen and total phosphorus do not limit the canneries' production levels.

So.

F. Total Phosphorus

Limits were set for total phosphorus using the same rationale as that detailed in Section E (Total Nitrogen). The total assimilative capacity of the zone of mixing was calculated by CH2M HILL to be a monthly average of 400 lbs. of total phosphorus/day. This total was divided between the two canneries, and StarKist has agreed to assume a monthly average limit of 192 lbs. of total phosphorus/day.

The combined total of daily maximum limits set in the Administrative Orders was 580 lbs. of total phosphorus/day and will be retained in the current permits. The canneries agreed to reapportion their share of the total. StarKist will assume a daily maximum of 309 lbs. of total phosphorus/day.

G. Toxicity

Determination of effluent limits for toxic substances must comply with 24.0206 (h)(1)-(3) and 24.0206(i). Section 24.0206 (h)(1) states, "All effluents containing materials attributable to the activities of man shall be considered harmful unless acceptable bioassay tests have shown otherwise."

Section 24.0206 (h)(3) states, "The chronic affect on test organisms outside a zone of mixing, if one exists, in the water body receiving the effluent in question shall not be less

than that for waters of the same water body that are unaffected by the discharge of pollutants . . . ."

In its permit application, StarKist Samoa reported that effluent concentrations of zinc and copper exceed acute and chronic water quality criteria. Numerical limitations and/or monitoring requirements have been placed in this permit on all known toxic constituents of the effluent. A monitoring requirement for acute toxicity is also included in this permit.

The water quality standards state at Section 24.0206 (h)(3), "Compliance with the above standard shall be evaluated with a 96-hour bioassay or short-term method for estimating chronic toxicity . . . ."

The permittee is required to conduct a semi-annual 96-hr static renewal acute bioassay on composite effluent samples using white shrimp *Penaeus vannamei* postlarvae. The white shrimp is a warm-water species that is currently being used in acute bioassays performed in labs in Hawaii. In the event that *P. vannamei* are not available for testing, *Mysidopis bahia* may be used.

The permittee is also required to conduct at least one priority pollutant scan of the effluent prior to the application for renewal of the permit. Full or partial priority scans may be required in conjunction with semi-annual bioassay tests if toxicity tests indicate a need.

H. Ammonia

Prior to the previous permit, the canneries requested that they be exempt from the acute toxicity requirement within a mixing zone. The American Samoa EQC approved this request. Little EPA guidance exists, however, to define a mixing zone in marine waters that prevents lethality to passing organisms. The technical support document for the canneries' zone of mixing application cites a few alternatives, but none seems appropriate to this situation.

CH2M HILL proposed to use an 80:1 dilution. This dilution, according to their modeling, occurs 30 seconds after the effluent leaves the pipe. The area associated with an 80:1 dilution is approximately 12 meters. They claim that such a dilution will ensure no lethality to passing organisms.

acute acute

EPA National Water Quality Criteria for unionized ammonia is 0.233 mg/l for marine waters. This value is the Criterion Maximum Concentration (CMC). Multiplying this 0.233 by 80 yields 18.64 mg/l. Referencing the manual "Tables of the fraction of Ammonia in the Undissociated form, for pH 6 to 9, temperature 30° C, TDS 0-300 mg/l, and salinity 5-35 g/kg," by H.P. Skarheim of the University of California, Berkeley, College of Engineering, and using a pH value of 8.5, temperature of 29°C, and salinity 35 g/kg (all characteristics of harbor waters), the unionized fraction of ammonia is 14 percent. Therefore the ammonia limit for the canneries is established at 133 mg/l.

Based on 19.89 EPA doc - Not tables in Hrs Ast

Total Ammonia

$\frac{x}{18.64} = \frac{100}{14} = 133$

standard % Unionized

$\frac{x}{.233} = \frac{100}{14}$

w/o dilution 1.64

ASWQS = is for total ammonia

I. Metals

Monitoring of cannery effluent for cadmium, chromium, lead, mercury, and zinc was required in the previous permit because metal readings in Pago Pago Harbor have been historically high. Cannery effluent was found to be in compliance for cadmium, chromium, lead, and mercury. Continued effluent monitoring is no longer necessary for these parameters. However, concentrations of zinc and copper exceeded acute and chronic water quality criteria. The canneries shall conduct monthly monitoring of zinc and copper to determine current levels of these parameters and to ensure compliance with the discharge limitations.

The canneries' consultant reported that zinc and copper are unavoidable outcomes of processing due to the machinery and equipment used. Consequently, the canneries have applied for a zone of mixing for these metals. Monitoring of ambient receiving water indicated background zinc concentrations of less than 20 ug/l and copper concentrations of less than 0.5 ug/l. Significant initial dilution should ensure no toxicity from metals within the zone of mixing.

Analysis of nine sets of data gathered from semi-annual effluent monitoring resulted in the calculation of maximum expected effluent concentrations. The expected maximum effluent concentration of zinc for StarKist Samoa is 324 ug/l, 1254 ug/l for COS Samoa Packing, and 513 ug/l for the joint outfall. The expected maximum effluent concentration of copper for StarKist Samoa is 35 ug/l, 55 ug/l for COS Samoa Packing, and 36 ug/l for the joint outfall. The canneries consultant incorporated these maximum expected effluent concentrations in determining that a dilution of 25:1 would be sufficient to reduce maximum measured concentrations within approximately 4 to 6 meters from the discharge ports of the diffuser. Using background and effluent information, the dilution required to meet water quality criteria was calculated as follows:

$$D_R = (C_E - C_A)/(C_S - C_A)$$

where:

D_R is the dilution required to reduce the concentration (C_E) to C_S
C_E is the effluent concentration
C_S is the concentration desired (water quality criteria)
C_A is the ambient receiving water concentration

The canneries' consultant predicts the maximum exposure time of an organism entrained in the discharge plume to be less than 10 to 12 seconds.

EPA National Recommended Water Quality Criteria lists the criterion maximum concentration (CMC) for zinc in saltwater as 90 ug/l. The criterion continuous concentration (CCC) for zinc in saltwater is 81 ug/l. Discharge limitations were determined by using the equation described above and solving for C_E. The daily

maximum for zinc, based on the CMC, is 1770 ug/l, and the 30-day average, based on the CCC, for each cannery is 1545 ug/l.

For copper in saltwater, the EPA National Recommended Water Quality Criteria lists the CMC as 4.8 ug/l and the CCC as 3.1 ug/l. Using the same equation described above, the daily maximum, based on the CMC, is 108 ug/l, and the 30-day average, based on the CCC, is 66 ug/l for each canneries' discharge limitations.

J. Pago Pago Harbor Monitoring Program

Because the discharge point has been moved to a less degraded portion of the harbor, a monitoring program has been designed to assess the environmental impacts of the canneries' discharge on that area and to ensure compliance with the water quality standards. Results of the previously conducted monitoring program verified modeling predictions and eliminated the need to conduct further dye or tracer, harbor-wide circulation, or eutrophication studies. The current constituents of the program are as follows:

1. Quantitative Data

   Temperature, pH, dissolved oxygen, total suspended solids, light penetration, turbidity, salinity, chlorophyll a, total nitrogen, total phosphorus, total ammonia, copper, and zinc are all measured to ensure compliance with numerical limits of the receiving water.

2. Sediment Monitoring

   Sediment monitoring will determine sediment character in relation to long-term nutrient discharge to the harbor by the permittee and the effect of nutrient resuspension on harbor recovery. The canneries (StarKist Samoa and COS Samoa Packing) shall cooperatively perform a sediment monitoring program in Pago Pago Harbor in order to assess the concentration of nutrient and organic components, the distribution of stored nutrients, the size of the nutrient reservoir and the rate of accumulation of nutrients.

3. Coral Reef Survey

   Although previous studies have shown no coral reef degradation attributable to the discharge, continued monitoring on a less frequent basis of a subset of previously sampled sites will detect differences in the coral reef. Monitoring sites located near the discharge and in the middle and outer harbor will assess the potential impacts of the discharge on the coral reef.

4. Fish Tissue Study

A fish tissue study, conducted concurrently with receiving water quality and sediment monitoring, will detect levels of selected parameters in the tissues of resident organisms in the harbor. Whole fish analysis of mullet, mackerel, and crab for lead, arsenic, mercury, PCBs (Aroclor 1260), selected pesticides (DDT, DDE, DDD), and dioxin shall be conducted. Within 120 days of permit issuance, the permittee is required to submit a detailed fish tissue study plan to ASEPA and USEPA-Region 9 for comment and approval. The study will address potential sources and levels of these substances and is a follow-up study to previous monitoring performed by ASEPA.

K. Wastewater Treatment System Evaluation

The permittee should be continuously seeking ways to improve the quality of its effluent. In order to foster that search, the previous permit included a requirement to hire an independent consultant to examine the plant and provide a report on possible improvements. The study was conducted, and the implemented recommendations resulted in improvements. It is no longer necessary to continue this study at this time.

L. Pollution Prevention Program

Monitoring and maintaining the pollution prevention program developed under the previous permit will continue to help reduce the amount of pollutants in the effluent and the receiving waters. Ways to reduce the amount of pollutants entering the harbor must continue to be examined.

III. THREATENED AND ENDANGERED SPECIES

EPA reviewed information provided by the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (FWS) to determine whether the discharge from the canneries would affect any endangered species or habitat in the waters around American Samoa. In a letter from the NMFS, dated September 5, 2000, three species that would be found in the waters around American Samoa were listed. Endangered humpback whales may be found offshore during the winter months. Threatened green turtles and endangered hawksbill turtles may occur in the nearshore waters throughout American Samoa. The same three species were listed in a letter from the FWS dated September 22, 2000.

Further telephone conversations with a member of the NMFS Protected Species Program have indicated that humpback whales rarely enter Pago Pago harbor, and hawksbill turtles only visit the harbor occasionally while green turtles nest in the harbor. Due to the

location of the outfall and the ample dilution that the discharge undergoes, we would expect the discharge authorized by this NPDES permit to cause NO EFFECT on the threatened and endangered species listed in the waters of American Samoa.

The draft permit contains provisions for monitoring conventional and nonconventional pollutants, and requirements for whole effluent toxicity testing in compliance with ASEPA standards, to ensure an appropriate level of water quality discharged by the canneries. Reopener clauses have been included should new information become available to indicate that the requirements of the permit need to be changed.

In considering all information available during the drafting of this permit, EPA believes that a NO EFFECT determination is appropriate for this federal action. A copy of the draft fact sheet and permit were forwarded to NMFS and FWS for review and comment during the pre-public notice review period and 30-day public review period.

IV. ADMINISTRATIVE INFORMATION

A. Public Notice (40 CFR §124.10)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft NPDES permit or other significant action with respect to a NPDES permit or application. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit.

Public notice for this permit will be given in a local newspaper.

B. Public Comment Period (40 CFR §124.10)

Notice of this permit will be placed in a daily or weekly newspaper within the area affected by the facility or activity, with a minimum of 30 days provided for interested parties to respond in writing to EPA.

After the closing of the public comment period, EPA is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

C. Public Hearing (40 CFR §124.12(c))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held when there is a significant amount of interest expressed

during the 30-day public comment period or when it is necessary to clarify the issues involved in the permit decision.

D. State Certification (40 CFR §§124.53 and 124.54)

After the draft permit has been modified to include any relevant comments from the 30-day public comment period, the draft final permit is forwarded to American Samoa Environmental Protection Agency for CWA Section 401 certification. This certification ensures that the permit will comply with applicable Federal CWA standards as well as with American Samoa Water Quality Standards. EPA Region 9 will not issue this permit until a 401 certification is received.

V. ADDITIONAL INFORMATION

Additional information relating to this proposed permit may be obtained from:

U.S. Environmental Protection Agency, Region IX
CWA Standards & Permits Office Mail Code: WTR-5
75 Hawthorne Street
San Francisco, California 94105-3901
Telephone:(415)744-1914
Sara Roser

VI. INFORMATION SOURCES

While developing effluent limitations, monitoring requirements and special conditions for the permit, the following information sources were used:

A. NPDES Permit Application Form 1 and Form 2C, dated May 30, 1997.

B. American Samoa Water Quality Standards. Revision adopted November 4, 1999.

C. 40 CFR parts 122 and 408

D. National Recommended Water Quality Criteria-Correction, April 1999. Environmental Protection Agency, Office of Water.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

OFFICE OF THE
REGIONAL ADMINISTRATOR

In reply, please refer to: WTR-5

Phil Thirkell, General Manager
StarKist Samoa, Inc.
P.O. Box 368
Pago Pago, Tutuila
American Samoa 96799

Re: StarKist Samoa, Inc.
NPDES Permit No. AS0000019

Dear Mr. Thirkell:

Enclosed is a copy of the above captioned National Pollution Discharge Elimination System (NPDES) permit. The NPDES permit is hereby issued upon the date of signature and shall become effective thirty-three (33) days from the date of this cover letter, unless a petition is filed with the Environmental Appeals Board (EAB) to review any conditions of the final permit under 40 CFR 124.19(a), as revised at 65 Fed. Reg. 30886, 30911 (May 15, 2000). A copy of such petition should be sent to the EPA address listed above.

The staff at the U.S. Environmental Protection Agency (EPA) has reviewed the NPDES permit application for the above captioned facility and have prepared a draft permit in accordance with the Clean Water Act (CWA). The EPA has also published a public notice of its tentative decision to issue this permit. After considering the expressed views of all interested persons and agencies, and pertinent Federal statutes and regulations, the EPA, pursuant to 40 CFR Part 124, prepared the above captioned final permit. The final permit conforms to the certification issued by the American Samoa EPA pursuant to 401(a) of the CWA.

As stated in newly-revised 40 CFR 124.19(a), within 33 days after EPA issues the final permit, any person who filed comments on the draft permit or participated in the public hearing may petition the EAB to review any condition of the permit decision. Any person who failed to file comments or failed to participate in a public hearing on the draft permit may petition for administrative review only with regard to changes made from the draft permit to the final permit. The petition shall include a statement of the reasons supporting the review, including a demonstration that any issue being raised was raised during the public comment period (including any public hearing) to the extent required by these regulations and, when appropriate, a showing that the condition in question is based on: (1) a finding of fact or conclusion of law which is clearly erroneous; or (2) an exercise of discretion or an important policy consideration which the EAB should, in its discretion, review. Under 40 CFR 124.16 and 124.60, a petition for review under 40 CFR 124.19 stays the force and effect of the contested conditions of the final permit until final

agency action under 40 CFR 124.19(f).

The EPA will routinely deny any request for an evidentiary hearing which is postmarked later than the 33rd day from the date of this cover letter. If you have any questions regarding the procedures outlined above, please call Sara Roser at (415) 744-1914.

Sincerely,

Terry Oda, Chief
CWA Standards and Permits Office
Water Division

Enclosures

cc: Togipa Tausaga, Director
American Samoa Environmental Protection Agency
Office of the Governor
Pago Pago, AS 96799

Steve Costa
P.O. Box 1238
Trnidad, CA 95570-1238

Marie-Claude Filteau
Department of Marine and Wildlife Resources
American Samoa Government
Pago Pago, AS 96799

Nancy Daschbach
National Marine Sancttuaries
P.O. Box 4318
American Samoa Government
Pago Pago, AS 96799

Mike Dworsky
American Samoa Power Authority
P.O. Box PPB
Pago Pago, AS 96799

RESPONSE TO COMMENTS

COS Samoa Packing Company
NPDES Permit No. AS0000027

StarKist Samoa, Inc.
NPDES Permit No. AS0000019

Comments on the draft permits for these facilities were received from COS Samoa Packing, their consultant, and the American Samoa Department of Marine and Wildlife Resources (DMWR).

EFFLUENT LIMITATIONS

1. COS Samoa Packing Company and their consultant, CH2M HILL, commented in letters dated November 20, 2000 and November 22, 2000, respectively. Both comments questioned the flow limitation of 0.91 mgd in the draft permit. The previous permit, issued in 1992, originally set the flow limit at 0.72 mgd. During the previous permit cycle, modifications to the treatment plant resulted in improvements that allowed the flow limitation to be increased to 1.4 mgd.

   Response: The comment points out an oversight by the permit writer of documented events that led to the increased flow limit during the previous permit cycle. The correct flow limitation of 1.4 mgd has since been incorporated into the current COS Samoa Packing permit limitations. No other changes in effluent limitations resulted from this action.

   Additionally, the StarKist Samoa flow limitation was decreased from 2.9 mgd in the 1992 permit to 2.1 mgd in the draft permit. This decrease was erroneously based on reported maximum flows rather than the design flow. The error was corrected and no other discharge limitations were affected.

THREATENED AND ENDANGERED SPECIES

2. DMWR commented on the occurrence of hawksbill and green turtles in Pago Pago Harbor. The draft fact sheet states that green turtles nest in the harbor and hawksbill turtles visit the harbor occasionally. DMWR comments stated that hawksbill turtles are regularly spotted and recovered in the harbor, in contrast to the statement in the fact sheet claiming hawksbill turtles as occasional visitors to the harbor.

   Response: Further conversations with NMFS clarified two points presented in the fact sheet: (1) the frequency of sighting hawksbill turtles in the harbor has not been officially recorded, and (2) green turtles are not able to nest in the harbor because suitable nesting habitat is unavailable. Since definitive counts and descriptions are not available, the fact sheet has been revised to only generally state that ". . . green and hawksbill turtles are spotted in the harbor."

3. American Samoa DMWR commented on the need to verify the NO EFFECT finding in

the Threatened and Endangered Species section of the fact sheet. DMWR suggested requiring the canneries to fund a research project, including tissue sampling of turtles found dead in the harbor, to determine the impact of the canneries' discharge on the turtle population of Pago Pago harbor.

Response: Effluent monitoring and bioassay data do not suggest that the canneries' discharge is affecting turtles in the waters of American Samoa. However, a section has been added to the canneries' Pago Pago Harbor monitoring program to address this point. The canneries are required to retain a recognized expert to review effluent chemistry and bioassay data to determine if there is any anticipated impact from the discharge on sea turtles in Pago Pago Harbor. The permit includes a reopener clause should the review indicate new information that the requirements of the permit need to be changed.

Permit No. AS0000019

AUTHORIZATION TO DISCHARGE UNDER THE

POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provision of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.; the "Act"),

StarKist Samoa, Inc.
P.O. Box 368
Pago Pago, Tutuila
American Samoa 96799

is authorized to discharge tuna processing wastewater from the cannery located at Pago Pago, American Samoa from outfall Discharge Serial No. 001:

Latitude:	14 deg.	17 min.	01 sec.	S
Longitude:	170 deg.	40 min.	02 sec.	W

to receiving waters named: Pago Pago Harbor in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in Sections A through G hereof.

This permit shall become effective on January 23, 2001.

This permit and the authorization to discharge shall expire at midnight, January 23, 2006.

Signed this 21st day of December, 2000.

For the Regional Administrator

Alexis Strauss, Director
Water Division

A. EFFLUENT LIMITS AND MONITORING REQUIREMENTS

1. During the period beginning with the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from Outfall 001.

The effluent shall be sampled prior to its commingling with the effluent from the other cannery.

Such discharge shall be limited and monitored by the permittee as specified below:[1]

Effluent Characteristics	Discharge Limitations		Monitoring Requirements	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow (MGD)	--	2.9	Continuous	Recorder
Biochemical Oxygen Demand (5-day)	[5]	[5]	Once/Month	Composite
Suspended Solids (lbs/day)	2996	7536	Once/Week	Composite
Oil and Grease (lbs/day)	763	1907	Once/Week	Grab[2]
Total Phosphorus (lbs/day)	192	309	One set/Month [3]	Composite
Total Nitrogen (lbs/day)	1200	2100	One set/Month [3]	Composite
Acute Toxicity	--	[4]	Once/6 Months	Composite
Total Ammonia (mg/l)	--	133	Once/Week	Composite
Temperature (^{O}F)	90	95	Continuous	Continuous
Total Copper (ug/l)	66	108	Once/Month	Composite
Total Zinc (ug/l)	1545	1770	Once/Month	Composite
pH	--	[6]	Continuous	Continuous

Notes:

(1) Where discharge monitoring data is reported as "below detection limit," both the detection limit obtained and the analytical method used shall be included on the monthly discharge monitoring report (DMR).

(2) Each oil and grease sample shall consist of four individual grab samples ("sub-samples") which shall be taken at even intervals during each production period in which samples are taken. Each sub-sample shall be separately analyzed and the mean value of the four sub-samples shall be reported for daily maximum and monthly average.

(3) Permittee is required to monitor monthly. Each month permittee shall sample twice in a single week on production days. Should the permittee wish to monitor the effluent on a non-production day(s), the permittee must monitor for the six consecutive days following the non-production day on which the first sample was taken. The average of all samples taken during that month will determine compliance with the "monthly average."

Should the canneries consistently comply with their TN and TP limitations and should the monitoring data show that the discharge is not impacting the water quality in the harbor or causing water quality violations for one year, the permit may be modified to incorporate a "weighted average" method of measuring compliance with the limitations. The numerical limitations themselves shall not be made any less stringent.

(4) See Section D "Toxicity" for monitoring requirements.

(5) No limit set at this time. Monitoring and reporting only.

(6) The pH is limited between 6.5 and 8.6 standard units. The total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calender month; and no individual excursions from the range of pH values shall exceed 60 minutes.

B. DISCHARGE SPECIFICATIONS

Samples taken at monitoring stations 8, 8A, 14, 15, 16, and 18 in the receiving water shall not reveal* any of the following in accordance with American Samoa Water Quality Standards:

1. Chlorophyll a levels in excess of 1.0 ug/l;

2. Light penetration depth less than 65 feet;

3. Objectionable color, odor, or taste, either alone or in combinations, or in the biota;

4. Visible floating materials, grease, oil, scum, foam, and other floating material; and,

5. Materials that will produce visible turbidity or settle to form objectionable deposits.

Samples taken at monitoring stations 8, 8A, 15, 16, and 18 in the receiving water (those stations outside the zone of initial dilution [ZID]) shall not reveal* any of the following in accordance with American Samoa Water Quality Standards:

1. Dissolved oxygen (DO) concentration less than 5.0 mg/l or 70% saturation;

2. Turbidity in excess of 0.75 nephelometric turbidity units; and

3. Toxicity to aquatic life.

Samples taken at monitoring stations 15, 16, and 18 in the receiving water (those stations outside the zone of mixing [ZOM]) shall not reveal* any of the following in accordance with the American Samoa Water Quality Standards:

1. A temperature more than 1.5 degrees Fahrenheit from conditions that would occur naturally;

2. A level of total nitrogen in excess of 200 ug/l; and

3. A level of total phosphorous in excess of 30 ug/l.

*Should any samples of ambient water reveal exceedances of the standards specified above and should ASEPA and/or USEPA determine that the canneries' discharge is the cause of the exceedance, the canneries may be required to undertake various actions including ceasing discharge and/or additional studies or monitoring to determine the cause of the exceedance. Violations of water quality standards shall be determined in accordance with American Samoa Water Quality Standards.

C. PROTECTED AND PROHIBITED USES

1. The protected uses of Pago Pago Harbor are as follows:

a. Recreational and subsistence fishing;
b. Boat-launching ramps and designated mooring areas;
c. Subsistence food gathering, e.g. shellfish harvesting;
d. Aesthetic enjoyment;
e. Whole and limited body-contact recreation, e.g. swimming, snorkeling, surfing, and scuba diving;
f. Support and propagation of marine life;
g. Industrial water supply;
h. Mari-culture development;
I. Normal harbor activities; e.g. ship movements, docking, loading and unloading, marine railways and floating drydocks; and
j. Scientific investigation.

2. Prohibited uses include but are not limited to:

a. Dumping or discharge of solid waste;
b. Animal pens over or adjacent to any shoreline;
c. Dredging and filling activities, except when permitted by the American Samoa Environmental Quality Commission (ASEQC) in accordance with the Environmental Quality Act (Title 24, American Samoa Code);
d. Hazardous and radioactive waste discharges;
e. Discharge of oil sludge, oil refuse, fuel oil, or bilge water, or any other wastewater from any vessel or unpermitted shoreside facility.

The permittee shall not engage in any of the above prohibited uses nor in any uses that would conflict with the protected uses of the harbor.

D. TOXICITY

1. Proposed Effluent Biomonitoring

Beginning within 180 days after the effective date of this permit, the permittee shall conduct, or have a contract laboratory conduct, semi-annual 96-hour static renewal acute bioassays on composite effluent samples according to the methods described in Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms (EPA/600/4-90/027F), August 1993 using the white shrimp, *Penaeus vannamei* postlarvae. In the event that *Penaeus vannamei* are not available for testing, *Mysidopis bahia* may be used. Every reasonable effort shall be made to ship the samples to the testing laboratory in a manner to meet holding times and maintain sample temperature at 4C. Tests shall be conducted using a $\leq$ 0.5 dilution series (i.e., 100%, 25%, 12.5%, 6.25%, 3.13%, 1.56%).

Use probit analysis to calculate the LC50 and 95% confidence intervals. Use

Analysis of Variance and Dunnett's multiple comparison test to calculate the No Observed Effect Concentrations (NOEC). These results will be reported on the permittee's Discharge Monitoring Report (DMRs).

Each cannery may conduct the tests individually or may conduct a test using a single combined flow weighted composite effluent. However, ASEPA or USEPA may require additional individual bioassay tests for each cannery after review of combined composite effluent tests.

2. Priority Pollutant Scan

The permittee shall conduct at least one priority pollutant scan of the effluent. This test shall be conducted prior to the application for renewal of the permit. The results shall be submitted to the USEPA and ASEPA prior to the application for renewal of the permit. If the toxicity tests indicate that the discharge causes, has a reasonable potential to cause, or contributes to non-compliance with American Samoa Water Quality Standards, then ASEPA and/or USEPA may require full or partial priority pollutant scans be conducted concurrent with the required semi-annual bioassay tests.

3. Toxicity Reopener

Should any of the monitoring indicate that the discharge causes, has reasonable potential to cause, or contributes to an excursion above a water quality criteria, the permit may be reopened for the imposition of water quality-based limits and/or whole effluent toxicity limits. Also, this permit may be modified, in accordance with the requirements set forth at 40 CFR 122.44 and 124.14, to include appropriate conditions or limits to address demonstrated effluent toxicity, or to implement any EPA-approved new state water quality standards or testing methods applicable to effluent toxicity.

E. RECEIVING WATER QUALITY MONITORING PROGRAM

To determine compliance with water quality standards, the receiving water quality monitoring program must document water quality at the outfall, at areas near the zone of initial dilution (ZID) and zone of mixing (ZOM) boundaries, at areas beyond these zones where discharge impacts might reasonably be expected, and at reference control areas. The canneries (StarKist Samoa and COS Samoa Packing) shall cooperatively perform, or cause to be performed, water quality monitoring at the specified stations at regular frequencies as detailed below.

Should any monitoring or studies reveal, in the judgement of either ASEPA or USEPA, that the water quality, coral reef, or overall biological health of the harbor is being impaired as a result of the joint cannery outfall discharge, either agency may at any time prohibit further discharge and/or require additional monitoring.

All water quality samples should be collected and processed according to the protocols found in the most recent edition of USEPA's guidance document entitled, Quality Assurance and Quality Control (QA/QC) for 301(h) Monitoring Programs: Guidance on Field and Laboratory Methods (EPA, 1987a, or the most recent edition). Monitoring reports shall be submitted to ASEPA and USEPA on a semi-annual basis.

Monitoring stations shall be designated and located as shown below (also see Figure 1):

Station	Vicinity	Location	Latitude	Longitude
5	Transition Zone	Harbor Mouth	14 17.713' S	170 39.733' W
8	Middle Harbor	Inside ZOM	14 16.843' S	170 40.098' W
8A	Middle Harbor	Inside ZOM	14 16.826' S	170 40.150' W
11	Inner Harbor	East End	14 16.480' S	170 40.947' W
13	Inner Harbor	West End	14 16.304' S	170 41.841' W
14	Middle Harbor	Diffuser	14 16.911' S	170 40.065' W
15	Middle Harbor	ZOM Edge	14 16.584' S	170 40.116' W
16	Middle Harbor	ZOM Edge	14 16.891' S	170 40.354' W
18	Outer Harbor	ZOM Edge	14 16.092' S	170 40.041' W

Note: Latitude and longitude and based on recorded GPS using the WGS coordinate system as employed in previous Receiving Water Quality Monitoring Reports, Pago Pago Harbor, American Samoa, 1995-1997.

It is recommended that the stations be located using the sextant angle resection positioning method or a positioning system that affords an equivalent degree of accuracy and precision. Other means may be used if, in the judgement of ASEPA and EPA Region 9, they are of sufficient accuracy and precision to allow reoccupation of the stations within plus or minus six (6) meters.

Monitoring shall be done semi-annually during the two predominant oceanographic season described as the tradewind and non-tradewind season. One sampling event should be done in the months of February through April and the other sampling event should be done in the months of August through October. Reports will be submitted to ASEPA and USEPA within 60 days of receipt of laboratory results.

Temperature, dissolved oxygen (DO), pH, conductivity, and turbidity shall be measured as continuous vertical profiles at each station. Salinity shall be calculated from temperature and conductivity. In the event of malfunctions of the sensors used to measure the continuous vertical profile parameters, direct measurement of grab samples, in the field, will be acceptable. Light penetration shall be measured at all stations by measurement of sechi depth. All other required parameters shall be measured in grab samples taken at one (1) meter below the surface, mid-depth, and one meter above the bottom. In locations where the depth is greater than 40 meters, samples shall be taken at one meter below the surface, 20 meters, and 40 meters.

The following parameters shall constitute the Water Quality Monitoring Program:

Parameter	Units	Stations	Sample Type
Temperature	F	5,8,18,14,15,16,8A,11,13	Vertical Profile
Salinity	PSU	5,8,18,14,15,16,8A,11,13	Vertical Profile
pH	SU	5,8,18,14,15,16,8A,11,13	Vertical Profile
Dissolved Oxygen	mg/l and %Sat	5,8,18,14,15,16,8A,11,13	Vertical Profile
Turbidity	NTU	5,8,18,14,15,16,8A,11,13	Vertical Profile
Turbidity	NTU	18, 14, 15, 16	Grab
Light Penetration	feet	5,8,18,14,15,16,8A,11,13	Direct Reading
Suspended Solids	mg/l	5,8,18,14,15,16,8A,11,13	Grab
Chlorophyll-a	mg/l	5,8,18,14,15,16,8A,11,13	Grab
Total Ammonia	mg/l	5,8,18,14,15,16,8A,11,13	Grab
Total Nitrogen	mg/l	5,8,18,14,15,16,8A,11,13	Grab
Total Phosphorous	mg/l	5,8,18,14,15,16,8A,11,13	Grab
Copper	g/l	5, 8, 8A,11,13,14,15	Grab
Zinc	g/l	5, 8, 8A,11,13,14,15	Grab
Lead	g/l	5,11,13,14	Grab
Mercury	g/l	5,11,13,14	Grab
Arsenic	g/l	5,11,13,14	Grab

The water quality analyses shall be expanded for one of the water quality monitoring events during the first year of the permit as described in Section H below.

F. SEDIMENT MONITORING

Sediment monitoring is conducted to determine the character of the sediments in relation to long-term high nutrient discharge by the permittee in the harbor and to determine if the harbor recovery will be affected by resuspension of the nutrients.

The canneries (StarKist Samoa and COS Samoa Packing) shall cooperatively perform a sediment monitoring program in Pago Pago Harbor in order to assess the concentration of nutrient and organic components, the distribution of stored nutrients, the size of the nutrient reservoir, and the rate of accumulation of nutrients. Seven sites shall be located within Pago Pago Harbor and analyzed for total nitrogen, total phosphorous, percent organics, percent solids, volatile solids, grain size distribution, oxidation-reduction potential, sulfides, copper, zinc, lead, mercury, and arsenic. Three sites shall be located in inner Pago Pago Harbor and four sites shall be located in the middle and outer portion of the harbor.

Monitoring stations shall be designated and located as shown below (see Figure 2):

Station	Vicinity	Location	Latitude	Longitude
IH1	Inner Harbor	Between old outfalls	14 16.626' S	170 41.146' W
IH2	Inner Harbor	Offshore of old outfalls	14 16.708' S	170 41.146' W
IH3	Inner Harbor	Off Pago Pago stream	14 16.655' S	170 41.854' W
OH1	Outer Harbor	400' NNW of outfall	14 17.076' S	170 40.100' W
OH2	Outer Harbor	400' SSE of outfall	14 17.186' S	170 40.025' W
OH3	Outer Harbor	Utulei outfall	14 17.243' S	140 40.425' W
OH4	Outer Harbor	Reference	14 17.537' S	170 40.067' W

Note: Latitude and longitude based on recorded GPS using the WGS coordinate system as employed in previous Sediment Monitoring Reports, Pago Pago American Samoa, 1993-1997.

The sites and study methods shall be the same as described in the previously approved study plan for the sediment monitoring conducted during 1993-1997. The sampling shall be conducted twice: once during the first year of the permit and once during the fourth year of the permit. A report of the sediment monitoring program shall be submitted to ASEPA and USEPA within 90 days after completion of the sampling.

The following parameters shall constitute the Sediment Monitoring Program:

Parameter	Units	Stations	Sample Type
Total Nitrogen (TKN)	mg/kg (dry)	All	Grab
Total Phosphorous	mg/kg (dry)	All	Grab
Total Sulfides	mg/kg (dry)	All	Grab
Redox Potential	mV	All	Grab[1]
Total Organic Carbon	%	All	Grab
Percent Solids	%	All	Grab
Total Volatile Solids	%	All	Grab
Grain Size	mm (distribution)	All	Grab
Copper	mg/kg	All	Grab
Zinc	mg/kg	All	Grab
Lead	mg/kg	All	Grab
Mercury	mg/kg	All	Grab
Arsenic	mg/kg	All	Grab

[1] Measured in the field when sample is acquired

The first sediment monitoring event shall be expanded during the first year of the permit as described in Section H below. If possible, the sediment sampling event conducted in conjunction with the fish tissue study will include core samples at the inner harbor stations. The canneries shall make a reasonable attempt to collect core samples and , if successful, analysis shall be done using material from two levels in the cores (or at the lower level from the core and a surficial grab sample).

G. CORAL REEF SURVEY

The canneries (StarKist Samoa and COS Samoa Packing) shall cooperatively continue the coral reef survey based on the previously approved study plan for the monitoring conducted during 1993-1997 with the modifications described below. The purpose of the study is to assess the potential impacts of the discharge on the nearby coral reef. The intent of the survey is to detect significant differences, if any, from the previous surveys. VCR formatted video copies and a report of results shall be submitted to the ASEPA and USEPA with reports within 120 days of the survey.

The survey will be done twice during the permit period, once in year two of the permit and once in year 5 of the permit. These surveys will include a subset of the previous transect locations. Transect locations to be surveyed are MH-1, MH-4, OH-5, and OH-1 (see Figure 3). After reviewing the results of the first survey, ASEPA and USEPA may require different or additional transects during the second survey and/or additional surveys.

H. FISH TISSUE STUDY

The canneries (COS Samoa Packing and StarKist Samoa) shall cooperatively perform a study during the first year of the permit that addresses the levels of selected parameters in the tissues of resident organisms in the Harbor. The study will be done concurrently with receiving water quality monitoring (Section E) and sediment monitoring (Section F) sampling. The water quality and sediment monitoring studies shall be expanded, for the sampling done in conjunction with the fish study, to include selected additional stations and parameters. The intent of the study is to assess the potential sources and levels of these substances and is a follow-up study to previous monitoring performed by ASEPA.

Within 120 days of the effective date of the permit, the canneries shall submit a study plan to ASEPA and USEPA-Region 9 for comment and approval. The study shall include the following elements:

1. Whole fish tissue analysis of mullet, mackerel, and crab (or acceptable substitute organisms) for lead, arsenic, mercury, PCBs (Aroclor 1260), selected pesticides (DDT, DDE, DDD), and dioxin. Analysis of dioxin will be required in only one composite sample of species collected from the inner harbor.

2. The study shall primarily address organisms captured in the harbor. Detailed station locations and parameters to be analyzed shall be described in the study plan. The following stations (See Figure 4) and parameters should be included in the study:

Parameter	**Inner Harbor**			**Reference**		
	Mullet Composite	Mackerel Composite	Crab Composite	Mullet Composite	Mackerel Composite	Crab Composite
Lead	X	X	X	X	X	X
Arsenic	X	X	X	X	X	X
Mercury	X	X	X	X	X	X
PCBs	X	X	X	X	X	X
Pesticides	X	X	X	X	X	X
Dioxin		X				

Notes: The inner harbor is that area described as shoreward of a line extending from Goat Island Point to the northern shoreline. The reference location shall be described in the study plan submitted within 120 days of the effective date of the permit.

3. The study shall include water quality samples for the same set of parameters (excluding dioxin, which will be considered for only one sample) at a minimum of six stations in the inner and middle harbor and a reference station. Detailed station locations and parameters to be analyzed will be described in the study plan. The following stations and parameters should be included in the study:

Parameter	Inner Harbor Stations				Middle Harbor Stations			Reference Station
	11	11A	12	13	8A	15	14	5
Lead	X	X	X	X	X	X	X	X
Arsenic	X	X	X	X	X	X	X	X
Mercury	X	X	X	X	X	X	X	X
PCBs	X			X				X
Pesticides	X			X				X
Dioxin				X				

Note: All stations are previously occupied harbor water quality stations.

4. The study shall include sediment samples for the same set of parameters (excluding dioxin, except at one station) at a minimum of six stations in the inner harbor and a reference station. If possible, the sediment sampling will include core samples at the inner harbor stations. The canneries shall make a reasonable attempt to collect core samples and, if successful, analysis shall be done using material from two levels in the cores (or at the lower level from the core and a surficial grab sample). Detailed station locations and parameters to be analyzed shall be described in the study plan. The following stations (See Figure 4) and parameters should be included in the study:

Parameter	Inner Harbor Stations						Reference Station
	Total organic carbon, total solids, total volatile solids, and grain size distribution will be analyzed for all samples.						
	IH-1	**IH-2**	**IH-3**	**4**	**FD**	**SWM**	**OH-4**
Lead	X	X	X	X	X	X	X
Arsenic	X	X	X	X	X	X	X
Mercury	X	X	X	X	X	X	X
PCBs			X				X
Pesticides			X				X
Dioxin			X				

Notes: IH-1, IH-2, IH-3, and OH-4 are the previously occupied sediment quality stations.
Station 4 is the previously occupied station for the CH2M HILL water quality field measurements (1/1/91). Stations FD and SWM will be adjacent to the fuel dock and the boat repair facility, respectively.

5. The study plan shall include descriptions of sampling locations, sampling methods, analytical laboratories to be used, laboratory methods, detection levels, and A/QC procedures.

6. A report shall be prepared and submitted to ASEPA and USEPA within 90 days of receipt of laboratory results.

I. SEA TURTLE REVIEW

In conjunction with the fish tissue study, the canneries will retain a recognized expert to review the effluent chemistry and bioassay data to determine if there is any anticipated impact on sea turtles in Pago Pago Harbor. The canneries will provide a report of the findings to EPA and ASEPA concurrent with the fish tissue study report.

J. POLLUTION PREVENTION PROGRAM

The canneries shall maintain the pollution prevention program developed in the previous permit period. The canneries shall submit an annual report documenting the effectiveness of the program and improvements to it. A copy of this report shall be available onsite.

K. DEFINITIONS

1. "Ambient conditions" means the existing conditions in the surrounding waters not influenced by the discharger's effluent.

2. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility whose operation is necessary to maintain compliance with the terms and conditions of this permit.

3. "Whole-effluent toxicity" is the aggregate toxic effect of an effluent measured directly with a "toxicity test."

4. "Composite sample" means, for other than flow rate measurements, the arithmetic mean of no fewer than eight individual measurements taken at equal intervals for 24 hours or for the duration of the discharge, whichever is shorter.

   "Composite sample" means, for other than flow rate measurement,

   a. A combination of at least eight individual portions of equal time intervals for 24 hours, or the duration of the discharge, whichever is shorter. The volume of each individual portion shall be directly proportional to the discharge flow rate at the time of sampling.

   OR

   b. A combination of at least eight individual portions of equal volume obtained over a 24-hour period. The time interval will vary such that the volume of wastewater discharged between samplings remains constant.

   The compositing period shall equal the specified sampling period, or 24 hours, if no period is specified.

5. "Daily discharge" means:

   a. For flow rate measurement, the average flow rate measured during a calender day or during any 24-hour period reasonably representative of the calender day for purposes of sampling.

   b. For pollutant measurements, the concentration or mass emission rate measured during a calender day or during any 24-hour period reasonably representative of the calender day for purposes of sampling.

6. "Daily maximum" limit means the maximum acceptable "daily discharge." For pollutant

measurements, unless otherwise specified, the results to be compared to the "daily maximum" limit are based on "composite samples."

7. "Duly authorized representative" is one whose:

   a. Authorization is made in writing by a principal executive office or ranking elected official;

   b. Authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

   c. Written authorization is submitted to the ASEPA and EPA. If an authorization becomes no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements must be submitted to ASEPA and EPA prior to or together with any reports, information, or other applications to be signed by an authorized representative.

8. "Grab sample" is defined as any individual sample collected in a short period of time not exceeding 15 minutes. "Grab samples" shall be collected during normal peak loading conditions for the parameter of interest, which may or may not be during hydraulic peaks. It is used primarily in determining compliance with "daily maximum" limits.

9. "Hazardous substance" means any substance designated under 40 CFR 116 pursuant to Section 311 of the Clean Water Act.

10. "Heavy metals" are, for the purposes of this permit, arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc.

11. "Indirect discharger" means a non-domestic discharger introducing pollutants into a publicly owned treatment and disposal system.

12. "Initial dilution" is the process which results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

    For a submerged buoyant discharge, characteristics of most municipal wastes that are released from the submarine outfalls, the momentum of the discharger and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is

completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

Numerically, initial dilution is expressed as the ratio of the volume of discharged effluent plus ambient water entrained during the process of initial dilution to the volume of discharged effluent.

13. "Mass emission rate" is obtained from the following calculations for any calender day:

$$\text{Mass emission rate (lb/day)} = 8.345/N \sum_{i=1}^{N} Qi\ Ci$$

$$\text{Mass emission rate (kg/day)} = 3.785/N \sum_{i=1}^{N} Qi\ Ci$$

in which 'N' is the number of samples analyzed in any calender day. 'Qi" and 'Ci' are the flow rate (MGD) and the concentration (mg/L), respectively, which are associated with each of the 'N' grab samples which may be taken in any calender day. If a composite sample is taken, 'Ci' is the concentration measured in the composite sample and 'Qi' is the average flow rate occurring during the period over which samples are composited.

The daily concentration of all constituents shall be determined from the flow-weighted average of the same constituents in the combined waste stream as follows:

$$\text{Daily concentration} = 1/Qt \sum_{i=1}^{N} Qi\ Ci$$

in which 'N' is the number of component waste streams. 'Qi' and 'Ci' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' waste streams. 'Qt' is the total flow rate of the combined waste streams.

14. "Monthly average" is the arithmetic mean of daily concentrations, or of daily "mass emission rates," over the specified monthly period:

$$\text{Average} = 1/N \sum_{i=1}^{N} Xi$$

in which 'N' is the number of days samples were analyzed during the period and 'Xi' is either the constituent concentration (mg/L) or mass emission rate (kg/day or lb/day) for each sampled day.

15. "100-year frequency flood" means a flood of unusually large magnitude and which is characterized by its infrequent occurrence.
16. "Open coastal waters" means marine waters bounded by 100 fathom (183 m; 600 ft) depth contour and the shoreline excluding bays named in section 24.0205 (e)(1)-(3) of the American Samoa water quality standards.

17. "Overflow" means the intentional or unintentional diversion of flow from the collection and transport systems, including the pumping facilities.

18. "Pesticides" are, for purposes of this permit, those six constituents referred to in 40 CFR 125.58 (m) (demeton, guthion, malathion, mirex, methoxychlor, and parathion).

19. "Pollutant-free wastewater" means infiltration and inflow, cooling waters, and condensates which are essentially free of pollutants.

20. "Priority pollutants" are those constituents referred to in 40 CFR 401.15 and listed in the EPA NPDES Application Form 2C, pp. V-3 through V-9.

21. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a "bypass" or "overflow." It does not mean economic loss by delays in production.

22. "Sludge" means the solid, semi-liquid suspension of solids, residues, screenings, grit, scum, and precipitates separated from, or created in wastewater by the unit processes of a treatment system. It also includes, but is not limited to, all supernatant, filtrate, centrate, decantate, and thickener overflow/underflow in the solids handling parts of the wastewater treatment system.

23. "Toxic pollutant" means any pollutant listed as toxic under Section 307 (a) (1) of the Clean Water Act or under 40 CFR 122, Appendix D. Violation of the maximum daily discharge limitations are subject to the 24-hour reporting requirement (section P.13.f).

24. "Toxicity test" is the means to determine the toxicity of a chemical or an effluent using living organisms. A toxicity test measures the degree of response of an exposed test organism to a specific chemical or effluent.

25. "Toxic unit chronic" is the reciprocal of the effluent dilution that causes no unacceptable

effect on the test organisms by the end of the chronic exposure period.

26. "Upset" means any exceptional incident in which there is unintentional and temporary noncompliance with effluent limitations in the permit because of factors beyond the reasonable control of the discharger. It does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, careless or improper operation, or those problems the discharger should have foreseen.

27. "Waste", waste discharge", "discharge of waste", and "discharge" are used interchangeably in this permit. The requirements of this permit are applicable to the entire volume of water, and the material therein, which is disposed of to marine waters.

28. "Weekly average" is the arithmetic mean of daily concentrations, or of daily mass emission rates, over the specified weekly period:

$$\text{Average} = 1/N \sum_{i=1}^{N} Xi$$

in which 'N' is the number of days samples were analyzed during the period and "Xi" is either the constituent concentration (mg/L) or the "mass emission rate" (kg/day or lb/day) for each sampled day.

29. "Zone of initial dilution" (ZID) means the region of initial mixing surrounding or adjacent to the end of the outfall pipe or difusser ports, providing that the ZID may not be larger than allowed by mixing zone restrictions in applicable water quality standards [40 CFR 125.58 (W)]. For purposes of designating monitoring stations, the region within a horizontal distance equal to a specified water depth (usually depth of outfall or average depth of diffuser) from any point of the diffuser or end of the outfall and the water column above and below that region, including the underlying seabed.

30. "Zone of mixing" (ZOM) means limited areas around outfalls and other facilities approved by ASEQC with the concurrence of EPA to allow for the initial dilution of waste discharges [American Samoa Water Quality Standards].

L. QUALITY ASSURANCE/QUALITY CONTROL

All waste material sampling procedures, analytical protocols, and quality assurance/quality control procedures shall be performed in accordance with guidelines specified by EPA. The following references shall be used by the permittee where appropriate:

1. EPA, 40 CFR 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act;

2. Tetra Tech, Inc. 1985. Summary of the U.S. EPA-approved methods and other guidance for 301 (h) monitoring variables. Final program document prepared for the Marine Operations Division, Office of Marine and Estuarine Protection, U.S. Environmental Protection Agency. EPA Contract No. 68-01-693. Tetra Tech, Inc., Bellevue, WA; and

3. Tetra Tech, Inc. 1986. Quality assurance and quality control guidance for 301 (h) monitoring programs. Final program document prepared for the Marine Operations Division, Office of Marine and Estuarine Protection, U.S. Environmental Protection Agency. EPA Contract No. 68-01-3968. Tetra Tech, Inc., Bellevue, WA.

M. REPORTING

Monitoring results obtained during the previous 3 months shall be summarized for each month and submitted quarterly on forms to be supplied by EPA, to the extent that the information reported may be entered on the forms. The results of all monitoring required by this permit shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this permit. Monitoring reports shall be postmarked no later than the 28th day of the month following the completed reporting period. The first report is due 4 months after the effective date of this permit. Signed copies of these and all other reports required herein shall be submitted to the EPA and the Government of American Samoa at the following addresses:

Environmental Protection Agency - Region 9
Attn: Pacific Insular Area Programs (CMD-5)
75 Hawthorne Street
San Francisco, CA 94105

Director
American Samoa Environmental Protection Agency
Office of the Governor
Pago Pago, American Samoa 96799

N. EPA REGION IX STANDARD CONDITIONS

See attachment.

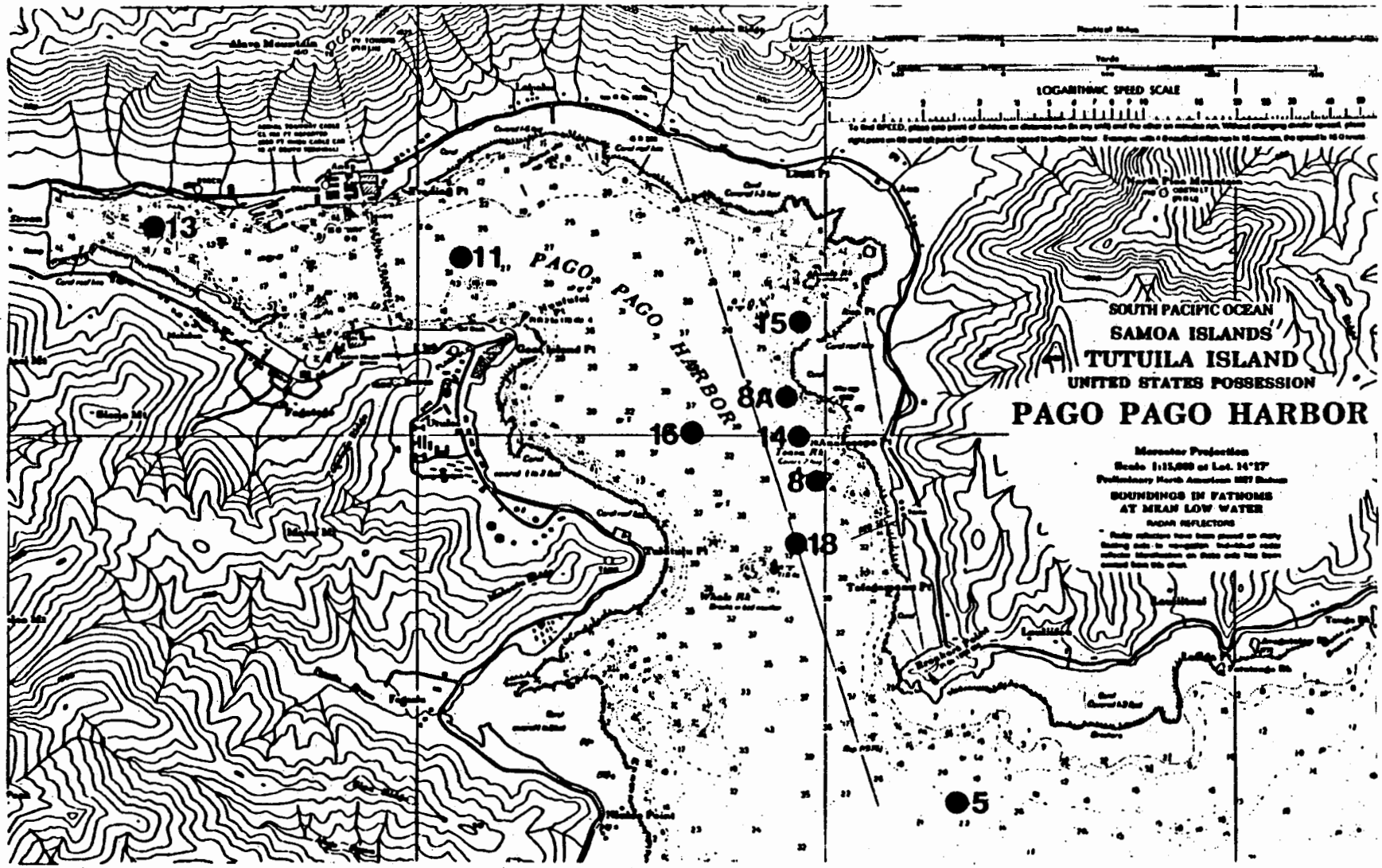


Figure 1. Receiving Water Quality Monitoring Stations

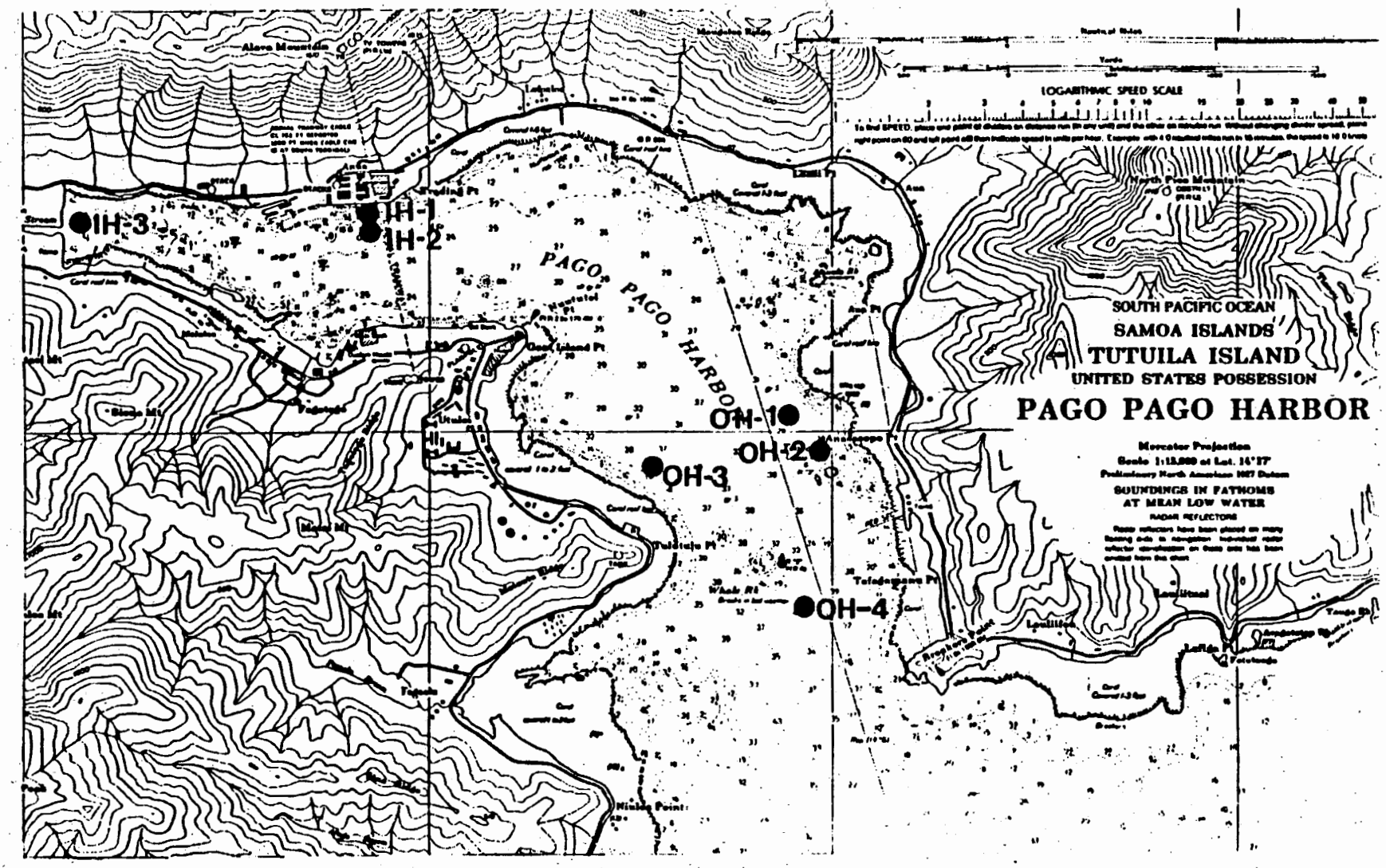


Figure 2. Sediment Monitoring Stations

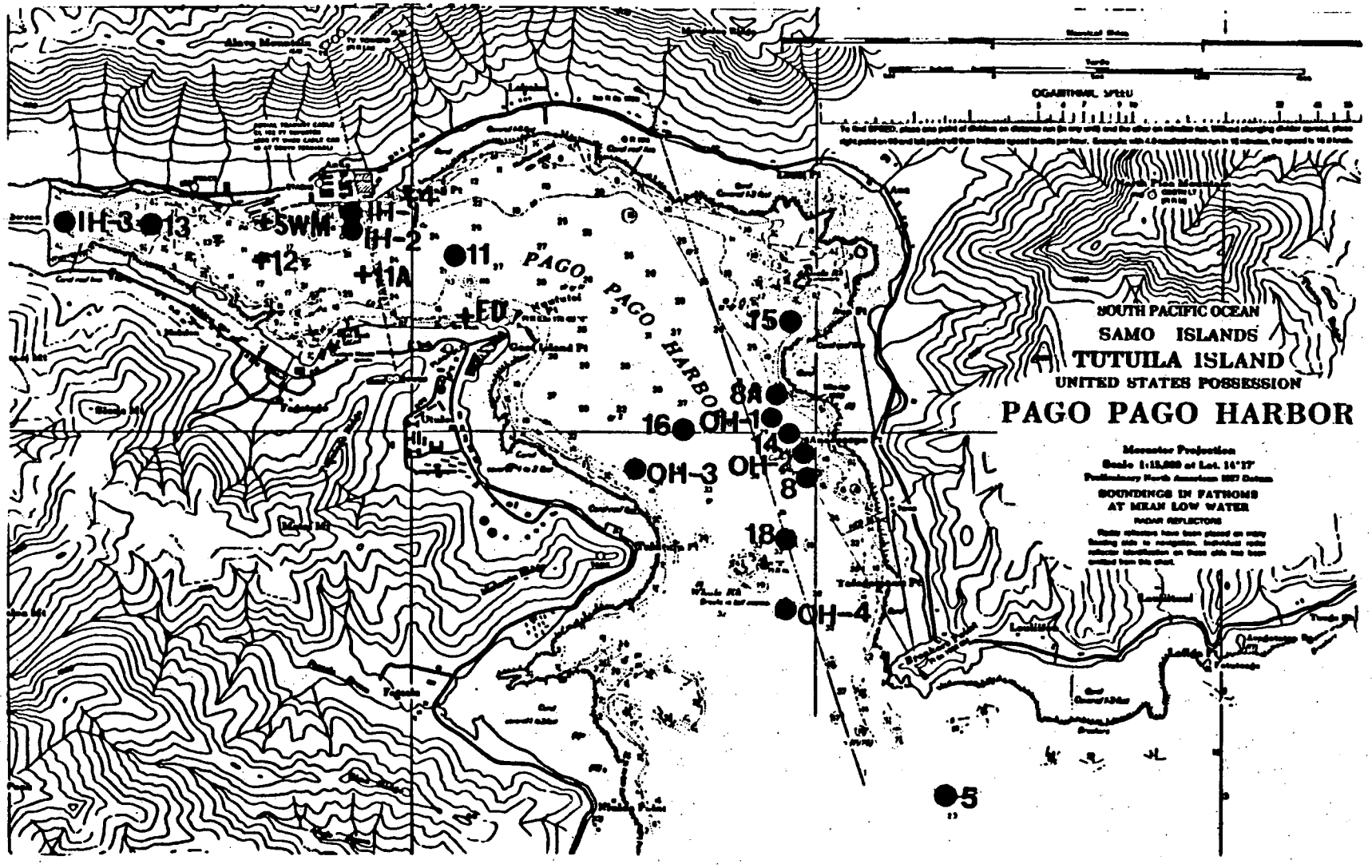


Figure 4. Fish Tissue Study Stations

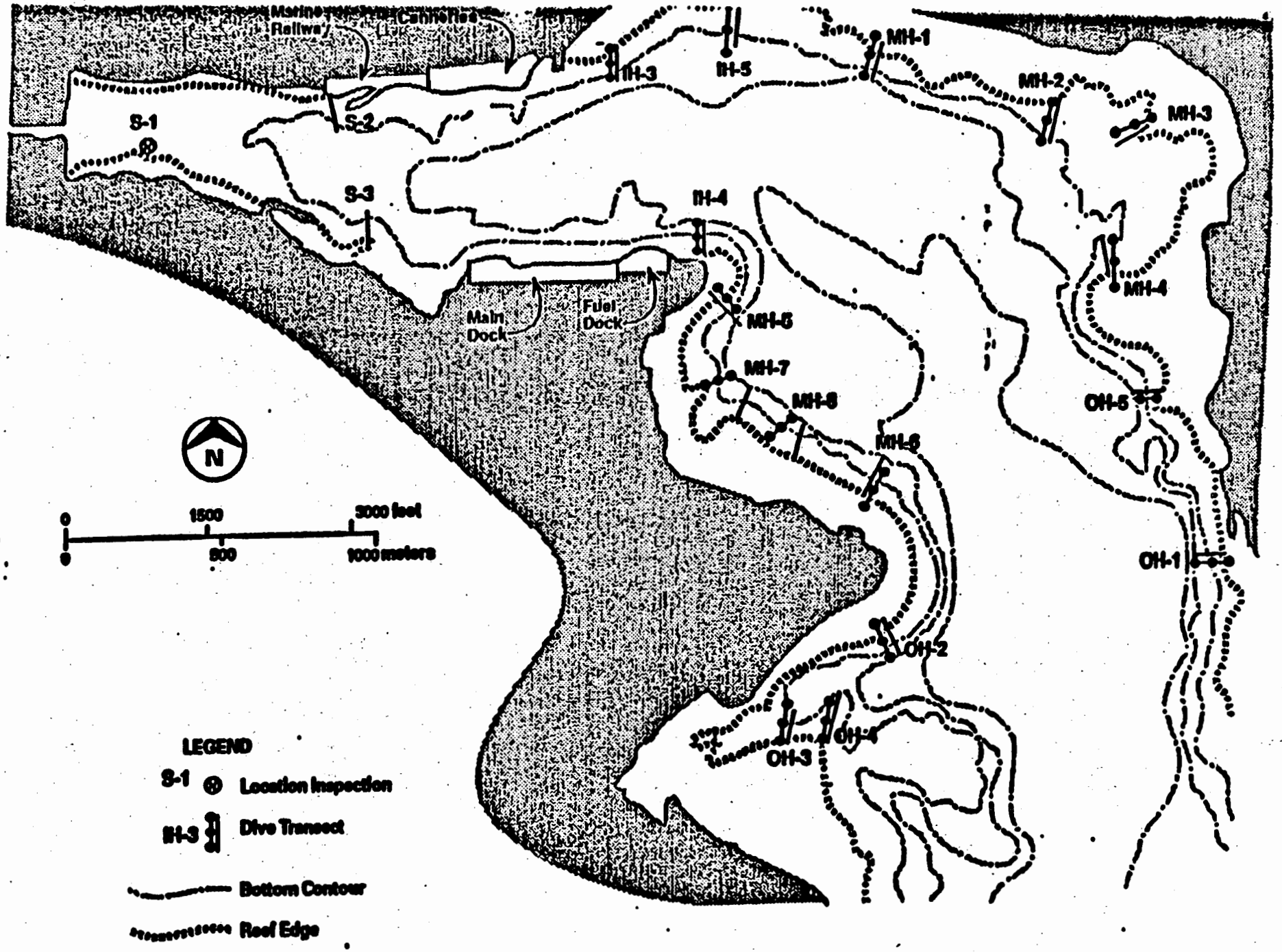


Figure 3. Coral Reef Survey Transect Locations

EPA REGION IX STANDARD FEDERAL NPDES PERMIT CONDITIONS

(Updated as of May 10, 1990)

1. Duty to Reapply [40 CFR 122.21(d)]

The Permittee shall submit a new application 180 days before the existing permit expires. 122.2(c)(2) POTW's with currently effective NPDES permits shall submit with the next application the sludge information listed at 40 CFR 501.15(a)(2).

2. Applications [40 CFR 122.22]

a. All applications shall be signed as follows:

1) For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principle business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

b) The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

3) For a municipality, State, Federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (I) The chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

b. All reports required by permits and other information requested by the Director shall be signed by a person described in paragraph (a) of this Section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1) The authorization is made in writing by a person described in paragraph (a) of this section;

2) The authorization specifies either an individual or a position having

responsibility for the overall operation of the regulated facility, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) and,

3) The written authorization is submitted to the Director.

c. Changes to Authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

d. Certification. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

3. Duty to Comply [40 CFR 122.41(a)]

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

a. The permittee shall comply with the effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulation that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

b. The Clean Water Act provides that:

1) Any person who causes a violation of any condition in this permit is subject to a civil penalty not to exceed $25,000 per day of each violation. Any person who negligently causes a violation of any condition in this permit is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one year, or both for a first conviction. For a second conviction, such a person is subject to a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two years, or both. [Updated pursuant to the Water Quality Act of 1987]

2) Any person who knowingly causes a violation of any condition of this permit is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than three years, or both for a first conviction. For a second conviction, such a person is subject to a fine of not more than $100,000 per day of violation, or by imprisonment for not more than six years, or both. [Updated pursuant to the Water Quality Act of 1987]

3) Any person who knowingly causes a violation of any condition of this permit and, by doing so, knows at that time that he thereby places another in imminent danger of death or serious bodily injury shall be subject to a fine of not less than $250,000, or imprisonment for not more than 15 years, or both. A person who is an organization and violates this provision shall be subject to a fine of not more than $1,000,000 for a first conviction. For a second conviction under this provision, the maximum fine and imprisonment shall be doubled. [Updated pursuant to the Water Quality Act of 1987]

4. Need to Halt or Reduce Activity Not a Defense [40 CFR 122.41(c)]

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. Duty to Mitigate [40 CFR 122.41(d)]

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance [40 CFR 122.41(e)]

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or

similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

7. Permit Actions [40 CFR 122.41(f)]

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

8. Property Rights [40 CFR 122.41(g)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

9. Duty to Provide Information [40 CFR 122.41(h)]

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

10. Inspection and Entry [40 CFR 122.41(I)]

The Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and such other documents as may be required by law, to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the terms of the permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring equipment or control equipment), practices or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

11. Monitoring and Records [40 CFR 122.41(j)]

a. Samples and measurements taken for the purpose of monitoring shall be

representative of the monitored activity.

b. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application, except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503). This period may be extended by request of the Director at any time.

c. Records of monitoring information shall include:

1) The date, exact place and time of sampling or measurements;

2) The individual(s) who performed the sampling or measurements;

3) The date(s) the analyses were performed;

4) The individual(s) who performed the analyses;

5) The analytical techniques or methods used; and

6) The results of such analyses.

d. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, or in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, unless test procedures have been specified in this permit.

e. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained in this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both for first conviction. For a second conviction, such a person is subject to a fine of not more than $20,000 per day of violation, or imprisonment for not more than four years, or both. [Updated pursuant to the Water Quality Act of 1987]

12. Signatory Requirement [40 CFR 122.41(k)]

a. All applications, reports, or information submitted to the Director shall be signed and certified. (See 40 CFR 122.22)

b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both for a first conviction. For a second conviction, such a person is subject to a fine of not more than $20,000 per day of violation, or imprisonment of not more than four years, or both. [Updated pursuant to the Water Quality Act of 1987]

13. Reporting Requirements [40 CFR 122.41(l)]

a. Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations of additions to the permitted facility. Notice is required only when:

1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).

3) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

b. Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

c. Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (See 40 CFR 122.61; in some cases, modification or revocation and reissuance is mandatory).

d. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.

2) If the Permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, as specified in the permit, then the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR, or sludge reporting form specified by the Director.

3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

e. Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

f. Twenty-four hour reporting.

1) The permittee shall report any noncompliance which may endanger human health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

2) The following shall be included as information which must be reported within 24 hours under this paragraph.

a) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR 122.41(g))

b) Any upset which exceeds any effluent limitation in the permit.

c) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. (See 40 CFR 122.44(g))

g. Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (6) of this section.

h. Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

14. Bypass [40 CFR 122.41(m)]

a. Definitions

1) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of paragraphs (3) and (4) of this section.

c. Notice.

1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of bypass.

2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (a)(6) of section 13 (24-hour notice).

d. Prohibition of bypass.

1) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c) The permittee submitted notices as required under paragraph (3) of this section.

2) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (4)(I) of this section.

15. Upset [40 CFR 122.41(n)]

a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph (3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defenses of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

1) An upset occurred and that the permittee can identify the cause(s) of the upset;

2) The permitted facility was at the time being properly operated; and

3) The permittee submitted notice of the upset as required in paragraph 13)(6)(ii)(B) (24-hour notice).

4) The permittee complied with any remedial measures required under 40 CFR 122.41(d).

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

16. Existing Manufacturing, Commercial, Mining, and Silvicultural Dischargers [40 CFR 122.42(a)]

In addition to the reporting requirements under 40 CFR 122.41(l), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

1) One hundred micrograms per liter (100 µg/l);

2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

3) Five times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

4) The level established by the Director in accordance with 40 CFR 122.44(f).

b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

1) Five hundred micrograms per liter (500 µg/l);

2) One milligram per liter (1 mg/l) for antimony;

3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7);

4) The level established by the Director in accordance with 40 CFR 122.44(f).

17. Publicly Owned Treatment Works [40 CFR 122.42(b)]

This section applies only to publicly owned treatment works as defined at 40 CFR 122.2.

a. All POTW's must provide adequate notice to the Director of the following:

1) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the CWA if it were directly discharging those pollutants; and

2) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

3) For the purposes of this paragraph, adequate notice shall include information on (I) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharge from the POTW.

b. [The following condition has been established by Region 9 to enforce applicable requirements of the Resource Conservation and Recovery Act] Publicly owned treatment works may not receive hazardous waste by truck, rail, or dedicated pipe except as provided under 40 CFR 270. Hazardous wastes are defined at 40 CFR 261 and include any mixture containing any waste listed under 40 CFR 261.31 - 261.33. The Domestic Sewage Exclusion (40 CFR 261.4) applies only to wastes mixed with domestic sewage in a sewer leading to a publicly owned treatment works and not to mixtures of hazardous wastes and sewage or septage delivered to the treatment plant by truck.

18. Reopener Clause [40 CFR 122.44(c)]

This permit shall be modified or revoked and reissued to incorporate any applicable effluent standard or limitation or standard for sewage sludge use or disposal under sections 301(b)(2)(C), and (D), 304(b)(2), 307(a)(2) and 405(d) which is promulgated or approved after the permit is issued if that effluent or sludge standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant or sludge use or disposal practice not limited in the permit.

19. Privately Owned Treatment Works

[The following conditions were established by Region 9 to enforce applicable requirements of the Resource Conservation and Recovery Act and 40 CFR 122.44(m)]

This section applies only to privately owned treatment works as defined at 40 CFR 122.2.

a. Materials authorized to be disposed of into the privately owned treatment works and collection system are typical domestic sewage. Unauthorized material are hazardous waste (as defined at 40 CFR Part 261), motor oil, gasoline, paints, varnishes, solvents, pesticides, fertilizers, industrial wastes, or other materials not generally associated with toilet flushing or personal hygiene, laundry, or food preparation, unless

specifically listed under "Authorized Non-domestic Sewer Dischargers" elsewhere in this permit.

b. It is the permittee's responsibility to inform users of the privately owned treatment works and collection system of the prohibition against unauthorized materials and to ensure compliance with the prohibition. The permittee must have the authority and capability to sample all discharges to the collection system, including any from septic haulers or other unsewered dischargers, and shall take and analyze such samples for conventional, toxic, or hazardous pollutants when instructed by the permitting authority or by an EPA, State, or Tribal inspector. The permittee must provide adequate security to prevent unauthorized discharges to the collection system.

c. Should a user of the privately owned treatment works desire authorization to discharge non-domestic wastes, the permittee shall submit a request for permit modification and an application, pursuant to 40 CFR 122.44(m), describing the proposed discharge. The application shall, to the extent possible, be submitted using EPA Forms 1 and 2C, unless another format is requested by the permitting authority. If the privately owned treatment works or collection system user is different from the permittee, and the permittee agrees to allow the non-domestic discharge, the user shall submit the application and the permittee shall submit the permit modification request. The application and request for modification shall be submitted at least 6 months before authorization to discharge non-domestic wastes to the privately owned treatment works or collection system is desired.

20. Transfers by Modification [40 CFR 122.61(a)]

Except as provided in section 21, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under 40 CFR 122.62(b)(2)), or a minor modification made (under 40 CFR 122.63(d)), to identify the new permittee and incorporate such other requirements as may be necessary under the CWA.

21. Automatic Transfers [40 CFR 122.61(b)]

An alternative to transfers under section 20, any NPDES permit may be automatically transferred to a new permittee if:

a. The current permittee notifies the Director at least 30 days in advance of the proposed transfer date in paragraph (2) of this section;

b. The notice includes a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

c. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify or revoke and reissue the permit. A modification under this subparagraph may also be a minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph (2) of this section.

22. Minor Modification of Permits [40 CFR 122.63]

Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of 40 CFR Part 124. Any permit modification not processed as a minor modification under this section must be made for cause and with 40 CFR Part 124 draft permit and public notice as required in 40 CFR 122.62. Minor modifications may only:

a. Correct typographical errors;

b. Require more frequent monitoring or reporting by the permittee;

c. Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;

d. Allow for a change in ownership or operational control of a facility where the Director determines that no other change in their permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Director.

e. Change the construction schedule for a discharger which is a new source. No such change shall affect a discharger's obligation prior to discharge under 40 CFR 122.29.

f. Delete a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with the permit limits.

g. When the permit becomes final and effective on or after March 9, 1982, conform to changes respecting 40 CFR 122.41(e), (l), (m)(4)(I)(B), (n)(3)(I), and 122.42(a) issued September 26, 1984.

h. Incorporate conditions of a POTW pretreatment program that has been approved in accordance with the procedures in 40 CFR 403.11 as enforceable conditions of the POTW's permit.

23. Termination of Permits [40 CFR 122.64]

The following are causes for terminating a permit during its term, or for denying a permit renewal application:

a. Noncompliance by the permittee with any condition of the permit;

b. The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time;

c. A determination that the permitted activity endangers human health or the environment and can only by regulated to acceptable levels by permit modification or termination; or

d. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit (for example, a plant closure or termination of discharge by connection to a POTW).

24. Availability of Reports [Pursuant to Clean Water Act Section 308]

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Regional Administrator. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

25. Removed Substances [Pursuant to Clean Water Act Section 301]

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

26. Severability [Pursuant to Clean Water Act Section 512]

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and remainder of this permit, shall not be affected thereby.

27. Civil and Criminal Liability [Pursuant to Clean Water Act Section 309]

Except as provided in permit conditions on "Bypass" (Section 14) and "Upset" (Section 15), nothing in this permit shall be construed to relieve the permittee from civil or criminal

penalties for noncompliance.

28. Oil and Hazardous Substance Liability [Pursuant to Clean Water Act Section 311]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

29. State or Tribal Law [Pursuant to Clean Water Act Section 510]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any applicable State or Tribal law or regulation under authority preserved by Section 510 of the Clean Water Act.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FACT SHEET

Permittee's Name: StarKist Samoa, Inc.

Mailing Address: P.O. Box 368
Pago Pago, Tutuila
American Samoa 96799

Plant Location: Tutuila Island, American Samoa

Contact Person: Phil Thirkell, General Manager

NPDES Permit No.: AS0000019

I. DESCRIPTION OF FACILITY

The applicant operates a tuna cannery located on Tutuila Island, American Samoa. Process discharges from the cannery enter Pago Pago Harbor at 14 deg. 17 min. 01 sec. South latitude and 170 deg. 40 min. 02 sec. West longitude. The cannery receives whole tuna which is processed into canned tuna and dried fish meal. Waste streams from this operation consist mainly of fish waste, fresh water, and sea water which are treated by Dissolved Air Floatation process. The DAF sludge and the high strength waste (pre-cooker condensate, press juice, fish meal plant wash water, etc.) are barged to sea for disposal. Approximately 454 tons of fish are processed per day. The resulting discharge to Pago Pago Harbor has been a maximum monthly average of 1.61 MGD and a long-term average of 1.27 MGD.

The 1990 American Samoa Water Quality Standards were amended by the American Samoa Environmental Quality Commission (EQC), and the amended water quality standards were adopted by the EQC in 1999. Section 24.0205 (e)(1) of the 1999 standards states that "Pago Pago Harbor has been designated by the American Samoa Government to be developed into a transhipment center for the South Pacific. Recognizing its unique position as an embayment where water quality has been degraded from the natural condition, the EQC has established a separate set of standards for Pago Pago Harbor." Section 24.0206 (m) specifies the standards that apply specifically to Pago Pago Harbor.

Administrative orders were issued by EPA in June 1990 to both StarKist Samoa and Samoa Packing Company for violations of water quality-based effluent limits of their respective 1987 NPDES permits. The orders established interim effluent limits and a schedule for compliance with water quality-based effluent limits by March 7, 1992. Concurrently, the American Samoa Government (ASG) also issued consent decrees mirroring EPA's

compliance orders, with stipulated penalties for failure to meet interim effluent limits and compliance schedule deadlines.

Prior to the previous permit, both canneries were required by the orders and consent decrees to segregate high strength waste streams and dispose of these wastes and DAF sludge at a designated ocean disposal site beginning in August 1990. Feasibility studies were also required to be conducted by both canneries for alternatives by which they could achieve compliance with their NPDES permit effluent limits and ASG water quality standards for their remaining discharge into the harbor. The canneries chose to construct a 7,000-foot joint outfall which extends into the outer harbor. The new outfall is jointly operated by both canneries for discharge of their effluent.

The two canneries previously applied for a mixing zone consistent with the requirements set forth in Section 24.0207 of the American Samoa Water Quality Standards. The mixing zone requested extends approximately 1300 feet in radius from the discharge point. The mixing zone was approved by American Samoa EQC on November 27, 1991.

Discharge in compliance with this NPDES permit should ensure achievement of all applicable water quality standards. These standards are designed to prevent degradation of water quality. Therefore, compliance with this NPDES permit should prevent any "unreasonable degradation" of the marine environment, and in accordance with section 403(c) of the Clean Water Act, a NPDES permit may be issued.

II. EFFLUENT LIMITATIONS

Discharges from fish processing facilities are not subject to any effective EPA effluent limitations guidelines. Therefore, permit requirements were established using best professional judgment and specific water quality standards in order to ensure protection of the beneficial uses of the receiving waters.

A. pH

The Best Practicable Technology (BPT) limit for pH is "within the range of 6.0 to 9.0." However, water quality standards listed under 24.0206 (m) state: "The pH range shall be 6.5 to 8.6 and be within 0.2 pH units of that which would occur naturally." Because the water quality standards are more stringent, and because the mixing zone application states that "other water quality standards (beside total nitrogen, total phosphorus and temperature) will be met within the zone of mixing (e.g. pH, fecal coliform) ..." the more stringent standard will apply as the limit.

B. Temperature

Water quality standards specify a temperature limit of 85° F which is to apply to water at the edge of the mixing zone. It is the best professional judgement of this permit writer, that the water will cool at least 10° from the point it enters the discharge pipe to the edge of the mixing zone. Furthermore, modeling studies were performed by the canneries' consultant assuming the effluent was 85° F and 90° F with no significant difference in dilution rates. Therefore, the permit limit contains a 90° F monthly average and a 95° F daily maximum.

C. Oil and Grease

40 CFR 408.140 sets the BPT limit for oil and grease at a daily maximum of 2.1 lbs/1000 lbs of seafood processed and a monthly average of 0.84 lbs/1000 lbs of seafood processed. Limits for oil and grease were calculated by multiplying the BPT limits stated above by the average daily production level of 454 tons seafood processed/day. Thus the daily maximum for oil and grease is set at 1907 lbs/day and the monthly average at 763 lbs/day.

D. Total Suspended Solids

Limits were set for Total Suspended Solids (TSS) using the same rationale detailed in Section C (Oil and Grease). 40 CFR 408.140 sets the BPT limit for TSS at a daily maximum of 8.3 lbs/1000 lbs of seafood processed and a monthly average of 3.3 lbs/1000 lbs of seafood processed. Limits for TSS were calculated by multiplying the BPT limits stated above by the average daily production level of 454 tons seafood processed/day. Thus the daily maximum for TSS is set at 7536 lbs/day and the monthly average at 2996 lbs/day.

E. Total Nitrogen

The mixing zone analysis performed by the canneries' consultant, CH2M HILL, indicates that the mixing zone can assimilate 60,000 lbs, of total nitrogen per month. Assuming a 30-day month, an average of 2,000 lbs. of total nitrogen/day can be discharged between the two canneries. The two canneries have agreed between themselves to each assume a portion of this average. StarKist will assume 1,200 lbs/day as a monthly average limit for total nitrogen.

The canneries are required to sample once/month for total nitrogen on production days. Averaging only these samples will yield a number that assumes weekend values are equal to production days. The canneries have claimed that they discharge significantly less nutrients on the weekends. Therefore, should the permittee wish to monitor the effluent on a non-production day(s), the permittee must monitor for the six consecutive days following the non-production day on which the first sample was taken. The average of all samples taken during that month will determine compliance with the "monthly average". This requirement will ensure that the monitoring is representative of the discharge, and if the

canneries are in compliance with their monthly average limits, the mixing zone's capacity of 60,000 lbs/month of total nitrogen will not be exceeded.

StarKist's daily maximum effluent limit for total nitrogen was 2,440 lbs/day as stated in EPA's letter of October 30, 1991, amending its Administrative Order. Samoa Packing Company's daily maximum limit was 1,595 lbs/day, as set in EPA's Administrative Order of June 18, 1990. These limits were initially to be retained in the new permits. However, the canneries expressed a desire to allocate the total of 4,035 lbs/day between themselves. Since the combined number is the same, the canneries were permitted to do so. StarKist agreed to accept a limit of 2,100 lbs/day, and Samoa Packing Company agreed to a limit of 1,935 lbs/day.

The canneries have claimed that total nitrogen and total phosphorus levels in the effluent have no significant correlation to production levels, and their monitoring data supports such a statement (See Appendix B, "Technical Memorandum for Site-Specific Zone of Mixing Determination for Joint Cannery Outfall Project", CH2M HILL, August 26, 1991). Therefore these effluents limits for total nitrogen and total phosphorus do not limit the canneries' production levels.

F. Total Phosphorus

Limits were set for total phosphorus using the same rationale as that detailed in Section E (Total Nitrogen). The total assimilative capacity of the zone of mixing was calculated by CH2M HILL to be a monthly average of 400 lbs. of total phosphorus/day. This total was divided between the two canneries, and StarKist has agreed to assume a monthly average limit of 192 lbs. of total phosphorus/day.

The combined total of daily maximum limits set in the Administrative Orders was 580 lbs. of total phosphorus/day and will be retained in the current permits. The canneries agreed to reapportion their share of the total. StarKist will assume a daily maximum of 309 lbs. of total phosphorus/day.

G. Toxicity

Determination of effluent limits for toxic substances must comply with 24.0206 (h)(1)-(3) and 24.0206(i). Section 24.0206 (h)(1) states, "All effluents containing materials attributable to the activities of man shall be considered harmful unless acceptable bioassay tests have shown otherwise."

Section 24.0206 (h)(3) states, "The chronic affect on test organisms outside a zone of mixing, if one exists, in the water body receiving the effluent in question shall not be less than that for waters of the same water body that are unaffected by the discharge of pollutants . . .."

In its permit application, StarKist Samoa reported that effluent concentrations of zinc and copper exceed acute and chronic water quality criteria. Numerical limitations and/or monitoring requirements have been placed in this permit on all known toxic constituents of the effluent. A monitoring requirement for acute toxicity is also included in this permit.

The water quality standards state at Section 24.0206 (h)(3), "Compliance with the above standard shall be evaluated with a 96-hour bioassay or short-term method for estimating chronic toxicity . . .." The permittee is required to conduct a semi-annual 96-hr static renewal acute bioassay on composite effluent samples using white shrimp *Penaeus vannamei* postlarvae. The white shrimp is a warm-water species that is currently being used in acute bioassays performed in labs in Hawaii. In the event that *P. vannamei* are not available for testing, *Mysidopis bahia* may be used.

The permittee is also required to conduct at least one priority pollutant scan of the effluent prior to the application for renewal of the permit. Full or partial priority scans may be required in conjunction with semi-annual bioassay tests if toxicity tests indicate a need.

H. Ammonia

Prior to the previous permit, the canneries requested that they be exempt from the acute toxicity requirement within a mixing zone. The American Samoa EQC approved this request. Little EPA guidance exists, however, to define a mixing zone in marine waters that prevents lethality to passing organisms. The technical support document for the canneries' zone of mixing application cites a few alternatives, but none seems appropriate to this situation.

CH2M HILL proposed to use an 80:1 dilution. This dilution, according to their modeling, occurs 30 seconds after the effluent leaves the pipe. The area associated with an 80:1 dilution is approximately 12 meters. They claim that such a dilution will ensure no lethality to passing organisms.

EPA National Water Quality Criteria for unionized ammonia is 0.233 mg/l for marine waters. This value is the Criterion Maximum Concentration (CMC). Multiplying this 0.233 by 80 yields 18.64 mg/l. Referencing the manual "Tables of the fraction of Ammonia in the Undissociated form, for pH 6 to 9, temperature 30° C, TDS 0-300 mg/l, and salinity 5-35 g/kg," by H.P. Skarheim of the University of California, Berkeley, College of Engineering, and using a pH value of 8.5, temperature of 29°C, and salinity 35 g/kg (all characteristics of harbor waters), the unionized fraction of ammonia is 14 percent. Therefore the ammonia limit for the canneries is established at 133 mg/l.

I. Metals

Monitoring of cannery effluent for cadmium, chromium, lead, mercury, and zinc was required in the previous permit because metal readings in Pago Pago Harbor have been historically high. Cannery effluent was found to be in compliance for cadmium, chromium, lead, and mercury. Continued effluent monitoring is no longer necessary for these parameters. However, concentrations of zinc and copper exceeded acute and chronic water quality criteria. The canneries shall conduct monthly monitoring of zinc and copper to determine current levels of these parameters and to ensure compliance with the discharge limitations.

The canneries' consultant reported that zinc and copper are unavoidable outcomes of processing due to the machinery and equipment used. Consequently, the canneries have applied for a zone of mixing for these metals. Monitoring of ambient receiving water indicated background zinc concentrations of less than 20 ug/l and copper concentrations of less than 0.5 ug/l. Significant initial dilution should ensure no toxicity from metals within the zone of mixing.

Analysis of nine sets of data gathered from semi-annual effluent monitoring resulted in the calculation of maximum expected effluent concentrations. The expected maximum effluent concentration of zinc for StarKist Samoa is 324 ug/l, 1254 ug/l for COS Samoa Packing, and 513 ug/l for the joint outfall. The expected maximum effluent concentration of copper for StarKist Samoa is 35 ug/l, 55 ug/l for COS Samoa Packing, and 36 ug/l for the joint outfall. The canneries consultant incorporated these maximum expected effluent concentrations in determining that a dilution of 25:1 would be sufficient to reduce maximum measured concentrations within approximately 4 to 6 meters from the discharge ports of the diffuser. Using background and effluent information, the dilution required to meet water quality criteria was calculated as follows:

$$D_R = (C_E - C_A)/(C_S - C_A)$$

where:

D_R is the dilution required to reduce the concentration (C_E) to C_S
C_E is the effluent concentration
C_S is the concentration desired (water quality criteria)
C_A is the ambient receiving water concentration

The canneries' consultant predicts the maximum exposure time of an organism entrained in the discharge plume to be less than 10 to 12 seconds.

EPA National Recommended Water Quality Criteria lists the criterion maximum concentration (CMC) for zinc in saltwater as 90 ug/l. The criterion continuous concentration (CCC) for zinc in saltwater is 81 ug/l. Discharge limitations were determined by using the equation described above and solving for C_E. The daily maximum

for zinc, based on the CMC, is 1770 ug/l, and the 30-day average, based on the CCC, for each cannery is 1545 ug/l.

For copper in saltwater, the EPA National Recommended Water Quality Criteria lists the CMC as 4.8 ug/l and the CCC as 3.1 ug/l. Using the same equation described above, the daily maximum, based on the CMC, is 108 ug/l, and the 30-day average, based on the CCC, is 66 ug/l for each canneries' discharge limitations.

J. Pago Pago Harbor Monitoring Program

Because the discharge point has been moved to a less degraded portion of the harbor, a monitoring program has been designed to assess the environmental impacts of the canneries' discharge on that area and to ensure compliance with the water quality standards. Results of the previously conducted monitoring program verified modeling predictions and eliminated the need to conduct further dye or tracer, harbor-wide circulation, or eutrophication studies. The current constituents of the program are as follows:

1. Quantitative Data

   Temperature, pH, dissolved oxygen, total suspended solids, light penetration, turbidity, salinity, chlorophyll a, total nitrogen, total phosphorus, total ammonia, copper, and zinc are all measured to ensure compliance with numerical limits of the receiving water.

2. Sediment Monitoring

   Sediment monitoring will determine sediment character in relation to long-term nutrient discharge to the harbor by the permittee and the effect of nutrient resuspension on harbor recovery. The canneries (StarKist Samoa and COS Samoa Packing) shall cooperatively perform a sediment monitoring program in Pago Pago Harbor in order to assess the concentration of nutrient and organic components, the distribution of stored nutrients, the size of the nutrient reservoir and the rate of accumulation of nutrients.

3. Coral Reef Survey

   Although previous studies have shown no coral reef degradation attributable to the discharge, continued monitoring on a less frequent basis of a subset of previously sampled sites will detect differences in the coral reef. Monitoring sites located near the discharge and in the middle and outer harbor will assess the potential impacts of the discharge on the coral reef.

4. Fish Tissue Study

A fish tissue study, conducted concurrently with receiving water quality and sediment monitoring, will detect levels of selected parameters in the tissues of resident organisms in the harbor. Whole fish analysis of mullet, mackerel, and crab for lead, arsenic, mercury, PCBs (Aroclor 1260), selected pesticides (DDT, DDE, DDD), and dioxin shall be conducted. Within 120 days of permit issuance, the permittee is required to submit a detailed fish tissue study plan to ASEPA and USEPA-Region 9 for comment and approval. The study will address potential sources and levels of these substances and is a follow-up study to previous monitoring performed by ASEPA.

5. Sea Turtle Review

In conjunction with the fish tissue study, the canneries will retain a recognized expert to review the effluent chemistry and bioassay data to determine if there is any anticipated impact on sea turtles in Pago Pago Harbor. The canneries will provide a report of the findings to EPA and ASEPA concurrent with the fish tissue study report.

K. Wastewater Treatment System Evaluation

The permittee should be continuously seeking ways to improve the quality of its effluent. In order to foster that search, the previous permit included a requirement to hire an independent consultant to examine the plant and provide a report on possible improvements. The study was conducted, and the implemented recommendations resulted in improvements. It is no longer necessary to continue this study at this time.

L. Pollution Prevention Program

Monitoring and maintaining the pollution prevention program developed under the previous permit will continue to help reduce the amount of pollutants in the effluent and the receiving waters. Ways to reduce the amount of pollutants entering the harbor must continue to be examined.

III. THREATENED AND ENDANGERED SPECIES

EPA reviewed information provided by the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (FWS) to determine whether the discharge from the canneries would affect any endangered species or habitat in the waters around American Samoa. In a letter from the NMFS, dated September 5, 2000, three species that might be found in the waters around American Samoa were listed. Endangered humpback whales may be found offshore during the winter months. Threatened green turtles and endangered

hawksbill turtles may occur in the nearshore waters throughout American Samoa. The same three species were listed in a letter from the FWS dated September 22, 2000.

Further telephone conversations with a member of the NMFS Protected Species Program have indicated that humpback whales rarely enter Pago Pago harbor. Discussions with NMFS and the American Samoa Department of Marine and Wildlife Resources confirm that green and hawksbill turtles are spotted in the harbor. Due to the location of the outfall and the ample dilution that the discharge undergoes, we would expect the discharge authorized by this NPDES permit to cause NO EFFECT on the threatened and endangered species listed in the waters of American Samoa.

The permit contains provisions for monitoring conventional and nonconventional pollutants, and requirements for whole effluent toxicity testing in compliance with ASEPA standards, to ensure an appropriate level of water quality discharged by the canneries. The permit also requires review of effluent chemistry and bioassay data by a recognized expert to determine any possible impact to turtles in Pago Pago Harbor. Reopener clauses have been included should new information become available to indicate that the requirements of the permit need to be changed.

In considering all information available during the drafting of this permit, EPA believes that a NO EFFECT determination is appropriate for this federal action. A copy of the draft fact sheet and permit were forwarded to NMFS and FWS for review and comment during the pre-public notice review period and 30-day public review period.

IV. ADMINISTRATIVE INFORMATION

A. Public Notice (40 CFR §124.10)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft NPDES permit or other significant action with respect to a NPDES permit or application. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit.

Public notice for this permit was given in the Samoa News on October 30, 2000.

B. Public Comment Period (40 CFR §124.10)

Notice of this permit will be placed in a daily or weekly newspaper within the area affected by the facility or activity, with a minimum of 30 days provided for interested parties to respond in writing to EPA.

After the closing of the public comment period, EPA is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued. The American Samoa Department of Marine and Wildlife Resources was the only commenter on the StarKist permit. Response to comments were provided with the final permit.

C. Public Hearing (40 CFR §124.12(c))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held when there is a significant amount of interest expressed during the 30-day public comment period or when it is necessary to clarify the issues involved in the permit decision.

D. State Certification (40 CFR §§124.53 and 124.54)

After the draft permit has been modified to include any relevant comments from the 30-day public comment period, the draft final permit is forwarded to American Samoa Environmental Protection Agency for CWA Section 401 certification. This certification ensures that the permit will comply with applicable Federal CWA standards as well as with American Samoa Water Quality Standards. EPA Region 9 will not issue this permit until a 401 certification is received.

V. ADDITIONAL INFORMATION

Additional information relating to this proposed permit may be obtained from:

U.S. Environmental Protection Agency, Region IX
CWA Standards & Permits Office Mail Code: WTR-5
75 Hawthorne Street
San Francisco, California 94105-3901
Telephone:(415)744-1914
Sara Roser

VI. INFORMATION SOURCES

While developing effluent limitations, monitoring requirements and special conditions for the permit, the following information sources were used:

A. NPDES Permit Application Form 1 and Form 2C, dated May 30, 1997.

B. American Samoa Water Quality Standards. Revision adopted November 4, 1999.

C. 40 CFR parts 122 and 408

D. National Recommended Water Quality Criteria-Correction, April 1999. Environmental Protection Agency, Office of Water.

Permit No. AS0000019

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provision of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.; the "Act"),

Star-Kist Samoa, Inc.
P.O. Box 368
Pago Pago, Tutuila
American Samoa 96799

is authorized to discharge tuna processing wastewater from the cannery located at Pago Pago, American Samoa from outfall Discharge Serial No. 001:

Latitude:	14 deg.	17 min.	01 sec.	S
Longitude:	170 deg.	40 min.	02 sec.	W

to receiving waters named: Pago Pago Harbor in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in Sections A through G hereof.

This permit shall become effective on 27 OCT 1992.

This permit and the authorization to discharge shall expire at midnight, 26 OCT 1997.

Signed this 24 day of SEPTEMBER.

For the Regional Administrator

Catherine Kuhlman for

Harry Seraydarian
Director
Water Management Division

A. EFFLUENT LIMITS AND MONITORING REQUIREMENTS

1. During the period beginning with the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from Outfall 001.

The effluent shall be sampled prior to its comingling with effluent from the other can.

Such discharges shall be limited and monitored by the permittee as specified below:(1)

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-DAY AVG.	DAILY MAX.	MEASUREMENT FREQUENCY	SAMPLE TYPE
FLOW (MGD)	--	2.9	CONTINUOUS	RECORDER
BIOCHEMICAL OGYGEN DEMAND (5-DAY)	(6)	(6)	TWICE/MONTH	COMPOSITE
SUSPENDED SOLIDS (lbs/day)	2653	6673	TWICE/WEEK	COMPOSITE
OIL AND GREASE (lbs/day)	675	1688	TWICE/WEEK	GRAB(2)
TOTAL PHOSPHORUS (lbs/day)	192	309	(3)	COMPOSITE
TOTAL NITROGEN (lbs/day)	1200	2100	(3)	COMPOSITE
ACUTE TOXICITY	--	(4)	ONCE/6 MONTHS	COMPOSITE
TOTAL AMMONIA (mg/l)	--	133	ONCE/WEEK	COMPOSITE
TEMPERATURE (°F)	90	95	CONTINUOUS	CONTINUOUS
TOTAL CADMIUM (mg/l)	(5)	(5)	ONCE/6 MONTHS	COMPOSITE
TOTAL CHROMIUM (mg/l)	"	"	"	"
TOTAL LEAD (mg/l)	"	"	"	"
TOTAL MERCURY (mg/l)	"	"	"	"
TOTAL ZINC (mg/l)	"	"	"	"
pH	--	(6)	CONTINUOUS	CONTINUOUS

NOTES:

(1) Where discharge monitoring data is reported as "below detection limit", both the detection limit obtained and the analytical method used shall be included on the monthly discharge monitoring report (DMR).

(2) Each oil and grease sample shall consist of four individual grab samples ("sub-samples") which shall be taken at even intervals during each production period in which samples are taken. Each sub-sample shall be separately analyzed and the mean value of the four sub-samples, shall be reported for daily maximum and monthly average.

(3) Permittee is required to sample twice/week on production days. Should the permittee wish to monitor the effluent on a non-production day(s), the permittee must monitor for the six consecutive days following the non-production day on which the first sample was taken. The average of all samples taken during that month will determine compliance with the "monthly average".

Should the canneries consistently comply with their TN and TP limitations and should the monitoring data show that the discharge is not impacting the water quality in the harbor or causing water quality violations for one year, the permit may be modified to incorporate a "weighted average" method of measuring compliance with the limitations. The numerical limitations themselves shall not be made any less stringent.

(4) See Section D "Toxicity" for monitoring requirements.

(5) No limit set at this time. Monitoring and reporting only.

(6) The pH is limited between 6.5 and 8.6 standard units. The total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursions from the range of pH values shall exceed 60 minutes.

B. <u>DISCHARGE SPECIFICATIONS</u>

Samples taken at monitoring stations 8, 8a, 14, 15, 16, 17 and 18 in the receiving water shall not reveal* any of the following in accordance with American Samoa Water Quality Standards:

1. Chlorophyll a levels in excess of 1.0 ug/l;

2. Light penetration depth less than 65 feet;

3. Objectionable color, odor, or taste, either alone or in

combinations, or in the biota;

4. Visible floating materials, grease, oil, scum, foam, and other floating material; and,

5. Materials that will produce visible turbidity or settle to form objectionable deposits.

Samples taken at monitoring stations 8, 8a, 15, 16, 17, 18 in the receiving water (those stations outside the zone of initial dilution (ZID)) shall not reveal* any of the following in accordance with American Samoa Water Quality Standards:

1. Dissolved oxygen (DO) concentration less than 5.0 mg/L; or 70% saturation;

2. Turbidity in excess of 0.75 nephelometric turbidity units; and,

3. Toxicity to aquatic life.

Samples taken at monitoring stations 15, 16, 17, and 18 in the receiving water (those stations outside the zone of mixing (ZOM)) shall not reveal* any of the following in accordance with American Samoa Water Quality Standards:

1. A temperature more than 1.5 degrees Fahrenheit from conditions that would occur naturally;

2. A level of total nitrogen in excess of 200 ug/l; and,

3. A level of total phosphorous in excess of 30 ug/l.

*Should any samples of ambient water reveal exceedances of the standards specified above and should ASEPA and/or USEPA determine that the canneries' discharge is the cause of the exceedance, the canneries may be required to undertake various actions including ceasing discharge and/or additional studies or monitoring to determine the cause of the exceedance. Violations of water quality standards shall be determined in accordance with American Samoa Water Quality Standards.

C. <u>PROTECTED AND PROHIBITED USES</u>

1. The protected uses of Pago Pago Harbor are as follows:

   a. Recreational and subsistence fishing;
   b. Boat-launching ramps and designated mooring areas;
   c. Subsistence food gathering, e.g. shellfish harvesting;
   d. Aesthetic enjoyment;
   e. Whole and limited body-contact recreation, e.g. swimming, snorkeling, surfing and scuba diving.
   f. Support and propagation of marine life;
   g. Industrial water supply;

h. Mari-culture development;
i. Normal harbor activities; e.g. ship movements, docking, loading and unloading, marine railways and floating drydocks; and
j. Scientific investigation.

2. Prohibited uses include but are not limited to:

a. Dumping or discharge of solid waste;
b. Animal pens over or adjacent to any shoreline;
c. Dredging and filling activities, except when permitted by the American Samoa Environmental Quality Commission (ASEQC) in accordance with the Environmental Quality Act (Title 24, American Samoa Code); AND
d. Radioactive waste discharges; and
e. Discharge of oil sludge, oil refuse, fuel oil, or bilge water, or any other waste water from any vessel or unpermitted shoreside facility.

The permittee shall not engage in any of the above prohibited uses nor in any uses that would conflict with the protected uses of the harbor.

D. TOXICITY

1. Proposed Effluent Biomonitoring

Beginning 90 days after the effective date of this permit, the permittee shall conduct, or have a contract laboratory conduct, semi-annual 96-hr. static renewal acute bioassays on composite effluent samples according to the methods described in Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms (Fourth Edition EPA/600/4-90/027) using the white shrimp, Penaeus vannamei postlarvae. Tests shall be conducted using a ≤ 0.5 dilution series (ie., 100%, 25%, 12.5%, 6.25%, 3.13%, 1.56%).

Use probit analysis to calculate the LC50 and 95% confidence intervals. Use Analysis of Variance and Dunnett's multiple comparison test to calculate the No Observed Effect Concentrations (NOECs). These results will be reported on the permittee's Discharge Monitoring Reports (DMR's).

2. Priority Pollutant Scan

The permittee shall have a priority pollutant scan of the effluent conducted concurrent with the bioassays required above. The results of shall be submitted to the USEPA and ASEPA within 4 months of the effective date of the permit and yearly thereafter.

3. Toxicity Reopener

Should any of the monitoring indicate that the discharge causes, has reasonable potential to cause, or contributes to an excursion above a water quality criteria, the permit may be reopened for the imposition of water quality-based limits and/or whole effluent toxicity limits. Also, this permit may be modified, in accordance with the requirements set forth at 40 CFR 122.44 and 124.14, to include appropriate conditions or limits to address demonstrated effluent toxicity, or to implement any EPA-approved new state water quality standards or testing methods applicable to effluent toxicity.

E. RECEIVING WATER QUALITY MONITORING PROGRAM

To determine compliance with water quality standards, the receiving water quality monitoring program must document water quality at the outfall, at areas near the zone of initial dilution (ZID) and zone of mixing (ZOM) boundaries, at areas beyond these zones where discharge impacts might reasonably be expected, and at reference/control areas. The permittee, cooperatively with Samoa Packing Co., shall perform or cause to be performed, water quality monitoring at stations along the shoreline and offshore at regular frequencies as detailed below.

Should any monitoring or studies reveal, in the judgement of either ASEPA or EPA, that the water quality, coral reef, or overall biological health of the harbor is being impaired as a result of the new outfall discharge, either agency may at any time prohibit further discharge and/or require additional monitoring.

All water quality samples should be collected and processed according to the protocols found in EPA's guidance document entitled, Quality Assurance and Quality Control (QA/QC) for 301(h) Monitoring Programs: Guidance on Field and Laboratory Methods (EPA, 1987a). Monitoring reports shall be submitted to EPA on a quarterly basis.

Monitoring stations shall be designated and located as shown (also see Figures 1 and 2):

Offshore Station	Vicinity	Location	Coordinates Latitude	Longitude
5	Transition Zone		170° 39' .72W	14° 17' .88S
6	Outer harbor	Central	170° 40' .20W	14° 17' .52S
7	Outer harbor	East, South	170° 39' .93W	14° 17' .37S
8	Outer harbor	East	170° 40' .07W	14° 17' .17S
8a	Middle harbor	East	170° 40' .13W	14° 16' .88S
9	Middle harbor	East	170° 40' .18W	14° 16' .66S
9a	Middle harbor	East	170° 40' .57W	14° 16' .58S
10	Middle harbor	West	170° 40' .75W	14° 16' .87S
11	Inner harbor	Center, East	170° 40' .90W	14° 16' .58S
11a	Inner harbor	Center, East	170° 41' .13W	14° 16' .62S
12	Inner harbor	Center	170° 41' .33W	14° 16' .60S
13	Inner harbor	Center, West	170° 41' .71W	14° 16' .50S
14	Middle harbor	Diffuser	170° 40' .03W	14° 16' .58S
15	Middle harbor	ZOM Edge, North	170° 40' .12W	14° 16' .77S
16	Middle harbor	ZOM Edge, West	170° 40' .17W	14° 16' .56S
17	Middle harbor	ZOM Edge, East	170° 39' .91W	14° 16' .90S
18	Outer harbor	ZOM Edge, South	170° 40' .08W	14° 17' .10S

It is recommended that the stations be located using the sextant angle resection positioning method or a positioning system which affords an equivalent degree of accuracy and precision. Other means may be used if, in the judgment of ASEPA and EPA Region 9, they are of sufficient accuracy and precision to allow reoccupation of the stations within plus or minus six (6) meters.

The following shall constitute the Water Quality Monitoring Program as shown:

Parameter	Units	Sample Stations	Sample Type	Frequency
Temperature	°F	all	grab	monthly
pH		"	"	"
Dissolved Oxygen	mg/l	"	"	"
Suspended Solids	mg/l	"	"	"
Light Penetration	ft	"	"	"
Turbidity	NTU	"	"	"
Salinity	ppt	"	"	"
Chlorophyll a	ug/l	"	"	"
Total Nitrogen	ug/l	"	"	"
Total Phosphorus	ug/l	"	"	"
Total Ammonia	ug/l	"	"	"

Measurements should be taken at three depths for each location: 1 meter above the bottom, 1 meter below the surface, and at mid-depth.

F. DYE OR TRACER STUDIES

Within one week of the effective date of this permit, the permittee shall submit a plan to the ASEPA and EPA to perform dye and/or tracer studies in order to better understand the fate of the effluent plume. The permittee shall perform these studies twice for one year (once during each of the two primary seasons of the year) and submit its findings 30 days after conducting each study. The date of the first study must be approved by USEPA and ASEPA and shall occur at the earliest possible time a distinct oceanographic season is in effect and no later than four months of the effective date of the permit.

G. SEDIMENT MONITORING

Sediment monitoring is conducted to determine the character of the sediments in relation to long-term high nutrient discharge by the permittee in the harbor and if harbor recovery will be affected by resuspension of the nutrients.

The permittee, cooperatively with Samoa Packing Co., shall undertake a yearly sediment monitoring program in Pago Pago Harbor in order to assess the concentration of nutrient and organic components, the distribution of stored nutrients, the size of the nutrient reservoir and the rate of accumulation of nutrients. Seven sites shall be located within Pago Pago Harbor and analyzed for total nitrogen, total phosphorus, percent organics, percent solids, bulk density, oxidation-reduction potential and sulfides. Three sites shall be located in inner Pago Pago Harbor and four sites shall be located in the outer harbor. These sites and monitoring plan shall be submitted within three months of the effective date of the permit for approval by ASEPA and EPA. Thereafter, these sites shall be approved annually by the anniversary date of the effective date of the permit. A report of the sediment monitoring program findings shall be submitted to the ASEPA and EPA 90 days after completion of sampling.

After the first two studies have been performed and the results have been assessed the permit may be reopened for the inclusion of a more frequent or less frequent monitoring schedule.

H. EUTROPHICATION STUDY

The permittee cooperatively with Samoa Packing Co., shall complete a study in which a direct assessment of the algal-nutrient relationships in Pago Pago Harbor is obtained. This study shall include construction of algal-nutrient response curves for a range of nitrogen-to-phosphorus ratios, nitrogen

and phosphorus levels, salinity levels, and phytoplankton communities. This study is not intended to be exhaustive in nature, but to provide information on phytoplankton dynamics in Pago Pago Harbor. The study may be partially completed utilizing data from past and future water quality and sediment monitoring programs and/or may be conducted in conjuunction with these programs as possible.

A proposed study design shall be submitted to ASEPA and EPA for approval within six months of the effective date of the permit. The study shall be completed and report submitted to ASEPA and EPA within one year of the effective date of the permit.

I. CORAL REEF SURVEY

Within six months of the effective date of this NPDES permit, the permittee, in cooperation with Samoa Packing Co., shall submit a field study design for approval by ASEPA and EPA Region 9 to assess the potential impacts of the discharge on the nearby coral reef. The study shall include coral reef transects which shall conform to locations found on Figure 4 in the USE ATTAINABLILITY AND SITE-SPECIFIC CRITERIA ANALYSES; PAGO PAGO HARBOR, AMERICAN SAMOA, FINAL REPORT (CH2M Hill, March 15, 1991). The intent of this annual survey is to detect significant differences, if any, from the database information found in the above-cited document. Videos shall be submitted to both the USEPA and ASEPA. Guidance for designing such surveys is provided in the "Design of 301(h) Monitoring Programs for Municipal Wastewater Discharges to Marine Waters," November 1982, EPA #430/0-82-010 (pages 70-71). In addition, the discharger should consult "Ecological Impacts of Sewage Discharges on Coral Reef Communities," September 1983, EPA #430/9-83-010, for further information. The study shall be conducted within one year of the effective date of this permit and every two years thereafter.

J. VERIFICATION OF MODELING PREDICTIONS

Within three months after both dye studies have been completed, the permittee, cooperatively with Samoa Packing Co., shall submit a study plan to USEPA and ASEPA that will discuss how the permittees will utilize the results from the monitoring data and from the dye studies to verify the models used in the determination of the mixing zones (the 30-second dilution zone, the ZID, and the ZOM). Also, the plan shall discuss how the permittee will examine the effects of BOD_5 in the effluent on Dissolved Oxygen (DO) in the receiving water, utilizing an appropriate model and one year's worth of

ambient data. Upon approval of the study plan by USEPA and ASEPA, the permittee shall initiate the studies indicated and submit reports on a yearly basis. Reports shall summarize renewed predictions of dilution rates and the size, location, and movement of the plume based on the calibrated models.

K. WASTEWATER TREATMENT SYSTEM EVALUATION

The permittee shall retain an independent consultant(s) to conduct a complete diagnostic evaluation of the wastewater treatment system. The purpose of the evaluation is to review current plant operations and equipment and to identify possible modifications in order to decrease pollutant loads, specifically of nitrogen and phosphorus, to the harbor.

The evaluation shall identify all the components of the wastewater treatment system. Nitrogen, phosphorus, total suspended solids, oil and grease loadings from each waste stream of the Dissolved Air Flotation (DAF) influent (thaw-water, spray-cooling, plant-washdown) shall be determined. Methods for reducing the amount of wastewater and the pollutant loadings of the components of the DAF influent shall be examined.

The DAF equipment shall be reviewed to determine its effectiveness. The report should examine the working order of the equipment and the existing system controls. The report shall compare the design parameters of the DAF system with the average and maximum operating values for air-to-solids ratio (lb air:lb solids), solids loading ($lb/ft_2/hr$), and hydraulic loading (gpm/ft^2).

Current chemical treatment shall be analyzed to determine effective dosages. Jar and pilot DAF chemical coagulating testing shall be performed using at least three coagulants. Reduction in nitrogen and phosphorous, and total suspended solids shall be reported for each chemical tested and compared to current treatment.

In conclusion, the report shall list in order of importance all recommended improvements to the system, and estimate the cost of each improvement.

This study shall be performed and a report submitted to the ASEPA, and the EPA within one year of the effective date of this permit and again by the expiration date of this permit. The permittee shall submit for approval by ASEPA and EPA, within sixty days of completing the report, a schedule for implementing the recommended improvements. Should the permittee view some of the improvements economically infeasible or technically impossible, the report should

substantiate those views.

If such a study has been performed during the two years preceding the effective date of this permit, the permittee is not required to have the first study performed. The permittee must, however submit an implementation schedule within sixty days of the effective date of this permit. One year from the effective date of this permit, and annually thereafter, a report shall be submitted documenting the progress made in implementing these recommendations.

L. POLLUTION PREVENTION PROGRAM

1. Within six months of the effective date of this permit, the permittee shall develop and implement a Pollution Prevention Program. The purpose of the program is to evaluate and implement methods of reducing or eliminating pollutants listed under section A of this permit from the outfall, stormwater drain(s), plant-site runoff, sludge disposal and fishing vessels. A component of this plan will be a water conservation program.

2. The permittee shall review all facility components or systems (including storage areas; in-plant transfer, process and handling areas; loading and unloading operations; and sludge and waste disposal areas) where these pollutants are generated, stored or handled to evaluate methods for reducing the release of these pollutants to the harbor. In performing such an evaluation, the permittee shall consider ways of preventing fish scraps, oil and grease, etc., from entering the wastewater streams and shall consider typical industry practices such as employee training, inspections and records, preventive maintenance, and good housekeeping. In addition, the permittee may consider structural measures (such as secondary containment devices) where appropriate.

3. The permittee shall retain an independent consultant(s) to determine the source of the high levels of metals (Cadmium, Chromium, Lead, Mercury, and Zinc) in the cannery's effluent, and shall examine methods to reduce the current levels. Such an analysis shall be submitted to the ASEPA and USEPA for approval within six months of the effective date of this permit.

4. The Pollution Prevention Program shall also evaluate ways of preventing fishing vessels from discharging engine oil into the harbor. Such a plan shall explore options such as accepting used oil for burning in the cannery's boilers or for recycling, issuing a multi-lingual

statement to each fishing vessel outlining the regulations against illegal dumping, and establishing a company policy that would prohibit the canneries from purchasing tuna from any vessel found responsible for discharging oil.

5. The Pollution Prevention Program shall be documented in narrative form and shall include any necessary pilot plans, drawings or maps. Other documents already prepared for the facility such as a Safety Manual or a Spill Prevention, Control and Countermeasure (SPCC) plan may be used as part of the program and may be incorporated by reference. The Pollution Prevention plan shall be submitted to ASEPA and EPA within six months of the effective date of this permit and a copy shall be maintained at the facility and annual reports submitted documenting program progress.

M. DEFINITIONS

1. "Ambient conditions" means the existing conditions in the surrounding waters not influenced by the discharger's effluent.

2. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility whose operation is necessary to maintain compliance with the terms and conditions of this permit.

3. "Whole-effluent toxicity" is the aggregate toxic effect of an effluent measured directly with a "toxicity test".

4. "Composite sample" means, for flow rate measurements, the arithmetic mean of no fewer than eight individual measurements taken at equal intervals for 24 hours or for the duration of the discharge, whichever is shorter.

   "Composite sample" means, for other than flow rate measurement,

   a. A combination of at least eight individual portions obtained at equal time intervals for 24 hours, or the duration of the discharge, whichever is shorter. The volume of each individual portion shall be directly proportional to the discharge flow rate at the time of sampling.

   OR

   b. A combination of at least eight individual portions of equal volume obtained over a 24-hour period. The time interval will vary such that the volume of wastewater discharged between samplings remains constant.

   The compositing period shall equal the specified sampling period, or 24 hours, if no period is specified.

5. "Daily discharge" means:

   a. For flow rate measurement, the average flow rate measured during a calendar day or during any 24-hour period reasonably representative of the calendar day for purposes of sampling.

   b. For pollutant measurements, the concentration or mass emission rate measured during a calendar day or during any 24-hour period reasonably representative of the calendar day for purposes of sampling.

6. "Daily maximum" limit means the maximum acceptable "daily discharge". For pollutant measurements, unless otherwise specified, the results to be compared to the "daily maximum" limit are based on "composite samples."

7. "Duly authorized representative" is one whose:

   a. Authorization is made in writing by a principal executive officer or ranking elected official;

   b. Authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

   c. Written authorization is submitted to the ASEPA and EPA. If an authorization becomes no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements must be submitted to ASEPA and EPA prior to or together with any reports, information, or other applications to be signed by an authorized representative.

8. "Grab sample" is defined as any individual sample collected in a short period of time not exceeding 15 minutes. "Grab samples" shall be collected during normal peak loading conditions for the parameter of interest, which may or may not be during hydraulic peaks. It is used primarily in determining compliance with "daily maximum" limits.

9. "Hazardous substance" means any substance designated under 40 CFR 116 pursuant to Section 311 of the Clean Water Act.

10. "Heavy metals" are, for the purposes of this permit, arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc.

11. "Indirect discharger" means a non-domestic discharger introducing pollutants into a publicly owned treatment and disposal system.

12. "Initial dilution" is the process which results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

    For a submerged buoyant discharge, characteristics of most municipal wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

    Numerically, initial dilution is expressed as the ratio of the volume of discharged effluent plus ambient water entrained during the process of initial dilution to the volume of discharged effluent.

13. "Mass emission rate" is obtained from the following calculations for any calendar day:

$$\text{Mass emission rate (lb/day)} = 8.345/N \sum_{i=1}^{N} Qi\ Ci$$

$$\text{Mass emission rate (kg/day)} = 3.785/N \sum_{i=1}^{N} Qi\ Ci$$

    in which 'N' is the number of samples analyzed in any calendar day. 'Qi' and 'Ci' are the flow rate (MGD) and the concentration (mg/L), respectively, which are associated with each of the 'N' grab samples which may be taken in any calendar day. If a composite sample is taken, 'Ci' is the concentration measured in the composite sample and 'Qi' is the average flow rate occurring during the period over which samples are composited.

    The daily concentration of all constituents shall be determined from the flow-weighted average of the same constituents in the combined waste stream as follows:

$$\text{Daily concentration} = 1/Qt \sum_{i=1}^{N} Qi\ Ci$$

    in which 'N' is the number of component waste streams. 'Qi' and 'Ci' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' waste streams. 'Qt' is the total flow rate of the combined waste streams.

14. "Monthly average" is the arithmetic mean of daily con-

centrations, or of daily "mass emission rates", over the specified monthly period:

$$\text{Average} = 1/N \sum_{i=1}^{N} Xi$$

in which 'N' is the number of days samples were analyzed during the period and 'Xi' is either the constituent concentration (mg/L) or mass emission rate (kg/day or lb/day) for each sampled day.

15. "100-year frequency flood" means a flood of unusually large magnitude and which is characterized by its infrequent occurrence.

16. "Open coastal waters" means marine waters bounded by 100 fathom (183 m; 600 ft) depth contour and the shoreline excluding bays named in section 24.0206(c)(2)-(4) of the American Samoa water quality standards.

17. "Overflow" means the intentional or unintentional diversion of flow from the collection and transport systems, including the pumping facilities.

18. "Pesticides" are, for purposes of this permit, those six constituents referred to in 40 CFR 125.58(m) (demeton, guthion, malathion, mirex, methoxychlor, and parathion).

19. "Pollutant-free wastewater" means infiltration and inflow, cooling waters, and condensates which are essentially free of pollutants.

20. "Priority pollutants" are those constituents referred to in 40 CFR 401.15 and listed in the EPA NPDES Application Form 2C, pp. V-3 through V-9.

21. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a "bypass" or "overflow." It does not mean economic loss by delays in production.

22. "Sludge" means the solid, semi-liquid suspension of solids, residues, screenings, grit, scum and precipitates separated from, or created in wastewater by the unit processes of a treatment system. It also includes, but is not limited to, all supernatant, filtrate, centrate, decantate, and thickener overflow/underflow in the solids handling parts of the wastewater treatment system.

23. "Toxic pollutant" means any pollutant listed as toxic under Section 307(a)(1) of the Clean Water Act or under 40 CFR 122, Appendix D. Violation of the maximum daily discharge limitations are subject to the 24-hour reporting requirement (section P.13.f).

24. "Toxicity test" is the means to determine the toxicity of a chemical or an effluent using living organisms. A toxicity test measures the degree of response of an exposed test organism to a specific chemical or effluent.

25. "Toxic unit chronic" is the reciprocal of the effluent dilution that causes no unacceptable effect on the test organisms by the end of the chronic exposure period.

26. "Upset" means any exceptional incident in which there is unintentional and temporary noncompliance with effluent limitations in the permit because of factors beyond the reasonable control of the discharger. It does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, careless or improper operation, or those problems the discharger should have foreseen.

27. "Waste", "waste discharge", "discharge of waste", and "discharge" are used interchangeably in this permit. The requirements of this permit are applicable to the entire volume of water, and the material therein, which is disposed of to marine waters.

28. "Weekly average" is the arithmetic mean of daily concentrations, or of daily mass emission rates, over the specified weekly period:

$$\text{Average} = 1/N \sum_{i=1}^{N} Xi$$

in which 'N' is the number of days samples were analyzed during the period and 'Xi' is either the constituent concentration (mg/L) or "mass emission rate" (kg/day or lb/day) for each sampled day.

29. "Zone of initial dilution" (ZID) means the region of initial mixing surrounding or adjacent to the end of the outfall pipe or diffuser ports, providing that the ZID may not be larger than allowed by mixing zone restrictions in applicable water quality standards [40 CFR 125.58(w)]. For purposes of designating monitoring stations, the region within a horizontal distance equal to a specified water depth (usually depth of outfall or

average depth of diffuser) from any point of the diffuser or end of the outfall and the water column above and below that region, including the underlying seabed.

30. "Zone of mixing" (ZOM) means limited areas around outfalls and other facilities approved by ASEQC with the concurrence of EPA to allow for the initial dilution of waste discharges [American Samoa Water Quality Standards].

N. QUALITY ASSURANCE/QUALITY CONTROL

All waste material sampling procedures, analytical protocols, and quality assurance/quality control procedures shall be performed in accordance with guidelines specified by EPA. The following references shall be used by the permittee where appropriate:

1. EPA, 40 CFR 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act;

2. Tetra Tech, Inc. 1985. Summary of the U.S. EPA-approved methods and other guidance for 301(h) monitoring variables. Final program document prepared for the Marine Operations Division, Office of Marine and Estuarine Protection, U.S. Environmental Protection Agency. EPA Contract No. 68-01-693. Tetra Tech, Inc., Bellevue, WA; and

3. Tetra Tech, Inc. 1986. Quality assurance and quality control guidance for 301(h) monitoring programs. Final program document prepared for the Marine Operations Division, Office of Marine and Estuarine Protection, U.S. Environmental Protection Agency. EPA Contract No. 68-01-3968. Tetra Tech, Inc., Bellevue, WA.

O. REPORTING

Monitoring results obtained during the previous 3 months shall be summarized for each month and submitted quarterly on forms to be supplied by EPA, to the extent that the information reported may be entered on the forms. The results of all monitoring required by this permit shall be sumitted in such a format as to allow direct comparison with the limitations and requirements of this permit. Monitoring reports shall be postmarked no later than the 28th day of the month following the completed reporting period. The first report is due 4 months after the effective date of this permit. Signed copies of these and all other reports required herein shall be submitted to the EPA Regional Administrator

and the Government of American Samoa at the following addresses:

Regional Administrator
Environmental Protection Agency
Region 9, Attn: Office of Pacific Island and
Native American Programs (E-4)
75 Hawthorne Street
San Francisco, CA 94105

Director
American Samoa Environmental Protection Agency
Office of the Governor
Pago Pago, American Samoa 96799

P. EPA REGION IX STANDARD CONDITIONS

See attachment.

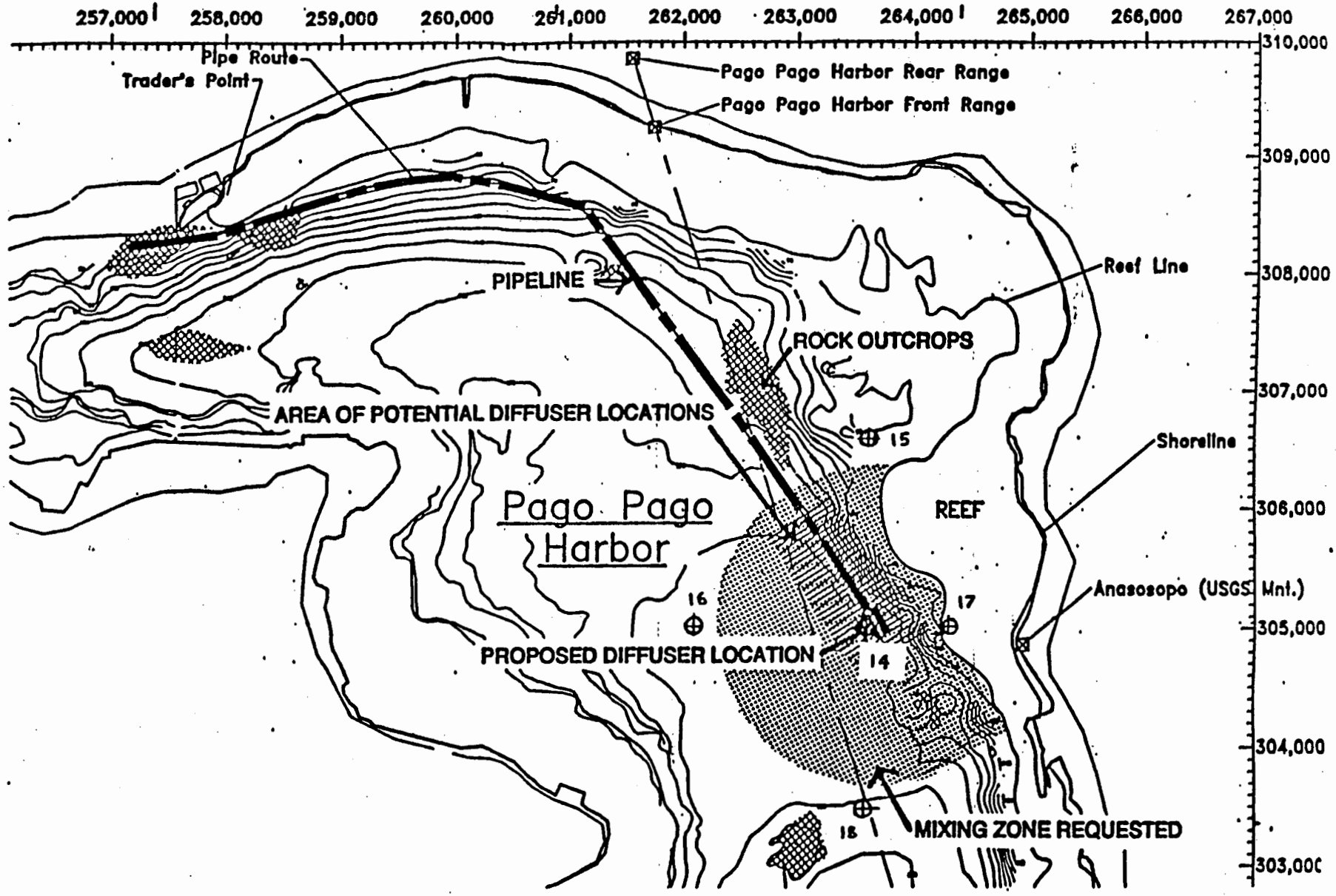


FIGURE 1. NEW MONITORING STATIONS IN PAGO PAGO HARBOR (14-18)

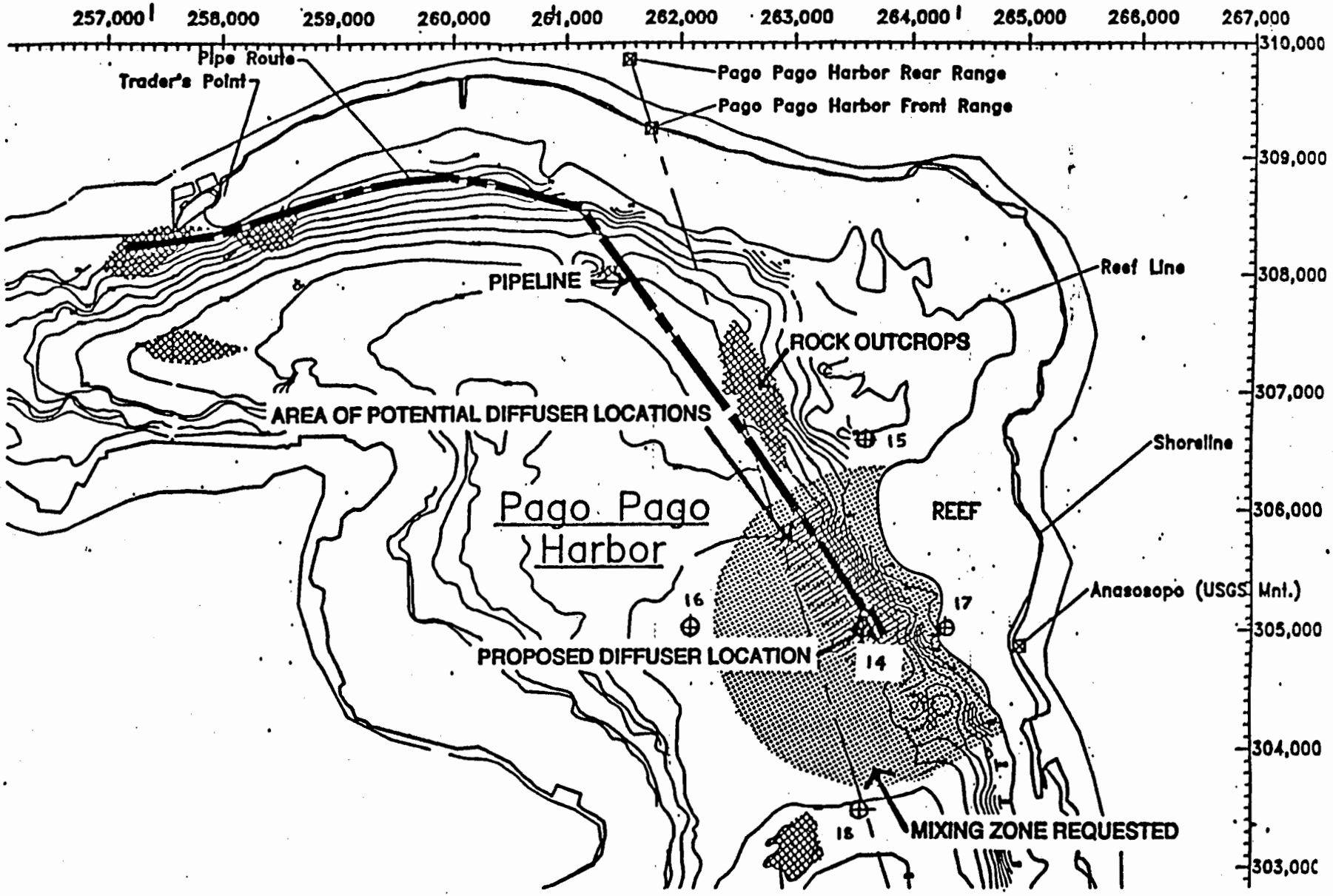


FIGURE 1. NEW MONITORING STATIONS IN PAGO PAGO HARBOR (14-18)

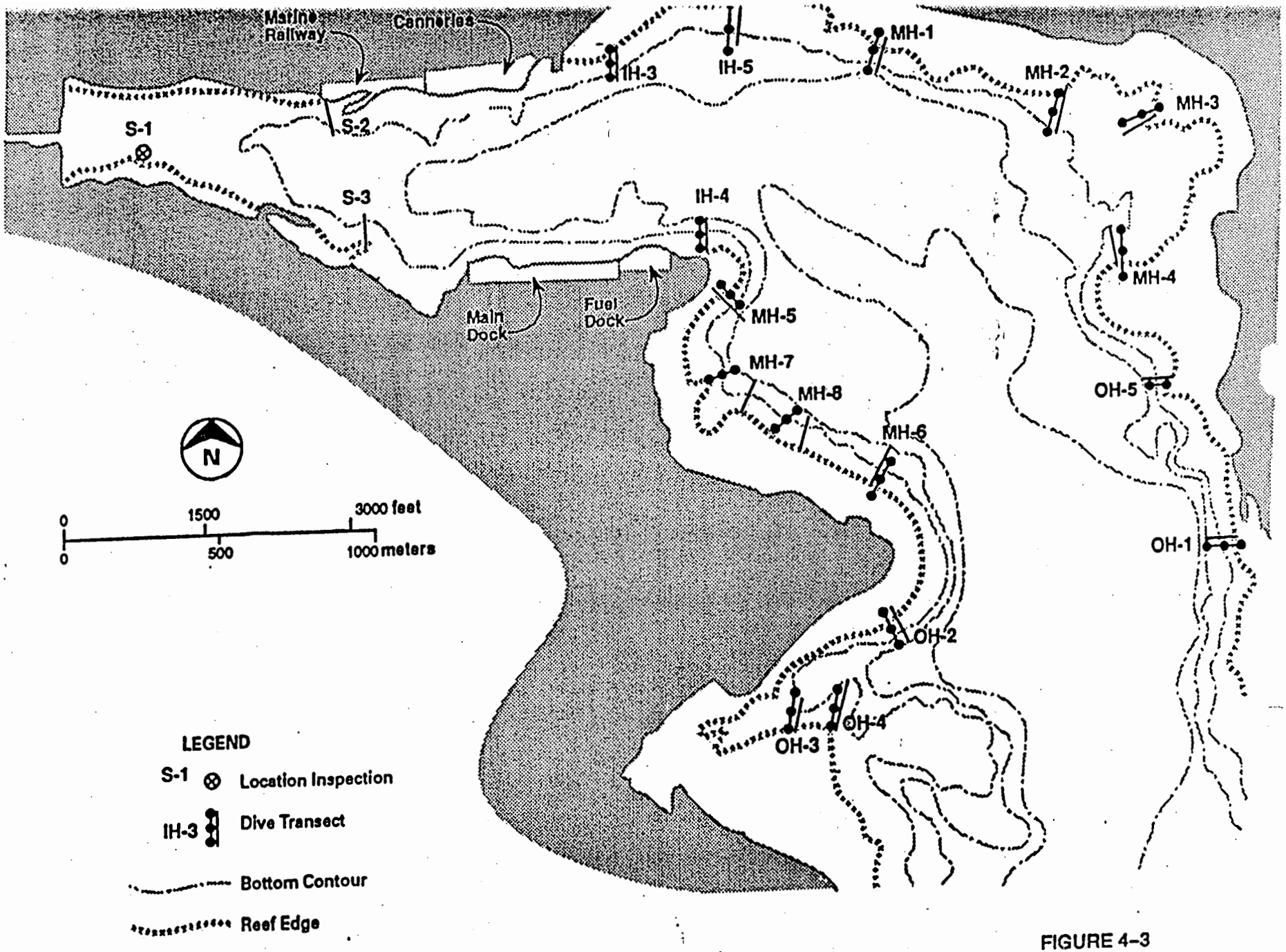
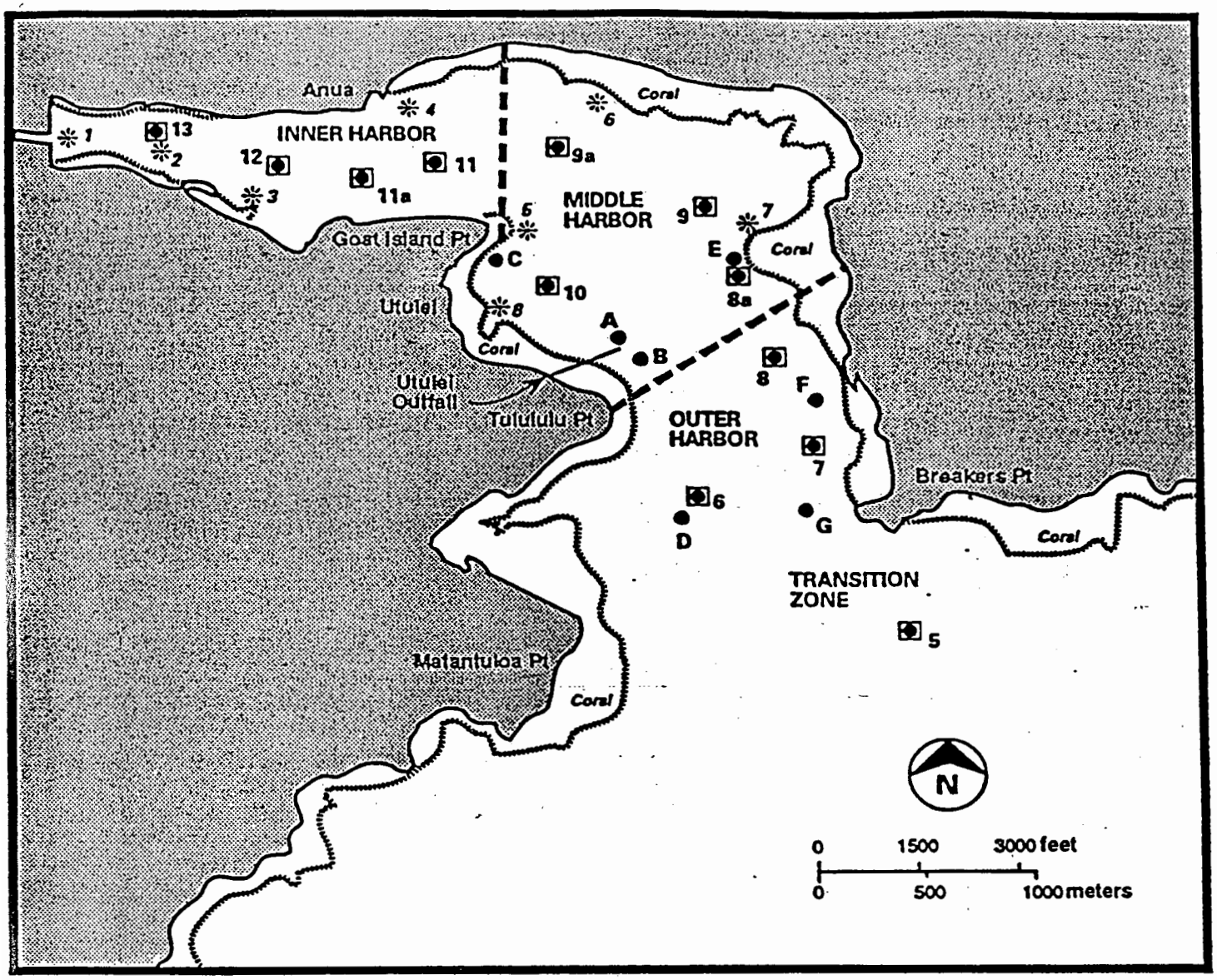


FIGURE 4-3
Coral Reef Transects from 1991 "Use Attainability Analysis", CH2M H



LEGEND

- ASG Sampling Station
- Utulei WWTP Station
- CH2M HILL Field Measurement Station (1/19/91)

FIGURE 2. LOCATION OF WATER QUALITY STATIONS IN PAGO PAGO HARBOR

EPA REGION 1 STANDARD FEDERAL NPDES PERMIT CONDITIONS
(Updated as of May 10, 1990)

1. Duty to Reapply [40 CFR 122.21(d)]

The permittee shall submit a new application 180 days before the existing permit expires. 122.2(c)(2) POTW's with currently effective NPDES permits shall submit with the next application the sludge information listed at 40 CFR 501.15(a)(2).

2. Applications [40 CFR 122.22]

a. All permit applications shall be signed as follows:

1) For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principle business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

3) For a municipality, State, Federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

b. All reports required by permits and other information requested by the Director shall be signed by a person described in paragraph (a) of this Section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1) The authorization is made in writing by a person described in paragraph (a) of this section;

2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as

the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) and,

3) The written authorization is submitted to the Director.

c. Changes to authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

d. Certification. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

3. Duty to comply [40 CFR 122.41(a)]

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

b. The Clean Water Act provides that:

1) Any person who causes a violation of any condition in this permit is subject to a civil penalty not to exceed $25,000 per day of each violation. Any person who negligently causes a violation of any condition in this permit is subject to a fine off not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one year, or both for a first conviction. For a second conviction, such a person is subject to a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two years, or both. [Updated pursuant to the Water Quality Act of 1987]

2) Any person who knowingly causes violation of any condition of this permit is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than three years, or by both for a first conviction. For a second conviction, such a person is subject to a fine of not more than $100,000 per day of violation, or by imprisonment of not more than six years, or both. [Updated pursuant to the Water Quality Act of 1987]

3) Any person who knowingly causes a violation of any condition of this permit and, by so doing, knows at that time that he thereby places another in imminent danger of death or serious bodily injury shall be subject to a fine of not more than $250,000, or imprisonment of not more than 15 years, or both. A person who is an organization and violates this provision shall be subject to a fine of not more than $1,000,000 for a first conviction. For a second conviction under this provision, the maximum fine and imprisonment shall be doubled. [Updated pursuant to the Water Quality Act of 1987]

4. <u>Need to halt or reduce activity not a defense</u> [40 CFR 122.41(c)]

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. <u>Duty to mitigate</u> [40 CFR 122.41(d)]

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper operation and maintenance [40 CFR 122.41(e)]

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

7. Permit actions [40 CFR 122.41(f)]

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

8. Property rights [40 CFR 122.41(g)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

9. Duty to provide information [40 CFR 122.41(h)]

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

10. Inspection and entry [40 CFR 122.41(i)]

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

11. Monitoring and records [40 CFR 122.41(j)]

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

b. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application, except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503). This period may be extended by request of the Director at any time.

c. Records of monitoring information shall include:

1) The date, exact place, and time of sampling or measurements;

2) The individual(s) who performed the sampling or measurements;

3) The date(s) analyses were performed;

4) The individual(s) who performed the analyses;

5) The analytical techniques or methods used; and

6) The results of such analyses.

d. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, or in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, unless other test procedures have been specified in this permit.

e. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained in this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both for a first conviction. For a second conviction, such a person is subject to a fine of not more than

$20,000 per day of violation, or imprisonment for not more than four years, or both. [Updated pursuant to the Water Quality Act of 1987]

12. Signatory requirement [40 CFR 122.41(k)]

a. All applications, reports, or information submitted to the Director shall be signed and certified. (See 40 CFR 122.22)

b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both for a first conviction. For a second conviction, such a person is subject to a fine of not more than $20,000 per day of violation, or imprisonment of not more than four years, or both. [Updated pursuant to the Water Quality Act of 1987]

13. Reporting requirements [40 CFR 122.41(l)]

a. Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).

3) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

b. Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

c. Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act (CWA). (See 40 CFR 122.61; in some cases, modification or revocation and reissuance is mandatory.)

d. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.

2) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR, or sludge reporting form specified by the Director.

3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

e. Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

f. Twenty-four hour reporting.

1) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

2) The following shall be included as information which must be reported within 24 hours under this paragraph.

i) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR 122.41(g).)

ii) Any upset which exceeds any effluent limitation in the permit.

iii) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. (See 40 CFR 122.44(g).)

3) The Director may waive the written report on a case-by case basis for reports under paragraph (6)(ii) of this section if the oral report has been received within 24 hours.

g. Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (6) of this section.

h. Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

14. Bypass [40 CFR 122.41(m)]

a. Definitions

1) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (3) and (4) of this section.

c. Notice-

1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, of possible at least ten days before the date of the bypass.

2) Unanticipated bypass. If the permittee shall submit notice of an unanticipated bypass as required in paragraph (a)(6) of section 13) (24-hour notice).

d. Prohibition of bypass.

1) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

iii) The permittee submitted notices as required under paragraph (3) of this section.

2) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (4)(i) of this section.

15. Upset [40 CFR 122.41(n)]

a. Definition.
"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (3) of this section are met. No

determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

1) An upset occurred and that the permittee can identify the cause(s) of the upset;

2) The permitted facility was at the time being properly operated; and

3) The permittee submitted notice of the upset as required in paragraph 13)(6)(ii)(B)(24-hour notice).

4) The permittee complied with any remedial measures required under 40 CFR 122.41(d).

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

16. Existing manufacturing, commercial, mining, and silvicultural dischargers [40 CFR 122.42(a)]

In addition to the reporting requirements under 40 CFR 122.41(l), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

1) One hundred micrograms per liter (100 ug/l);

2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

3) Five times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

4) The level established by the Director in accordance with 40 CFR 122.44(f).

b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

1) Five hundred micrograms per liter (500 ug/l);

2) One milligram per liter (1 mg/l) for antimony;

3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7);

4) The level established by the Director in accordance with 40 CFR 122.44(f).

17. Publicly owned treatment works [40 CFR 122.42(b)]

This section applies only to publicly owned treatment works as defined at 40 CFR 122.2.

a. All POTW's must provide adequate notice to the Director of the following:

1) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; and

2) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

3) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

b. [The following condition has been established by Region 9 to enforce applicable requirements of the Resource Conservation and Recovery Act] Publicly owned treatment works may not receive hazardous waste by truck, rail, or dedicated pipe except as provided under 40 CFR 270. Hazardous wastes are defined at 40 CFR 261 and include any mixture containing any waste listed under 40 CFR 261.31 - 261.33. The Domestic Sewage Exclusion (40 CFR 261.4) applies only to wastes mixed with domestic sewage in a sewer leading to a publicly owned treatment works and not to mixtures of hazardous wastes and sewage or septage delivered to the treatment plant by truck.

18. Reopener clause [40 CFR 122.44(c)]

This permit shall be modified or revoked and reissued to incorporate any applicable effluent standard or limitation or standard for sewage sludge use or disposal under sections 301(b)(2)(C), and (D), 304(b)(2), 307(a)(2) and 405(d) which is promulgated or approved after the permit is issued if that effluent or sludge standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant or sludge use or disposal practice not limited in the permit.

19. Privately owned treatment works

[The following conditions were established by Region 9 to enforce applicable requirements of the Resource Conservation and Recovery Act and 40 CFR 122.44(m)]

This section applies only to privately owned treatment works as defined at 40 CFR 122.2.

a. Materials authorized to be disposed of into the privately owned treatment works and collection system are typical domestic sewage. Unauthorized materials are hazardous waste (as defined at 40 CFR Part 261), motor oil, gasoline, paints, varnishes, solvents, pesticides, fertilizers, industrial wastes, or other materials not generally associated with toilet flushing or personal hygiene, laundry, or food preparation, unless specifically listed under "Authorized Non-domestic Sewer Dischargers" elsewhere in this permit.

b. It is the permittee's responsibility to inform users of the privately owned treatment works and collection system of the prohibition against unauthorized materials and to ensure compliance with the prohibition. The permittee must have the authority and capability to sample all discharges to the collection system, including any from septic haulers or other unsewered dischargers, and shall take and analyze such samples for conventional, toxic, or hazardous pollutants when instructed by the permitting authority or by an EPA, State or Tribal inspector. The permittee must provide adequate security to prevent unauthorized discharges to the collection system.

c. Should a user of the privately owned treatment works desire authorization to discharge non-domestic wastes, the permittee shall submit a request for permit modification and an application, pursuant to 40 CFR 122.44(m), describing the proposed discharge. The application shall, to the extent possible, be submitted using EPA Forms 1 and 2C, unless another format is requested by the permitting authority. If the privately owned treatment works or collection system user is different from the permittee, and the permittee agrees to allow the non-domestic discharge, the user shall submit the application and the

permittee shall submit the permit modification request. The application and request for modification shall be submitted at least 6 months before authorization to discharge non-domestic wastes to the privately owned treatment works or collection system is desired.

20. Transfers by modification [40 CFR 122.61(a)]

Except as provided in section 21), a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under 40 CFR 122.62(b)(2)), or a minor modification made (under 40 CFR 122.63(d)), to identify the new permittee and incorporate such other requirements as may be necessary under CWA.

21. Automatic transfers [40 CFR 122.61(b)]

As an alternative to transfers under section 20), any NPDES permit may be automatically transferred to a new permittee if:

a. The current permittee notifies the Director at least 30 days in advance of the proposed transfer date in paragraph (2) of this section;

b. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

c. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify or revoke and reissue the permit. A modification under this subparagraph may also be a minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in the paragraph (2) of this section.

22. Minor modification of permits [40 CFR 122.63]

Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of 40 CFR Part 124. Any permit modification not processed as a minor modification under this section must be made for cause and with 40 CFR Part 124 draft permit and public notice as required in 40 CFR 122.62. Minor modifications may only:

a. Correct typographical errors;

b. Require more frequent monitoring or reporting by the permittee;

c. Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement; or

d. Allow for a change in ownership or operational control of a facility where the Director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the Director.

e. Change the construction schedule for a discharger which is a new source. No such change shall affect a discharger's obligation prior to discharge under 40 CFR 122.29.

f. Delete a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with the permit limits.

g. When the permit becomes final and effective on or after March 9, 1982, conform to changes respecting 40 CFR 122.41(e), (l), (m)(4)(i)(B), (n)(3)(i), and 122.42(a) issued September 26, 1984.

h. Incorporate conditions of a POTW pretreatment program that has been approved in accordance with the procedures in 40 CFR 403.11 as enforceable conditions of the POTW's permit.

23. Termination of permits [40 CFR 122.64]

The following are causes for terminating a permit during its term, or for denying a permit renewal application:

a. Noncompliance by the permittee with any condition of the permit;

b. The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time;

c. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or

d. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit (for example, plant closure or termination of discharge by connection to a POTW).

24. Availability of Reports [Pursuant to Clean Water Act Section 308]

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Regional Administrator. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

25. Removed Substances [Pursuant to Clean Water Act Section 301]

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

26. Severability [Pursuant to Clean Water Act Section 512]

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and remainder of this permit, shall not be affected thereby.

27. Civil and Criminal Liability [Pursuant to Clean Water Act Section 309]

Except as provided in permit conditions on "Bypass" (Section 14) and "Upset" (Section 15), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

28. Oil and Hazardous Substance Liability [Pursuant to Clean Water Act Section 311]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

29. State or Tribal Law [Pursuant to Clean Water Act Section 510]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any applicable State or Tribal law or regulation under authority preserved by Section 510 of the Clean Water Act.

JOINT NOTICE OF PROPOSED ACTION

by the

U.S. Environmental Protection Agency
Region 9 (WTR-5)
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-1914

Environmental Quality Commission
American Samoa Government
Pago Pago, American Samoa 96799
(684) 633-2304

Public Notice No. PI-00-W-32 Date: October 30, 2000

The Environmental Protection Agency (EPA), Region 9, San Francisco, California and the American Samoa Environmental Quality Commission, Pago Pago, American Samoa are jointly issuing the following notice of proposed action under the Clean Water Act (CWA).

The Environmental Protection Agency, San Francisco, California has received complete applications for National Pollution Discharge Elimination Systems (NPDES) permits and has prepared tentative determinations regarding the permits.

On the basis of a review of the requirements of the CWA, as amended, the implementing regulations, the Regional Administrator, EPA Region 9, proposes to reissue NPDES permits to the following applicants, subject to certain effluent limitations and other conditions:

StarKist Samoa, Inc. P.O. Box 368 Pago Pago, American Samoa 96799 NPDES Permit No. AS0000019	and	COS Samoa Packing, Inc. P.O. Box 957 Pago Pago, American Samoa 96799 NPDES Permit No. AS0000027

StarKist Samoa and COS Samoa Packing Company operate tuna canneries on Tutuila Island, American Samoa. The canneries receive whole tuna which is processed into canned tuna and dried fish meal. Waste streams from these canneries consist mainly of fish waste, fresh water, and sea water which are treated by the Dissolved Air Floatation (DAF) process. The process waste streams from both canneries are discharged into Pago Pago Harbor.

Under proposed permit conditions, both canneries are required to meet final effluent limits for temperature, suspended solids, oil and grease, pH, nitrogen, phosphorus, ammonia, zinc, and copper. The proposed permits require that both canneries shall meet stringent final effluent limits that are based on American Samoa Water Quality Standards for Pago Pago Harbor. EPA has made a preliminary determination that the proposed permit would have no effect on any federally-listed threatened or endangered species.

The Administrative Records for the draft permits, which include the applications, draft permits, fact sheets, and all data sent by the applicant for the permits, are available for public inspection. The administrative records may be viewed Monday through Friday from 9:00 am until 4:00 pm at

the EPA address below. A copy of these documents may be obtained by calling (415) 744-1914 or writing to the address listed below.

Persons wishing to comment upon the draft permit or request a public hearing pursuant to 40 CFR 124.12 should submit their comments or requests in writing within 30 days from the date of this notice, either in person or by mail to:

U.S. Environmental Protection Agency, Region 9
Clean Water Act Standards and Permits Office (WTR-5)
Attn: Sara Roser
75 Hawthorne Street
San Francisco, California 94105
Telephone: (415) 744-1914

Copies of the applications, draft permits, and fact sheets are also available for public review Monday through Friday from 8:00 am to 4:00 pm at the following office:

Environmental Quality Commission
American Samoa Government
Pago Pago, American Samoa 96799

Contact Person: Togipa Tausaga, Director

The Environmental Quality Commission is reviewing the draft permits and may:

1. certify the draft permits without comments; or
2. certify the draft permits and impose conditions more stringent than those contained therein; or
3. deny the certification of the draft permits.

All comments submitted within 30 days from the date of this notice will be considered in the formulation of the final permit. If the response to this notice indicates a significant degree of public desire for a public hearing, the Regional Administrator shall hold one in accordance with 40 CFR 124.12. A public notice of such hearing will be issued at least 30 days prior to the hearing. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

If the draft permits become final, and there are no appeals, discharge from and operation of the identified facilities may proceed or continue, subject to the conditions of the permits and other applicable permits and legal requirements.

EPA will prepare and issue a final permit after reviewing all comments received during the public comment period. If no comments are submitted on the draft permit, the final permit will become effective three (3) days from the date of mailing. If comments are submitted on the draft permit, the final permit will become effective 33 days from the date of mailing, unless a petition is filed with the Environmental Appeals Board (EAB) to review any conditions of the final

permit under 40 CFR 124.19(a), as revised at 65 Fed. Reg. 30886, 30911 (May 15, 2000). A copy of such petition should be sent to the EPA address listed above.

As stated in newly-revised 40 CFR 124.19(a), within 33 days after EPA issues the final permit, any person who filed comments on the draft permit or participated on the public hearing may petition the EAB to review any condition of the permit decision. Any person who failed to file comments or failed to participate in a public hearing on the draft permit may petition for administrative review only with regard to changes made from the draft permit to the final permit. The petition shall include a statement of the reasons supporting the review, including a demonstration that any issues being raised were raised during the public comment period (including any public hearing) to the extent required by these regulations and, when appropriate, a showing that the condition in question is based on: (1) a finding of fact or conclusion of law which is clearly erroneous; or (2) an exercise of discretion or an important policy consideration which the EAB should, in its discretion, review. Under 40 CFR 124.16 and 124.60, a petition for review under 40 CFR 124.19 stays the force and effect of the contested conditions of the final permit until final agency action under 40 CFR 124.19(f).

Please bring the foregoing notice to the attention of all persons you know would be interested in this matter.

JOINT NOTICE OF PROPOSED ACTION

by the

U.S. Environmental Protection Agency
Region 9 (WTR-5)
75 Hawthorn Street
San Francisco, CA 94105
(415) 744-1914

Environment Quality Commission
American Samoa Government
Pago Pago, American Samoa 96799
(684) 633-2304
Public Notice No. PI-00-W-32
Date: October 30, 2000

Public Notice No. PI-00-W-32

Date: October 30, 2000

The Environmental Protection Agency (EPA), Region 9, San Francisco, California and the American Samoa Environmental Quality Commission, Pago Pago, American Samoa are jointly issuing the following notice of proposed action under the Clean Water Act (CWA).

The Environmental Protection Agency, San Francisco, California has received complete applications for National Pollution Discharge Elimination Systems (NPDES) permits and has prepared tentative determinations regarding the permits.
On the basis of a review of the requirements of the CWA, as amended, the implementing regulations, the Regional Administrator, EPA Region 9, proposes to reissue NPDES permits to the following applicants, subject to certain effluent limitations and other conditions:

StarKist Samoa, Inc.
P.O. Box 368
Pago Pago, American Samoa 96799
NPDES Permit No. AS0000019

and

COS Samoa Packing, Inc.
P.O. Box 957
Pago Pago, American Samoa 96799
NPDES Permit No. AS0000027

StarKist Samoa and COS Samoa Packing Company operate tuna canneries on Tutuila Island, American Samoa. The canneries receive whole tuna which is processed into canned tuna and dried fish meal. Waste streams from these canneries consist mainly of fish waste, fresh water, and sea water which are treated by the Dissolved Air Floatation (DAF) process. The process waste streams from both canneries are discharged into Pago Pago Harbor.

Under proposed permit conditions, both canneries are required to meet final effluent limits for temperature, suspended solids, oil and grease, pH, nitrogen, phosphorus, ammonia, zinc, and copper. The proposed permits that both canneries shall meet stringent final effluent limits that are based on American Samoa Water Quality Standards for Pago Pago Harbor. EPA has made a preliminary determination that the proposed permit would have no effect on any federally-listed threatened or endangered species.

The Administrative Records for the draft permits, which include the applications, draft permits, fact sheets, and all data sent by the applicant for the permits, are available for public inspection. The administrative records may be viewed Monday through Friday from 9:00 a.m. until 4:00 p.m. at the EPA address below.

Persons wishing to comment upon the draft permit or request a public hearing pursuant to 40 CFR 124.12 should submit their comments or requests in writing within 30 days from the date of this notice, either in person or by mail to:

Environmental Protection Agency, Region 9
Water Act Standards and Permits Office (WTR-5)
Sara Roser
75 Hawthorne Street
San Francisco, California 94105
Telephone: (415) 744-1914

Copies of the applications, draft permits, and fact sheets are also available for public review Monday through Friday from 8:00 a.m. to 4:00 p.m. at the following office:

Environmental Quality Commission
American Samoa Government
Pago Pago, American Samoa 96799

Contact Person: Togipa Tausaga, Director

The Environmental Quality Commission is reviewing the draft permits and may:

1. certify the draft permits without comments; or
2. certify the draft permits and impose conditions more stringent than those contained therein; or
3. deny the certification of the draft permits.

All comments submitted within 30 days from the date of this notice will be considered in the formulation of the final permit. If the response to this notice indicates a significant degree of public desire for a public hearing, the Regional Administrator shall hold one in accordance with 40 CFR 124.12. A public notice of such hearing will be issued at least 30 days prior to the hearing. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

If the draft permits become final, and there are no appeals, discharge from and operation of the identified facilities may proceed or continue, subject to the conditions of the permits and other applicable permits and legal requirements.

EPA will prepare and issue a final permit after reviewing all comments received during the public comment period. If no comments are submitted on the draft permit, the final permit will become effective three (3) days from the date of mailing. If comments are submitted on the draft permit, the final permit will become effective 33 days from the date of mailing, unless a petition is filed with the Environmental Appeals Board (EAB) to review any conditions of the final permit under 40 CFR 124.19(a), as revised at 65 Fed. Reg. 30886, 30911 (May 15, 2000). A copy of such petition should be sent to the EPA address listed above.

As stated in newly-revised 40 CFR 124.19(a), within 33 days after EPA issues the final permit, any person who filed comments on the draft permit or participate don the public hearing may petition the EAB to review any condition of the permit decision. Any person who failed to file comments or failed to participate in a public hearing on the draft permit may petition for administrative review only with regard to changes made from the draft permit to the final permit. The petition shall include a statement of the reasons supporting the review, including a demonstration that any issues being raised were raised during the public comment period (including any public hearing) to the extent required by these regulations and, when appropriate, a showing that the condition in question is based on: (1) a finding of fact or conclusion of law which is clearly erroneous; or (2) an exercise of discretion or an important policy consideration which the EAB should, in its discretion, review. Under 40 CFR 124.16 and 124.60, a petition for review under 40 CFR 124.19 says the force and effect of the contested conditions of the final permit until final agency action under 40 CFR 124.19(f).

Please bring the foregoing notice to the attention of all persons you know would be interested in this matter.

To: Carl Gollstein
From: Joshua Craig, ASEPA
One page

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

October 24, 2000

Phil Thirkel, General Manager
StarKist Samoa, Inc.
P.O. Box 368
Pago Pago, American Samoa 96799

Re: StarKist Samoa. Inc.
NPDES Permit No. AS0000019

Dear Mr. Thirkel:

Attached is the draft NPDES permit, a fact sheet, and a joint notice of proposed action for StarKist Samoa, Inc. The joint notice of proposed action will be published in a local newspaper shortly. The target date for publication is October 30, 2000. The formal public comment period will begin on the day the notice is published and will end 30 days from the date of the notice. Please review the enclosed documents and provide comments to EPA by the close of the comment period.

As stated in the joint notice of proposed action, please submit comments to:

U.S. Environmental Protection Agency, Region IX
CWA Office of Permits and Standards, WTR-5
Attn: Sara Roser
75 Hawthorne Street
San Francisco, CA 94105-3901

Please contact me at (415) 744-1914 if you have any questions regarding the permit.

Sincerely,

Sara Roser

Sara Roser
CWA Standards and Permits Office (WTR-5)

Enclosures

cc: Togipa Tausaga, Director ASEPA
Margaret Dupree, National Marine Fisheries Service
Paul Henson, US Fish and Wildlife Service
Nancy Daschbach, National Marine Sanctuaries
Mike Dworsky, American Samoa Power Authority
Lelei Peau, Department of Commerce
Department of Marine Resources, American Samoa Government
Department of Public Safety, American Samoa Government

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Pat

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, Ca. 94105-3901

11 FEB 1992

CERTIFIED MAIL NO. P 057 506 640
Return Receipt Requested

Maurice W. Callaghan
General Manager
Star-Kist Samoa, Inc.
P.O. Box 368
Pago Pago, American Samoa 96799

Re: Amendment to Existing Administrative Order Allowing Use of Newly Constructed Outfall

Dear Mr. Callaghan:

This is in reference to our Administrative Order, Docket No. IX-FY90-22, issued to Star-Kist Samoa, Inc. on June 18, 1990.

In their January 23, 1992 letter, Jim Cox of Van Camp Seafood Co., Inc. and Norman Wei, Star-Kist Seafood Company, requested authorization for the canneries to test out and begin discharging from the recently-constructed joint cannery outfall in Pago Pago Harbor prior to formal issuance of VCS Samoa Packing's and Star-Kist Samoa's new NPDES permits. These new permits will allow for the discharge of cannery wastewater through the new joint cannery outfall. Their letter also requested that Star-Kist Samoa be allowed temporary use of its existing outfall (Outfall 001) in the event that problems develop preventing the physical use of the new joint outfall.

Authorization is being requested to begin discharging from the new outfall beginning on February 10, 1992. This is prior to the March 7, 1992 deadline established by the existing Administrative Order, by which Star-Kist's effluent is required to meet the effluent limits based on American Samoa water quality standards. In the event there are malfunctions with the new outfall and equipment, Star-Kist Samoa would like to maintain the option of utilizing its existing outfall (Outfall 001) for discharge of effluent until these problems with the new outfall can be corrected.

During the development of these draft NPDES permits, U.S. Environmental Protection Agency (USEPA) staff have been in close communication with the canneries' staffs and consultants and with the American Samoa Environmental Protection Agency (ASEPA) staff to clarify and discuss our various concerns regarding the new

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permits. Star-Kist Samoa's draft NPDES permit will soon be undergoing public review and comment, and at the earliest, is not anticipated to become effective until April.

Given the early completion of the new joint cannery outfall and that issuance of the new NPDES permit is not anticipated until April, after the existing NPDES permit's water quality compliance deadline, we have determined that early utilization of the new outfall is in the interest of improving the water quality of Pago Pago Harbor.

Based on the above considerations, the Order for Compliance Section of the Administrative Order, Docket No. IX-FY90-22, is hereby amended to include the following provisions:

15. Effective February 10, 1992, respondent is authorized to begin discharging effluent from the new joint cannery outfall. The initial period of discharge shall be for test purposes and shall be governed by the following paragraph.

16. For testing purposes, respondent shall notify ASEPA, USEPA and the American Samoa Attorney General (ASAG), 24 hours prior to commencing any discharge from the new joint cannery outfall for test purposes. Respondent shall also notify the above-mentioned parties 24 hours prior to cessation of testing operations. Respondent shall provide a written report within 10 days of completing testing operations. The report shall include, but not be limited to, duration of testing period, daily volume of discharge from the new joint outfall and/or discharge from the present outfall during the test period, and noted deficiencies and corrective actions taken and/or planned as a result of testing operations.

17. Twenty-four hours prior to start-up of regular discharge from the new joint outfall, respondent shall notify ASEPA, USEPA and ASAG in writing, of when it will begin utilizing the new joint outfall and cease discharging from its present outfall (Outfall 001). At the start-up of regular discharges from the new joint outfall, respondent will cease discharging from its present outfall (Outfall 001).

18. Discharge from the new joint outfall shall be subject to the effluent limitations, monitoring and reporting requirements as presented in Attachment 1, which is hereby incorporated into and made a part of this Order. Effluent limitations and monitoring and reporting requirements shall become effective upon the commencement of discharging from the new joint outfall. Except as stated in the Order for Com-

pliance, all other terms and conditions of respondent's present NPDES Permit, AS0000019, shall remain in effect until issuance of its new permit for the joint outfall.

19. For discharge from the new joint outfall, respondent shall submit a monthly report on the sampling and analyses identified in Attachment 1 by no later than the 15th day of the month following the month in which the samples were taken. This report shall be signed by a responsible company official certifying its accuracy.

20. Respondent is authorized to discharge effluent from its present outfall (Outfall 001) should problems develop with the new joint outfall which requires it being shut down for repair. Effluent from Outfall 001 is subject to terms and conditions of respondent's NPDES Permit No. AS0000019 and the terms of this Order and subsequent amendments. This authorization is effective as long as NPDES Permit No. AS0000019, as issued by EPA on February 3, 1987, is in effect, after which respondent must cease utilization of Outfall 001, seal the outfall with a blind flange and certify to ASEPA, USEPA and ASAG that this outfall has been effectively decommissioned. Such certification must be submitted within 30 days of the last effective day of NPDES Permit No. AS0000019.

22. Respondent shall notify ASEPA, USEPA and ASAG in writing, 24 hours in advance of when it intends to utilize the present outfall (Outfall 001) under situations outlined in Paragraph 20 above. Respondent shall detail the problems encountered, a schedule of repair, and when the new outfall will be back in service.

23. This Order shall expire upon the effective date of respondent's new NPDES permit for the joint outfall and upon written determination by EPA that the respondent has demonstrated, to the satisfaction of the ASEPA and USEPA, compliance with its water quality-based effluent limits and addressed all requirements of the Order. However, this Order may be modified if there are substantial delays before the new NPDES permit becomes effective.

Any violation of the terms of Order IX-FY90-22 as amended by this letter or any violation of Section 301(a) of the Act could subject Star-Kist Samoa, Inc. to a civil action for appropriate relief pursuant to Section 309(b) of the Act [33 U.S.C. Section 1319(d)] and/or civil penalties under Section 309(d) of the Act [33 U.S.C. Section 1319(d)]. In addition, Section 309(c)(1) of the Act [33 U.S.C. Section 1319(c)(1)] provides that a willful or

negligent violation shall be punished by a fine of not less than $2,500 or more than $25,000 per day of violation or imprisonment for not more than one year, or both.

If you have any questions in relation to this matter, please contact Pat Young at (415) 744-1591 or Doug Liden at (415) 744-1921.

Sincerely,

Alexis Strauss
for Harry Seraydarian
Director, Water Management Division

Attachment

cc: William Coleman, ASEQC
Pati Faiai, ASEPA
Sheila Wiegman, ASEPA
Virginia Gibbons, ASAG
Jim Cox, Van Camp Seafood Co., Inc.
Norman Wei, StarKist Seafood Company
Steve Costa, CH2MHill

TACHMENT 1

STAR-KIST SAMOA, INC.
EFFLUENT LIMITS AND MONITORING REQUIREMENTS FOR THE JOINT CANNERY OUTFALL

Effluent shall be sampled prior to its entry into the joint cannery outfall. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS 30-DAY AVG.	DAILY MAX.	MONITORING REQUIREMENTS MEASUREMENT FREQUENCY	SAMPLE TYPE
FLOW (mgd)	---	2.9	Continuous	Recorder
SUSPENDED SOLIDS (lbs/day)	2653	6673	Twice/week	Composite
OIL AND GREASE (lbs/day)	675	1688	Twice/week	Grab (Calculated)
TOTAL PHOSPHORUS (lbs/day)	192	309	Twice/week*	Composite
TOTAL NITROGEN (lbs/day)	1200	2100	Twice/week*	Composite
TOTAL AMMONIA (mg/l)	--	133	Once/week	Composite
TEMPERATURE (F)	90	95	Continuous	Continuous
pH	---	**	Continuous	Grab

* Sampling is required twice/week on production days. Should the permittee wish to monitor the effluent on a non-production day(s), the permittee must monitor for the six consecutive days following the non-production day on which the first sample was taken. The average of all samples taken during that month will determine compliance with the "monthly average".

** The pH is limited between 6.5 and 8.6 standard units.

REPORTING: Discharge data obtained during the previous month shall be summarized and reported monthly and should be submitted no later than the 15th day of the following month.

January 23, 1992

Pat Young
American Samoa Program Manager (E-4)
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105

Dear Pat:

The canneries (StarKist Samoa, Inc. and Samoa Packing) are planning to commence pumping their treated effluent through the newly installed joint marine pipeline during the week of February 10th. This mode of discharge will continue through to March 7th and beyond unless there are mechanical problems with the pumping system in which case the existing outfalls will be utilized until the problem is corrected.

In view of the fact that the NPDES permits will not likely be issued in time for the March 7, 1992 deadline, the canneries hereby request permission to test out and utilize the new pipeline sytem starting the week of February 10, 1992.

The canneries understand that the proposed new NPDES limits will be in effect when the new pipeline is used. The existing interim limits will apply when the existing outfalls are utilized.

We thank you for your assistance in helping to expedite this matter.

Sincerely,

STARKIST SEAFOOD COMPANY

Norman S. Wei
Senior Manager
Environmental Engineering

VAN CAMP SEAFOOD CO., INC.

James L. Cox
Director
Engineering and Environmental Affairs

cc: M. Macready - Samoa Packing
M. Callahan - StarKist Samoa, Inc.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, Ca. 94105

30 OCT 1991

Maurice W. Callaghan
General Manager
StarKist Samoa, Inc.
P.O. Box 368
Pago Pago, American Samoa 96799

Re: Revision of Interim Effluent Limits for Nitrogen and Temperature for USEPA's Administrative Order Issued to StarKist Samoa, Inc.

Dear Mr. Callaghan:

On October 4, 1991 Norman Wei of your company had an extensive discussion with staff from the Office of Pacific Island and Native American Programs regarding StarKist Samoa's draft assessment of its Dissolved Air Flotation (DAF) Unit. This assessment, to maximize the removal efficiency rate for both nitrogen and phosphorus from StarKist's effluent, and implementation of its findings, was required by EPA's letter of August 13, 1991, which modified StarKist's interim effluent limit for nitrogen as established by USEPA's Administrative Order, Docket No. IX-FY90-22.

Mr. Wei's assessment of the DAF unit is that it is designed primarily to remove oil and grease, particulate matter and phosphorus through chemical coagulation, and its consistency and high removal efficiency of these pollutants indicate no operational problems. However, the DAF's removal efficiency of nitrogen, especially in soluble form, is more problematic. Mr. Wei recently had a laboratory in Hawaii analyze the cannery influent and effluent which showed that about 72 to 80 percent of the total nitrogen is in soluble form, and that the soluble TN fraction in the treated effluent averages 85 percent. However, the DAF unit is able to remove about 60 percent of the particulate total nitrogen loading.

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Mr. Wei also contends that the plant has been implementing various forms and degrees of waste minimization, from water reduction to vacuum cleaning, which, coupled with high-strength waste segregation, has resulted in a substantial decrease in the nitrogen influent loadings to the DAF unit, and a decrease in its removal efficiency. Monthly average dosages of alum and polymer to the DAF unit has not decreased, in fact, substantial increases in chemical dosages were noted in May and July.

It was also noted by Mr. Wei that StarKist was in violation of its modified monthly average interim effluent limit for nitrogen for the month of August, as it was unable to meet the reduced 25% removal efficiency rate established in our letter of August 13, 1991 (the original rate was 35%). He expressed concern that StarKist would not be able to consistently meet the interim effluent limits for nitrogen because of the factors stated above.

We have reviewed the monitoring data from August 1990 through August 1991, and the additional data submitted by Mr. Wei. Based on our review, we are revising the interim effluent limits for nitrogen by eliminating the DAF efficiency rate of 25%, and replacing it with limits based on pounds of nitrogen per ton of fish processed. The previous fixed monthly average limit of 1675 lbs./day and the daily maximum limit of 2440 lbs./day remain the same.

Thus, effective as of September 1, 1991, USEPA hereby modifies its Administrative Order issued on June 18, 1990 to StarKist Samoa, Inc. (Docket No. IX-FY90-22), by revising Section 3 of the Order for Compliance as follows (changes are in bold):

(a) Monthly Average of Total Nitrogen (lbs./day): The lesser of i) 1675 lbs/day, OR, ii) **(3.76 lbs. of total nitrogen/ton of fish processed/day) x (Monthly average of fish processed in tons/day)**

(b) Daily Maximum of Total Nitrogen (lbs./day): The lesser of: i) 2440 lbs./day, OR, ii **(4.66 lbs. of total nitrogen/ton of fish processed/day) x (Daily maximum of fish processed in tons/day).**

The new interim effluent limits were calculated using the effluent data from August 1990 through August 1991, "normalizing" the data to reflect pounds of nitrogen produced per ton of tuna processed. The "normalized" monthly average limit of 3.76 is one standard deviation plus the 12-month average of the effluent data in pounds of nitrogen produced per ton of fish processed, multiplied by that month's average of fish processed in tons per day.

The "normalized" daily maximum limit of 4.66 is two standard deviations plus the 12-month average of the effluent data in pounds of nitrogen produced per ton of fish processed, multiplied by that month's daily maximum production in tons of fish processed per day.

In another matter pertaining to interim effluent limits, we recently received the American Samoa Environmental Quality Commission's (ASEQC) request to approve its adoption of a variance of its water quality standards, specifically, a variance of temperature limits for StarKist's discharges to Pago Pago Harbor until March 7, 1992. As you pointed out in your letter to us of March 7, 1991, on March 8, 1991, Star-Kist's daily maximum temperature effluent limit changed from an interim limit of 90 degrees Farenheit to 85 degrees Farenheit, which is based on American Samoa's water quality standard for temperature.

We understand that Star-Kist has installed a temperature control management system which was to be on-line in May 1991. Your request for extension of the interim effluent limit for temperature was to accommodate completion, start-up and testing of this system which is designed to achieve the 85 degree Farenheit temperature limit. By March 7, 1992, Star-Kist expects to consistently meet the effluent daily maximum temperature limit of 85 degrees Farenheit.

After public notice and a public hearing on this variance request, the ASEQC granted a variance on April 10, 1991, finding that 1) the discharge at a temperature of 90 degrees Fahrenheit would not endanger human health or safety; 2) compliance with the temperature limitation would likely produce serious hardship without equal or greater benefits to the public; and 3) the relative interests of the public, other property owners, and the applicant were considered.

EPA hereby approves the variance to the American Samoa water quality standards for temperature for StarKist Samoa NPDES Permit No. AS0000019 and the Administrative Order is modified to add two additional conditions to Section 3 of the Order for Compliance, as follows (changes are in bold):

"3. Respondent shall, no later than August 1, 1990, achieve and thereafter maintain compliance with the following interim effluent limits for nitrogen, ~~and~~ phosphorus **and temperature** and shall remain in compliance with these interim effluent limits at all times until March 6, 1992:"

A new subsection, (e), shall be added as follows:

"(e) Daily Maximum of Temperature: 90 degrees Farenheit."

These changes are effective as of April 10, 1991, the date of the EQC's approval of its variance.

Should you have any questions regarding any of these changes, please contact Pat Young, American Samoa Program Manager, at (415) 744-1591.

Sincerely,

Keith Takata

for Harry Seraydarian
Director, Water Management Division

cc: William Coleman, ASEQC
Pati Faiai, ASEPA
Virginia Gibbons, AS Attorney General's Office
American Samoa High Court
Norman Wei, StarKist Seafoods, Inc.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, Ca. 94105

13 AUG 1991

Maurice W. Callaghan
General Manager
StarKist Samoa, Inc.
P.O. Box 368
Pago Pago, American Samoa 96799

Re: Revision of Interim Effluent Limits for Nitrogen for the EPA Administrative Order Issued to StarKist Samoa, Inc.

Dear Mr. Callaghan:

We are in receipt of correspondence from you and Norman Wei requesting the U.S. Environmental Protection Agency (USEPA) consider modifying the interim effluent limits for nitrogen presently established under the USEPA's Administrative Order, Docket No. IX-FY90-22, issued June 18, 1990 to StarKist Samoa, Inc. You requested that USEPA consider rescinding the 35 percent removal efficiency requirement of the Dissolved Air Flotation (DAF) wastewater treatment system which is used in calculating the monthly interim effluent limits of nitrogen and phosphorus for your cannery's wastewater discharge as permitted under the National Pollutant and Discharge Elimination System (NPDES) Permit No. AS0000019. The basis for your request was as follows:

- Your review of the influent and effluent data since high-strength waste segregation began in August of 1990 shows that the removal efficiency of the DAF cell for nitrogen decreases as the influent concentration decreases. The monthly average loadings for nitrogen has decreased substantially since August.

- Your analysis of the nitrogen shows that 66-76 percent of the influent nitrogen is in soluble form, thus you maintain that consistent attainment of the 35 percent removal rate is not possible with a DAF unit.

- StarKist is attempting to decrease its influent loadings through implementation of a source reduction

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program. Due to the recent penalties incurred for violations of its IEL for nitrogen calculated utilizing the 35% removal rate, StarKist may eliminate this program if the 35% removal rate is not rescinded to avoid future penalties.

Under the Order for Compliance, Section 4(e), the Administrative Order allows for adjusting StarKist's National Pollutant Discharge Elimination System (NPDES) permit's interim effluent limits for nitrogen and phosphorus at EPA's sole discretion after EPA reviewed the first three months of data after high-strength waste segregation. Our review of the data at that time did not compel us to change these limits. However, based on your request and our review of the monitoring data from August 1990 through May 1991 we are revising the interim effluent limits for nitrogen to utilize a DAF efficiency rate of 25%, a monthly average limit of 1675 lbs./day and a daily maximum limit of 2440 lbs./day (see below).

Our review of the data to date shows a definite trend over the 9 months since high-strength waste segregation of a decrease in StarKist's influent loadings, both in lbs. of nitrogen/day and lbs. of nitrogen/ton of fish processed. However, we cannot ascertain if there is a **direct correlation** between the decrease in loadings and the reduction in the DAF efficiency. Some of the data over the last three months show a few negative removal rates as well as some very low rates (below 15 percent) which significantly contributed to the monthly average and daily maximum effluent limit violations. It is also our observation that removal rates are not consistent; for example, influent loads ranging from 1400 lbs./day to 1600 lbs./day have shown removal rates of 4, 10, 34, 41, 50, 57 percent. Based on these inconsistencies, we question if the lower removal rates, especially the reported negative rates, are partially attributable to operational or sampling problems. We also note that Samoa Packing's influent loadings have decreased somewhat over the months, yet they are maintaining a constant removal rate of 74%. Based on the above observations, we feel that a modification of the interim effluent limits for nitrogen is warranted but not elimination of the DAF efficiency rate.

Thus, effective as of August 1, 1991, USEPA hereby modifies its Administrative Order issued on June 18, 1990 to StarKist Samoa, Inc. (Docket No. IX-FY90-22), by revising Section 3 of the Order for Compliance as follows (changes are in bold):

(a) Monthly Average of Total Nitrogen (lbs./day): The lesser of i) **1675** lbs/day, OR, ii) (Monthly Average Total Nitrogen Influent [lbs./day]) x (**0.75**).

(b) Daily Maximum of Total Nitrogen (lbs./day): The lesser of: i) **2440** lbs./day, OR, ii (Daily Maximum Total Nitrogen Influent [lbs./day]) x **(0.75)**.

The new fixed interim effluent limits were calculated using the standard deviations for the effluent data from August 1990 through May 1991. The new monthly average limit is one standard deviation plus the average of the monthly effluent averages. The new daily maximum limit is two standard deviations plus the average of the daily values.

The 25% efficiency rate is one standard deviation less than the average removal efficiency rate over the last five months, the average calculated by excluding removal rates below 10%.

The Administrative Order is also modified to add two additional conditions under Section 3 of the Order for Compliance as follows:

13. Respondent shall commence, as soon as possible, an analysis of its DAF process to assess and maximize its removal efficiency rate for both nitrogen and phosphorus. The results of this analysis shall be implemented as soon as possible and a report of this analysis and results of the implementation shall be submitted to EPA and ASEQC, in writing, no later than November 1, 1991.

14. No later than August 31, 1991, Respondent shall document its present nitrogen and phosphorus source reduction activities, providing information on the activities implemented, when implemented and future activities scheduled, and the effects of these activities on influent loadings.

Should you have any questions regarding the new interim effluent limits and conditions to the Administrative Order, please contact Pat Young at (415) 744-1591.

Sincerely,

Harry Seraydarian
Director, Water Management Division

cc: Pati Faiai, Director, ASEPA
Virginia Gibbons, AS Office of the Attorney General
American Samoa High Court
Norman Wei, StarKist Seafoods, Inc.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, Ca. 94105

February 19, 1991

Pati Faiai
Director
American Samoa Environmental
Protection Agency
Office of the Governor
Pago Pago, American Samoa 96799

Dear Pati:

As stated in the Administrative Orders issued by the U.S. Environmental Protection Agency (USEPA) on June 18, 1990 to the two canneries in American Samoa, the interim effluent limits (IEL) for their nitrogen and phosphorus could be adjusted, "...**at EPA's sole discretion**" after analysis of data collected during the first three months of segregation and ocean disposal of high-strength cannery waste. Our analysis of the compliance data submitted to date has shown that the canneries are meeting the existing IELs with a few exceptions, thus we do not believe that adjusting the existing IELs is necessary.

The data show that high-strength waste (HSW) segregation has significantly reduced the nutrient loading into Pago Pago Harbor. ASEPA water quality monitoring data and firsthand observation of the Inner Harbor also indicate considerable improvement in water quality. This has been an important first step toward the canneries' ultimate compliance with American Samoa water quality standards and restoration of harbor water quality.

As you will recall, the interim effluent limits for nitrogen and phosphorus reflected in the administrative orders and ASG consent agreements were calculated using effluent data obtained prior to HSW segregation and estimated a removal rate of 60% nutrient loadings due to HSW segregation alone. The 60% removal rate was obtained from past studies of the canneries' processing systems. (Star-Kist was also given a loading factor of 1.22 based on its application's production rate of 500 lbs./day and

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actual past production.) The interim effluent limits also factored in a DAF removal efficiency rate of 35%, thus the limits were set at the lesser of: 1) a numerical loading value; or, 2) the DAF influent loading multiplied by 0.65.

In its December 19, 1990 letter to USEPA, StarKist Seafood Company put forth an argument, based on actual field data, that because there was a much lower percentage removal of total phosphorus (36.5%) from HSW segregation than was used in caculating the present IEL (60%), an adjustment of its phosphorus IELs was justified.

While we acknowledge that the assumptions which were utilized to calculate the IELs could be slightly adjusted based on the data obtained from actual HSW segregation and DAF processes, our review of the compliance record shows that the canneries are achieving the existing IELs with few exceptions. Thus, in the interest of maximizing the improvements in water quality of Pago Pago Harbor, we find no compelling reason to change the existing IELs for nitrogen and phosphorus for either cannery.

In November, Samoa Packing requested a slight increase in its production from 320 tons/day to 340 tons/day which we initially agreed to with the understanding that their total suspended solids and oil and grease loading limits (lbs./day) would remain the same but the limits would be adjusted for lbs./1000 lbs. of seafood based on the 320-340 tons/day production rate change. Thus Samoa Packing's proposed new interim effluent limits for these parameters are as follows:

	New IEL		**Former Permit Limit**	
	Monthly Average	**Daily Max.**	**Monthly Average**	**Daily Max.**
Total Suspended Solids (lbs./day)	No Change		2,100	5,300
Total Suspended Solids (lbs./1000 lbs. seafood)	3.1	7.8	3.3	8.3
Oil and Grease (lbs./day)	No Change		540	1,300
Oil and Grease (lbs./1000 lbs. seafood)	0.79	1.9	0.84	2.1

We understand that the American Samoa Environmental Quality Commission met recently and indicated that it also felt the IELs

for nitrogen and phosphorus should remain unchanged. We would appreciate your comments on our proposal regarding the IELs, after which we will take the appropriate actions to inform the canneries and the ASG of our decision.

Please feel free to call Pat Young at (415) 744-1591 to discuss this further.

Sincerely,

for Pat Young
Norman L. Lovelace
Chief, Office of Pacific Island and
Native American Programs

cc: Sheila Wiegman, ASEPA
Virginia Gibbons, AS Attorney General's Office
William Coleman, EQC

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 9

IN THE MATTER OF:	)	
	)	Docket No. IX-FY90-22
STAR-KIST SAMOA, INC.	)	
Pago Pago, American Samoa	)	
	)	
Proceedings Under Sections 308(a) and 309(a) of the Clean Water Act, as amended, 33 U.S.C. §§ 1318(a) and 1319(a).	)	FINDINGS OF VIOLATION AND ORDER FOR COMPLIANCE

STATUTORY AUTHORITY

The following Findings are made and Order issued pursuant to the authority vested in the Administrator of the Environmental Protection Agency ("EPA") by Sections 308(a) and 309(a) of the Clean Water Act ("CWA"), 33 U.S.C. §§ 1318(a) and 1319(a). The Administrator has delegated these authorities to the Regional Administrator of EPA Region 9, who has in turn delegated them to the Director of the Water Management Division of EPA Region 9, who hereby makes these Findings of Violation and issues this Order for Compliance.

FINDINGS OF VIOLATION

1. Star-Kist Samoa, Inc. ("Respondent"), a person within the meaning of Section 502(5) of the Act, 33 U.S.C. §1362(5), owns and operates a tuna cannery located at Pago Pago, American Samoa, which is a point source that discharges pollutants into Pago Pago Harbor, a water of the United States, all within the

Administrative Order

respective definitions established in Section 502(5) of the Act, 33 U.S.C. §1362(5), Respondent is therefore subject to the provisions of the Act, 33 U.S.C. §1251 et seq.

2. Section 301(a) of the Act, 33 U.S.C. §1311(a), provides that except as in compliance with certain specified sections of the Act, including Section 402, "the discharge of any pollutant by any person shall be unlawful." Section 402 of the Act, 33 U.S.C. §1342, authorizes EPA to issue a National Pollutant Discharge Elimination System ("NPDES") permit allowing for the discharge of pollutants into waters of the United States. Compliance with Section 301(a) of the Act therefore requires, inter alia, compliance with a valid NPDES permit.

3. EPA, under the authority of Section 402(b) of the Act, issued NPDES Permit No. AS0000019 (the "Permit") to Star-Kist Samoa, Inc. on February 3, 1987, to become effective on March 8, 1987 and to expire on March 7, 1992. On February 27, 1987, Respondent sought an evidentiary hearing on certain of the provisions of the permit, including the requirement that Respondent come into compliance with the interim effluent limitations for nitrogen and phosphorus set forth in the permit. The Regional Administrator denied Respondent's request for an evidentiary hearing on this issue and Respondent appealed to the Administrator. On September 26, 1989, the Administrator denied Respondent's appeal and ruled that the interim effluent limits set forth in the permit for nitrogen and phosphorus were to become effective immediately. On October 25, 1989 Respondent

served its Petition for Reconsideration of the Administrator's Order, and on November 3, 1989 the Chief Judicial Officer denied Respondent's Petition.

4. Condition I.A.2.a. of the Permit allows Respondent to discharge a daily maximum 4,300 lbs./day and a monthly average of of 2,200 lbs./day of nitrogen. Monitoring of such discharge is required twice weekly.

5. Respondent has violated Section 301(a) of the Act, 33 U.S.C. § 1311(a), by violating Condition I.A.2.a. of the Permit in that Respondent discharged the amounts of nitrogen set forth in Appendix A annexed hereto and made a part hereof on each date set forth in Appendix A.

6. On the basis of the facts specified in paragraphs 1 through 5 above, the Director of the Water Management Division of EPA Region 9 hereby finds Respondent in violation of Sections 301(a) and 402 of the Act, 33 U.S.C. §§ 1311(a) and 1318.

ORDER FOR COMPLIANCE

Based on the foregoing Findings, and considering the potential environmental and human health effects of the violation, EPA has determined that compliance in accordance with the following requirements is reasonable. Pursuant to the authority of Sections 308 and 309 of the Act, 33 U.S.C. §§ 1318 AND 1319, IT IS HEREBY ORDERED that Respondent comply with the following requirements:

1. Not later than July 31, 1990, Respondent shall install all necessary equipment for and implement a system capable of segregating and removing all Dissolved Air Flotation sludge,

press water and pre-cooker juice (i.e., those wastes that are high in nitrogen and phosphorus) from present cannery effluent (hereinafter referred to as "High Strength Waste Segregation").

2. Not later than July 31, 1990, Respondent shall segregate and remove all such high strength wastes from its effluent, shall barge all such high strength wastes to the designated ocean dump site, as identified in 55 Federal Register 3948 (Feb. 6, 1990) and shall dump such high strength wastes at that ocean dump site. Thereafter, Respondent shall no longer dispose of said effluent through its NPDES permitted point source, i.e., Outfall Serial No. 001.

3. Respondent shall, no later than August 1, 1990, achieve and thereafter maintain compliance with the following interim effluent limits for nitrogen and phosphorus and shall remain in compliance with these interim effluent limits at all times until March 6, 1992:

(a) Monthly Average of Total Nitrogen (lbs./day): The lesser of i) 1,785 lbs./day, OR ii) (Monthly Average Total Nitrogen Influent [lbs./day]) x (0.65).

(b) Daily Maximum of Total Nitrogen (lbs./day): The lesser of: i) 2,745 lbs./day, OR, ii) (Daily Maximum Total Nitrogen Influent [lbs./day]) x (0.65).

(c) Monthly Average of Total Phosphorus (lbs./day): The lesser of: i) 170 lbs./day, OR, ii) (Monthly Average Total Phosphorus Influent [lbs./day]) x (0.65).

(d) Daily Maximum of Total Phosphorus (lbs./day): The lesser of: i) 320 lbs./day, OR, ii) (Daily Maximum Total Phosphorus Influent [lbs./day]) x (0.65).

4. Monitoring Requirements and Adjustment of Interim Effluent Limits for Nitrogen and Phosphorus

(a) Commencing on August 1, 1990 and continuing through the earlier of October 31, 1990 or that date which is three consecutive months after the commencement of High Strength Waste Segregation, Respondent shall collect, twice weekly, composite samples (as such term is defined in Respondent's NPDES permit) of each of the following waste streams: (i) precooker juice, (ii) presswater, (iii) DAF influent and (iv) DAF effluent. Monitoring must be conducted using only those test procedures allowed under Respondent's NPDES permit.

(b) Each of the waste stream composite samples identified in subparagraph (a) shall be analyzed twice weekly for the following parameters. Analysis for each parameter shall be performed in the manner specified in Respondent's NPDES permit, with the exception of oil and grease, which shall be sampled and analyzed in the manner specified below.

i) Total nitrogen (daily maximum and monthly average in mg./l);

ii) Total phosphorus (daily maximum and monthly average in mg./l);

iii) Total Suspended Solids (daily maximum and monthly average in mg./l); and

iv) Daily Flows (daily maximum and monthly average in MGD).

(c) Commencing on August 1, 1990 and continuing through the earlier of October 31, 1990, or that date which is three consecutive months after the commencement of High Strength Waste Segregation, Respondent shall monitor each of the waste streams identified in subparagraph (a) for oil and grease as follows: each oil and grease sample shall consist of four individual grab samples ("sub-samples") which shall be taken at even intervals during each production period in which samples are taken. Each sub-sample shall be separately analyzed. The results of each sub-sample, and the mean value of the four sub-samples, shall be reported for daily maximum and monthly average (in mg./l).

(d) Respondent shall submit a monthly report providing the results of the sampling and analyses identified above to the American Samoa Environmental Quality Commission (ASEQC) and the United States Environmental Protection Agency (EPA) no later than seven (7) days after the last day of each month in which data has been collected. The report shall be signed by a responsible corporate officer, who shall certify the accuracy of its contents in the manner set forth herein.

(e) The formulas for the calculation of interim effluent limits for nitrogen and phosphorus set forth in paragraph 1 above utilize a Dissolved Air Flotation (DAF) removal efficiency rate of 35%. This removal efficiency

rate (and therefore the interim effluent limitation) may be adjusted, at EPA's sole discretion, after analysis of the data collected pursuant to subparagraphs (a) and (b) above.

(f) Except as expressly provided for in subparagraphs (a) through (c) above, all monitoring, sampling and reporting required by this Order shall be performed pursuant to and in accordance with Respondent's NPDES permit.

5. Respondent shall commence, as soon as possible, an engineering feasibility study or studies to assess the viable and potentially feasible alternatives for achievement of its NPDES permit final effluent limits based on the American Samoa Water Quality Standards ("water quality-based effluent limits"). Such study or studies shall be completed no later than March 31, 1991. Respondent shall provide EPA and ASEQC with interim written status reports regarding the progress and findings of such studies as such information becomes available, but no less often than once every three months.

6. Not later than May 31, 1991, Respondent shall notify EPA and ASEQC, in writing, of its selected method or combination of methods for achieving compliance with its water quality-based effluent limits (the "selected alternative").

7. Not later than March 5, 1992, Respondent shall complete all actions necessary to meet its water quality-based effluent limits under the selected alternative.

8. Not later than March 7, 1992, Respondent shall achieve compliance with its water quality-based effluent limits.

9. If Respondent fails to meet any compliance deadline or interim effluent limitation set forth herein, Respondent shall file a written noncompliance report with EPA and ASEQC within ten days of the missed deadline or exceeded limit. The report shall specifically describe the impact of the event, provide a summary of the reasons for or explanation regarding the event, the anticipated time of non-compliance, and the measures to be taken to prevent or minimize the impact of the event.

10. All applications, certifications and reports submitted pursuant to this Order shall be signed by a principal executive officer of Respondent and shall include the following statement:

> I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

11. Nothing contained in this Order shall affect Respondent's continuing obligation to comply with the Clean Water Act and with each and every term and condition of its Permit. This Order is not and shall not be interpreted to be an NPDES Permit under Section 402 of the Act, 33 U.S.C § 1342, nor shall compliance with this Order be deemed to be compliance with the Permit.

12. All submissions required by this Order shall be mailed to the following addressees:

U.S. Environmental Protection Agency, Region 9
Office of Pacific Island and Native American Programs
1235 Mission Street
San Francisco, CA 94103
Attention: Norman L. Lovelace (E-4)

American Samoa Environmental Quality Commission
Office of the Governor
American Samoa Government
Pago Pago, American Samoa 96799
Attention: Pati Faiai

Date: JUN 18 1990

for Steve Rudich

Harry Seraydarian
Director
Water Management Division
U.S. EPA, Region 9
1235 Mission Street
San Francisco, CA 94103

APPENDIX A

SUMMARY OF DISCHARGE MONITORING REPORTS

Name of Discharger: Star-Kist Samoa, Inc.
NPDES Permit No.: AS0000019
Reporting Period: September, 1989 through February, 1990

Permit Condition	Effluent Constituents	Effluent Limitation	Month and Yr.	Value(s) Reported in Violation
A.2.a	Total Nitrogen	2200 lbs/day Monthly Average	Oct. 89	3044
			Nov. 89	3468
			Dec. 89	3287
			Jan. 90	3147
			Feb. 90	2770
		4300 lbs/day Daily Maximum	Oct. 89	4544.7
			Nov. 89	4310.6
			Dec. 89	4704, 5051
			Jan. 90	4322

DEPARTMENT OF MARINE & WILDLIFE RESOURCES

AMERICAN SAMOA GOVERNMENT
P.O. BOX 3730
PAGO PAGO, AMERICAN SAMOA 96799
TEL: (684) 633-4456
FAX: (684) 633-5944

TAUESE P. F. SUNIA
Governor

TOGIOLA T. TULAFONO
Lt. Governor

UFAGAFĀ RAY TULAFONO
Director

ASILA PHILIP LANGFORD
Deputy Director

FAX TRANSMITTAL SHEET

Date: 11/29/00

Number of Pages (including this page): 7

To: Sara Roser
CWA Standards and Permit Office
EPA, Region IX

From: Marie-Claude Filteau
Senior Fishery Biologist

Fax No.: (415) 744-1873
Phone No.: (415) 744-1914

Fax No.: (684) 633-5944
Phone No.: (684) 633-4456

MESSAGE:

Dear Ms. Roser,

Here are attached the revised pages regarding the Section III, Threatened and Endangered Species, of the NPDES for COS Samoa Packing & Starkist Samoa canneries.

Here are the modifications that should be done:

- **Cross out "may" in the statement "Threatened green turtles and endangered hawksbill turtles may occur in the nearshore waters throughout American Samoa."**
- **Cross out "Green turtles, however, nest in the harbor." (COS)**
  "while green turtles nest in the harbor." (Starkist)
- **Cross out "and hawksbill turtles only visit the harbor occasionally" and replace by "and hawksbill turtles have been regularly spotted and recovered from the harbor."**

- **<u>After</u> "we would expect the discharge authorized by this NPDES permit to cause NO EFFECT on the threatened and endangered species listed in American Samoa."**
  <u>add these statements:</u> "However, to verify this hypothesis, COS Samoa Packing Company (or Starkist Samoa Inc. accordingly) should fund a research project, undertaken by a Turtle Specialist, on the effect of cannery discharge on the Turtle population of the Pago Pago Harbor. This project must include a toxicology study (tissue sampling) on turtles found dead in the harbor.

If you have any further questions, please feel free to contact me anytime.

Respectfully Yours

Marie-Claude Filteau
MarieC_Filteau@hotmail.com

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FACT SHEET

Permittee's Name: COS Samoa Packing Company

Mailing Address: P.O. Box 957
Pago Pago, Tutuila
American Samoa 96799

Plant Location: Tutuila Island, American Samoa

Contact Person: Jim Cox
Director of Engineering and Environmental Affairs

NPDES Permit No.: AS0000027

I. DESCRIPTION OF FACILITY

The applicant operates a tuna cannery located on Tutuila Island, American Samoa. Process discharges from the cannery enter Pago Pago Harbor at 14 deg. 17 min. 01 sec. South latitude and 170 deg. 40 min. 02 sec. West longitude. The cannery receives whole tuna which is processed into canned tuna and dried fish meal. Waste streams from this operation consist mainly of fish waste, fresh water, and sea water which are treated by Dissolved Air Floatation process. The DAF sludge and the high strength waste (pre-cooker condensate, press juice, fish meal plant wash water, etc.) are barged to sea for disposal. Approximately 360 tons of fish are processed per day. The resulting discharge to Pago Pago Harbor has been a maximum monthly average of 0.72 MGD and a long-term average of 0.56 MGD.

The 1990 American Samoa Water Quality Standards were amended by the American Samoa Environmental Quality Commission (ASEQC), and the amended water quality standards were adopted by the EQC in 1999. Section 24.0205 (e)(1) of the 1999 standards states that "Pago Pago Harbor has been designated by the American Samoa Government to be developed into a transhipment center for the South Pacific. Recognizing its unique position as an embayment where water quality has been degraded from the natural condition, the EQC has established a separate set of standards for Pago Pago Harbor." Section 24.0206 (m) specifies the standards that apply specifically to Pago Pago Harbor.

Administrative orders were issued by EPA in June 1990 to both StarKist Samoa and Samoa Packing Company for violations of water quality-based effluent limits of their respective 1987 NPDES permits. The orders established interim effluent limits and a schedule for compliance with water quality-based effluent limits by March 7, 1992. Concurrently, the American Samoa Government (ASG) also issued consent decrees

(a) However, to ver..y this hypothesis, COS Samoa Packing company should fund a research project, undertaken by a turtle specialist on the effect of cannery discharge on the turtle population of the Pago Pago Harbor. This project must include a toxicology study (tissue sampling) on turtles found dead in the Harbor.

the permittee is required to submit a detailed fish tissue study plan to ASEPA and USEPA-Region 9 for comment and approval. The study will address potential sources and levels of these substances and is a follow-up study to previous monitoring performed by ASEPA.

K. Wastewater Treatment System Evaluation

The permittee should be continuously seeking ways to improve the quality of its effluent. In order to foster that search, the previous permit included a requirement to hire an independent consultant to examine the plant and provide a report on possible improvements. The study was conducted, and the implemented recommendations resulted in improvements. It is no longer necessary to continue this study at this time.

L. Pollution Prevention Program

Monitoring and maintaining the pollution prevention program developed under the previous permit will continue to help reduce the amount of pollutants in the effluent and the receiving waters. Ways to reduce the amount of pollutants entering the harbor must continue to be examined.

III. THREATENED AND ENDANGERED SPECIES

EPA reviewed information provided by the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (FWS) to determine whether the discharge from the canneries would affect any endangered species or habitat in the waters around American Samoa. In a letter from the NMFS, dated September 5, 2000, three species that would be found in the waters around American Samoa were listed. Endangered humpback whales may be found offshore during the winter months. Threatened green turtles and endangered hawksbill turtles ~~may~~ occur in the nearshore waters throughout American Samoa. The same three species were listed in a letter from the FWS dated September 22, 2000.

Further telephone conversations with a member of the NMFS Protected Species Program have indicated that humpback whales rarely enter Pago Pago harbor, and hawksbill turtles (1) ~~only visit the harbor occasionally. Green turtles, however, nest in the harbor.~~ Due to the location of the outfall and the ample dilution that the discharge undergoes, we would expect the discharge authorized by this NPDES permit to cause NO EFFECT on the threatened and endangered species listed in the waters of American Samoa. (a)

The draft permit contains provisions for monitoring conventional and nonconventional pollutants, and requirements for whole effluent toxicity testing in compliance with ASEPA standards, to ensure an appropriate level of water quality discharged by the canneries.

(1) have been regularly spotted and recovered from the Harbor.

(a) see top of the page

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FACT SHEET

Permittee's Name: StarKist Samoa, Inc.

Mailing Address: P.O. Box 368
Pago Pago, Tutuila
American Samoa 96799

Plant Location: Tutuila Island, American Samoa

Contact Person: Phil Thirkel, General Manager

NPDES Permit No.: AS0000019

I. DESCRIPTION OF FACILITY

The applicant operates a tuna cannery located on Tutuila Island, American Samoa. Process discharges from the cannery enter Pago Pago Harbor at 14 deg. 17 min. 01 sec. South latitude and 170 deg. 40 min. 02 sec. West longitude. The cannery receives whole tuna which is processed into canned tuna and dried fish meal. Waste streams from this operation consist mainly of fish waste, fresh water, and sea water which are treated by Dissolved Air Floatation process. The DAF sludge and the high strength waste (pre-cooker condensate, press juice, fish meal plant wash water, etc.) are barged to sea for disposal. Approximately 454 tons of fish are processed per day. The resulting discharge to Pago Pago Harbor has been a maximum monthly average of 1.61 MGD and a long-term average of 1.27 MGD.

The 1990 American Samoa Water Quality Standards were amended by the American Samoa Environmental Quality Commission (EQC), and the amended water quality standards were adopted by the EQC in 1999. Section 24.0205 (e)(1) of the 1999 standards states that "Pago Pago Harbor has been designated by the American Samoa Government to be developed into a transhipment center for the South Pacific. Recognizing its unique position as an embayment where water quality has been degraded from the natural condition, the EQC has established a separate set of standards for Pago Pago Harbor." Section 24.0206 (m) specifies the standards that apply specifically to Pago Pago Harbor.

Administrative orders were issued by EPA in June 1990 to both StarKist Samoa and Samoa Packing Company for violations of water quality-based effluent limits of their respective 1987 NPDES permits. The orders established interim effluent limits and a schedule for compliance with water quality-based effluent limits by March 7, 1992. Concurrently, the American Samoa Government (ASG) also issued consent decrees

4. Fish Tissue Study

A fish tissue study, conducted concurrently with receiving water quality and sediment monitoring, will detect levels of selected parameters in the tissues of resident organisms in the harbor. Whole fish analysis of mullet, mackerel, and crab for lead, arsenic, mercury, PCBs (Aroclor 1260), selected pesticides (DDT, DDE, DDD), and dioxin shall be conducted. Within 120 days of permit issuance, the permittee is required to submit a detailed fish tissue study plan to ASEPA and USEPA-Region 9 for comment and approval. The study will address potential sources and levels of these substances and is a follow-up study to previous monitoring performed by ASEPA.

K. Wastewater Treatment System Evaluation

The permittee should be continuously seeking ways to improve the quality of its effluent. In order to foster that search, the previous permit included a requirement to hire an independent consultant to examine the plant and provide a report on possible improvements. The study was conducted, and the implemented recommendations resulted in improvements. It is no longer necessary to continue this study at this time.

L. Pollution Prevention Program

Monitoring and maintaining the pollution prevention program developed under the previous permit will continue to help reduce the amount of pollutants in the effluent and the receiving waters. Ways to reduce the amount of pollutants entering the harbor must continue to be examined.

III. THREATENED AND ENDANGERED SPECIES

EPA reviewed information provided by the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (FWS) to determine whether the discharge from the canneries would affect any endangered species or habitat in the waters around American Samoa. In a letter from the NMFS, dated September 5, 2000, three species that would be found in the waters around American Samoa were listed. Endangered humpback whales may be found offshore during the winter months. Threatened green turtles and endangered hawksbill turtles ~~may~~ occur in the nearshore waters throughout American Samoa. The same three species were listed in a letter from the FWS dated September 22, 2000.

Further telephone conversations with a member of the NMFS Protected Species Program have indicated that humpback whales rarely enter Pago Pago harbor, and hawksbill turtles (1) ~~only visit the harbor occasionally while green turtles nest in the harbor~~. Due to the

1 have been regularly spotted and recovered from the Harbor.

② However, to ify this hypothesis Starkist Samoa Inc. should fund a research project, undertaken by a Turtle Specialist, on the effect of cannery discharge on the turtle population of the Pago Pago Harbor. This project must include a toxicological study (tissue sampling) on turtles found dead in the Harbor

location of the outfall and the ample dilution that the discharge undergoes, we would expect the discharge authorized by this NPDES permit to cause NO EFFECT on the threatened and endangered species listed in the waters of American Samoa. ②

The draft permit contains provisions for monitoring conventional and nonconventional pollutants, and requirements for whole effluent toxicity testing in compliance with ASEPA standards, to ensure an appropriate level of water quality discharged by the canneries. Reopener clauses have been included should new information become available to indicate that the requirements of the permit need to be changed.

In considering all information available during the drafting of this permit, EPA believes that a NO EFFECT determination is appropriate for this federal action. A copy of the draft fact sheet and permit were forwarded to NMFS and FWS for review and comment during the pre-public notice review period and 30-day public review period.

IV. ADMINISTRATIVE INFORMATION

A. Public Notice (40 CFR §124.10)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft NPDES permit or other significant action with respect to a NPDES permit or application. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit.

Public notice for this permit will be given in a local newspaper.

B. Public Comment Period (40 CFR §124.10)

Notice of this permit will be placed in a daily or weekly newspaper within the area affected by the facility or activity, with a minimum of 30 days provided for interested parties to respond in writing to EPA.

After the closing of the public comment period, EPA is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

C. Public Hearing (40 CFR §124.12(c))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held when there is a significant amount of interest expressed

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

October 24, 2000

Phil Thirkel, General Manager
StarKist Samoa, Inc.
P.O. Box 368
Pago Pago, American Samoa 96799

Re: StarKist Samoa. Inc.
NPDES Permit No. AS0000019

Dear Mr. Thirkel:

Attached is the draft NPDES permit, a fact sheet, and a joint notice of proposed action for StarKist Samoa, Inc. The joint notice of proposed action will be published in a local newspaper shortly. The target date for publication is October 30, 2000. The formal public comment period will begin on the day the notice is published and will end 30 days from the date of the notice. Please review the enclosed documents and provide comments to EPA by the close of the comment period.

As stated in the joint notice of proposed action, please submit comments to:

U.S. Environmental Protection Agency, Region IX
CWA Office of Permits and Standards, WTR-5
Attn: Sara Roser
75 Hawthorne Street
San Francisco, CA 94105-3901

Please contact me at (415) 744-1914 if you have any questions regarding the permit.

Sincerely,

Sara Roser

Sara Roser
CWA Standards and Permits Office (WTR-5)

Enclosures

cc: Togipa Tausaga, Director ASEPA
Margaret Dupree, National Marine Fisheries Service
Paul Henson, US Fish and Wildlife Service
Nancy Daschbach, National Marine Sanctuaries
Mike Dworsky, American Samoa Power Authority
Lelei Peau, Department of Commerce
Department of Marine Resources, American Samoa Government
Department of Public Safety, American Samoa Government

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Ecoregion
300 Ala Moana Boulevard, Room 3-122
Box 50088
Honolulu, Hawaii 96850

SEP 22 2000

In Reply Refer to: EAV

Suesan Saucerman
U.S. Environmental Protection Agency
Region IX - WTR - 5
75 Hawthorne Street
San Francisco, CA 94105-3901

Re:Species List Request for American Samoa for a Review of Water Quality Standards

Dear Ms. Saucerman:

The U.S. Fish and Wildlife Service (Service) has received your letter dated August 1, 2000 requesting a species list of federally endangered, threatened, proposed, and candidate species, and critical habitat from American Samoa. We understand you are reviewing the Water Quality Standards for this area and require the species list for compliance with Section 7 of the ESA.

Based on information currently available to us, the following endangered (E) and threatened (T) species occur in American Samoa. There are no proposed species or critical habitat designations in American Samoa.

Listed species
1. humpback whale (*Megaptera novaeangliae*) - E
2. green sea turtle (*Chelonia mydas*) - T
3. hawksbill turtle (*Eretmochelys imbricata*) - E

Please be advised that the National Marine Fisheries Service (NMFS) has jurisdiction over the humpback whale, and that NMFS and the U.S. Fish and Wildlife Service have joint jurisdiction over the green sea turtle and the hawksbill turtle.

In addition to the listed species shown above, there are several candidate species and species of concern in American Samoa. Candidate species and species of concern are not provided any legal protection by the ESA, but we encourage you to address these species to help avert the need to list them in the future.

Candidate species
1. sheath-tailed bat (*Emballonura semicaudata*)
2. friendly ground-dove (*Gallicolumba stairi*)
3. spotless crake (*Porzana tabuensis*)
4. many-colored fruit dove (*Ptilinopus perousii*)
5. Tutuila tree snail (*Eua zebrina*)
6. Sisi (snail; *Ostodes strigatus*)

Species of Concern
Animals
1. Samoan fruit bat (*Pteropus samoensis*)
2. Mt. Matafao snail (*Diastole matafoi*)
3. Sisi (snail; *Diastole schmeltziana*)
4. short Samoan tree snail (*Samoana abbreviata*)
5. Samoan tree snail (*Samoana conica*)
6. Ofu tree snail (*Samoana thurstoni*)
7. Sisi (snail; *Trochomorpha apia*)
Plants
8. *Acaronychia retusa* (no common name)
9. *Elatostema tutilense* (no common name)
10. *Habenaria monogyne* (no common name)
11. *Litsea samoensis* (no common name)
12. *Manikara dissecta* (no common name)

The above lists include all relevant species known to occur in American Samoa. Without more specific information about the nature of your project or the area(s) involved, the Service cannot offer any more precise assistance about the potential impact on particular species. We caution your agency that the distribution, status, and requirements of some of the listed and candidate species in American Samoa are poorly known, and additional information is needed.

The Service appreciates the opportunity to comment on this project. If you have any questions regarding this species list or require additional assistance, please contact Fish and Wildlife Biologist Eric VanderWerf in the Honolulu office by phone at (808) 541-3441 or by facsimile at (808) 541-3470.

Sincerely,

Paul Henson
Field Supervisor
Ecological Services

cc: John Naughton, NMFS

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic r Atmospheric Administration
NATIONAL MARINE FISH S SERVICE
Southwest Region
Pacific Island Area Office
1601 Kapiolani Boulevard, Suite 1110
Honolulu, Hawaii 96814-0047

United States EPA
Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

September 5, 2000

Please refer to Consultation No: I-PI-00-07:MMD

Dear Suesan:

This responds to your request of August 1, 2000 for a list of threatened and endangered marine species that might be found in the waters around American Samoa. Endangered humpback whales (*Megaptera novaeangliae*) may be found offshore of the project site during the winter season. Sperm whales (*Physeter macrocephalus*) are also associated with the waters around American Samoa. Threatened green turtles (*Chelonia mydas*) and endangered hawksbill turtles (*Eretmochelys imbricata*) may occur in the nearshore waters throughout American Samoa.

Species of marine mammals that are not listed as threatened or endangered but are protected under the Marine Mammal Protection Act that may be found in the waters of American Samoa include bottlenose dolphins (*Tursiops truncatus gilli*), spinner dolphins (*Stenella longirostris*), and pilot whales (*Globicephala macrorhynchus*).

Critical habitat has not been designated or proposed for any listed species under the jurisdiction of National Marine Fisheries Service (NMFS) in American Samoa.

Fagatele Bay National Marine Sanctuary is located on the island of Tutuila in American Samoa. For more information regarding the NOAA Sanctuary, I suggest you contact Nancy Daschbach in American Samoa at (684) 633-7354. I also recommend that you contact Alan Everson (808) 973-2937 of our Essential Fish Habitat Division regarding species habitat in American Samoa.

I can be reached at (808) 973-2937 or fax (808) 973-2941 should you have further questions regarding listed species in American Samoa.

Sincerely,

Margaret Dupree

Margaret Dupree
Protected Species Program

w/ Am Samoa

SEDIMENT STUDY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

A m. Sam
Pago Pago
AS0000019 +
AS000027

August 31, 1993

Steven L. Costa
Project Manager
CH2M Hill
P.O. Box 12681
Oakland, CA 94604-2681

Re: Approval of Draft Joint Cannery Outfall Sediment Study Plan for Second Sampling Period

Dear Steve:

We reviewed the draft study plan for the second period of the sediment monitoring studies required by the canneries' NPDES permits and find that CH2M Hill's response to comments made by our office and American Samoa agencies on the first study plan, adequately addressed our concerns and were incorporated into the first sampling episode where appropriate. The second study plan is hereby approved.

We considered the proposed modification to the monitoring schedule and the advantages to this modified schedule and agree with the changes. Thus the approved schedule for sampling episodes shall be as follows: 2/93, 10/93, 2/95, 2/96 and 2/97.

Please call Pat Young at 415/744-1594 if you have any questions.

Sincerely,

M. J. Lee
for Norman L. Lovelace, Chief
Office of Pacific Island and Native
American Programs (E-4)

cc: Jim Cox, Van Camp Seafood Company
Norman Wei, StarKist Seafood Company
Tony Tausaga, American Samoa EPA
Sheila Wiegman, American Samoa EPA

bc: Robyn Stuber, W-5-1
Dave Stuart, W-7-1
Brian Melzian, W-7-1
Mike Lee, E-4

SEDIMENT STUDY
Copy to Stuber, Stuart

Engineers
Planners
Economists
Scientists

17 August 1993

PDX30702.SM

Patricia N.N. Young
American Samoa Program Manager
Office of Pacific Islands and Native American Programs
U.S. Environmental Protection Agency
75 Hawthorne Street (E-4)
San Francisco, California 94105

Dear Pat:

Subject: Joint Cannery Outfall Sediment Monitoring Study Plan:
Second Sampling Period

Attached is a draft study plan for second sampling period of the sediment monitoring studies required by the NPDES permits for the Joint Cannery Outfall in Pago Pago Harbor, American Samoa. This study plan is for review by USEPA and ASEPA and is intended to comply with Part G of NPDES Permit Numbers ~~AS0000019 and~~ AS0000027. A response to comments on the first sampling period study plan is attached as an addendum to this plan.

I believe that the only unresolved issue is the schedule for sampling. We believe the best approach is as previously proposed, with the first two sampling episodes closer together. However, EPA comment number 10 indicated that the resulting extended period between the second and third sampling periods might be too long. If this is the case then the canneries will probably elect to keep the schedule as originally required, at annual intervals, rather than adding an additional sampling period. In such a case we would not collect sediments during the tradewind dye study this year and the second sampling period would be next year. Please review our response to EPA comment number 10 and advise me of your decision on the schedule.

Please provide your comments on the study plan directly to me and to Norman Wei at StarKist and Jim Cox at Van Camp. If you or other reviewers have any questions, please feel free to call me at your convenience.

CH2M HILL
1111 Broadway, Suite 1200, Oakland, CA 94607-4046
P.O. Box 12681, Oakland, CA 94604-2681
510 251-2426
Fax No. 510 893-8205

As indicated in the study plan, the second sampling period is tentatively scheduled for the end of September/early October, 1993. Therefore, timely review of the study plan would be greatly appreciated.

Thank you for your time and attention to this matter.

Thank you for your time and attention to this matter.

Sincerely,

CH2M HILL

Steven L. Costa
Project Manager

cc: Norman Wei/StarKist Seafood Company
James Cox/Van Camp Seafood Company

AGENCY REVIEW DRAFT

JOINT CANNERY OUTFALL SEDIMENT MONITORING STUDY PLAN
Second Sampling

for

StarKist Samoa, Inc.
and
VCS Samoa Packing Company

to comply with NPDES Permits
AS0000019
AS0000027

August 17, 1993

prepared by
CH2M HILL

AGENCY REVIEW DRAFT
17 August 1993

JOINT CANNERY OUTFALL SEDIMENT STUDY PLAN
Second Sampling

INTRODUCTION

This Sediment Monitoring Study Plan presents a plan for conducting the second in a series of annual field collections and laboratory analyses of the marine sediments at seven sites in the inner and outer regions of Pago Pago Harbor, American Samoa. This sediment study plan is required under the conditions of the United States Environmental Protection Agency (EPA) NPDES Permit No. AS0000019 for Star-Kist Samoa, Inc. and NPDES Permit No. AS0000027 for VCS Samoa Packing Company. This document describes the objectives, approach, and field and laboratory methods for sediment monitoring in the harbor.

Section G of the Star-Kist Samoa and Samoa Packing NPDES permits addresses the Sediment Monitoring as follows:

> *"Sediment monitoring is conducted to determine the character of the sediments in relation to long-term high nutrient discharge by the permittee in the harbor and if harbor recovery will be affected by resuspension of the nutrients.*
>
> *The permittee, cooperatively with {Samoa Packing Co.; Star-Kist Samoa, Inc.} shall undertake a yearly sediment monitoring program in Pago Pago Harbor in order to assess the concentration of nutrient and organic components, the distribution of stored nutrients, the size of the nutrient reservoir, and the rate of accumulation of nutrients. Seven sites shall be located within Pago Pago Harbor and analyzed for total nitrogen, total phosphorus, percent organics, percent solids, bulk density, oxidation-reduction potential, and sulfides. Three sites shall be located in inner Pago Pago Harbor and four sites shall be located in the outer harbor. These sites and monitoring plan shall be submitted within three months of the effective date of the permit for approval by ASEPA and EPA. Thereafter, these sites shall be approved annually by the anniversary date of the effective date of the permit. A report of the sediment monitoring program findings shall be submitted to the ASEPA and EPA 90 days after completion of sampling.*
>
> *After the first two studies have been performed and the results have been assessed, the permit may be reopened for the inclusion of a more frequent or less frequent monitoring schedule."*

This study plan is being submitted to EPA and American Samoa Environmental Protection Agency (ASEPA) to comply with the NPDES permit condition of Section G.

APPROACH

The joint cannery outfall operated by Star-Kist Samoa and Samoa Packing extends a distance of approximately 1.5 miles from the cannery locations on the north shore of the inner harbor into the outer harbor offshore of Anasosopo Point. The outfall consists of a 16-inch HPDE pipe that terminates with a multiport long diffuser section located at a depth of approximately 176 feet below MLLW. The diffuser section has 4 active ports on alternating sides of the pipe at a spacing of 10 feet. The diffuser ports are all 5-inches in diameter and discharge horizontally. The approved zone of mixing zone boundary is defined according to Figure 1 in the NPDES permits.

This study plan, for the second collection and analysis of sediments, is based on the study plan for the initial sediment monitoring in February 1993 as approved by EPA and USEPA. Some elements of this study plan, for the second sampling, have been revised from the initial study plan based on comments and concerns on the initial study plan and the results of the initial monitoring study. The response to the comments on the first study plan are attached as an addendum to this study plan.

OBJECTIVES

The objectives of the Sediment Monitoring Study are: (1) to evaluate the characteristics and nutrient load of the marine sediments in the vicinity of the canneries previous (abandoned) outfalls in the inner harbor; (2) to evaluate the characteristics and nutrient load of the marine sediments in the vicinity of the new joint cannery outfall diffuser in the outer harbor; (3) to provide data for an evaluation of changes in harbor sediments over time. Sediments are to be collected from seven sites, three sites proximate to the historic cannery outfalls in the inner harbor, three sites proximate to the new diffuser, and one site at the Utulei outfall discharge site. The relative location of the seven sediment sampling sites are shown in Figure 1.

SAMPLE SITE LOCATIONS

The location of the sampling sites was established based on the predominant current directions at the outfall areas, bathymetry of the area, limited available information on sediment physical characteristics, and the location of point source discharges of nutrients in consultation with USEPA and ASEPA. The wastewater plume behavior and transport direction will be confirmed through the field dye study measurements. During February 1993 the sampling sites were fixed using MiniRanger coordinates (*Sediment Monitoring Study: February 1993 Data Collections.* Technical Memorandum prepared for StarKist Samoa and VCS Samoa Packing, CH2M HILL, 29 April 1993). The sample sites for the second sampling will be located in the same locations sampled in the first sampling, using a MiniRanger, and are shown in Figure 1. The sites are generally described as follows:

- Inner harbor site IH-1: located within 100 feet of, and between, the two previous cannery outfalls in the inner harbor

- Inner harbor site IH-2: located within 500 feet directly south of, and between, the two previous cannery outfalls in the inner harbor

- Inner harbor site IH-3: located within 250 feet of the mouth of Pago Pago Stream, at the west end of the inner harbor

- Outer harbor site OH-1: located within 400 feet north-northeast of the new outfall diffuser in the outer harbor;

- Outer harbor site OH-2: located within 400 feet south-southwest of the new outfall diffuser

- Outer harbor site OH-3: located directly across the outer harbor from the new outfall diffuser and about 20 feet of the Utulei WWTP outfall

- Outer harbor site OH-4: located in the center of the outer harbor area mid-way between Tulutulu Point and Tafagamanu Point, and north of Whale Rock.

DATA COLLECTION AND ANALYSIS

Five separate samples will be collected at each sampling site and then composited to provide a single representative composite sample for chemical analyses. The second field collections for the sediment studies will be started in late September 1993, after plan approval by EPA and USEPA. The sediment physical characteristics at each sampling site will be described and photographed in the field.

Chemical analyses will include those listed in the NPDES permit, using analytical and QA/QC procedures provided in the Standard Methods for the Examination of Water and Wastewater (1989) and Procedures for Handling and Chemical Analysis of Sediment and Water Samples (U.S. EPA and Army COE, 1981).

Field and laboratory analytical data will be processed and presented in tabular formats in a sediment monitoring study report, and supporting data will be included in the report appendix.

MONITORING SCHEDULE

The NPDES permits specify yearly collections of sediment. CH2M HILL and the canneries have proposed to modify this schedule without decreasing the number of monitoring episodes. The modification provides for the first two sampling episodes to be made during the first year of the study 7 to 8 months apart, the third sampling episode to be during the third year, approximately 16 months after the second, and subsequent collections annually thereafter or as determined after review of initial results.

The advantages to this modification include:

- A compressed time interval when sediment characteristics are expected to change most rapidly near the previous discharge locations in the inner harbor. Changes in sediment nutrient concentration near the previous outfalls can be expected to vary in a fashion similar to a first order decay phenomena. The most rapid change will be soon after the source removal (cannery discharge). With time the rate of change will decrease. Therefore, a sampling schedule with more frequent samples at the beginning will better track the time history of changes of nutrient sediment concentrations.

- A compressed time schedule for the initial collections near the new outfall location will provide a better baseline characterization of the sediment characteristics for the same reasons described above.

- The modified schedule will allow CH2M HILL staff doing the dye studies during year one to be directly involved in the sediment monitoring study and provide an opportunity to train personnel that might do similar collections in the future. This will allow consistency, continuity and enhanced comparability of stations, methods, and results.

- The modified schedule will also result in sediment data acquisition for the initial period during both major seasons.

STUDY METHODS

The sediment monitoring study requires field data and sample collection and subsequent laboratory analysis. The methods to be used for these elements of the study are described below. The field work described in the following sections include the methods and equipment to be used for the field collection of sediments, station positioning, sample handling, and sample shipment. The Laboratory analysis methods listed are compatible with the NPDES permit requirements.

FIELD EQUIPMENT AND SAMPLING VESSEL

Field equipment requirements for the sediment sampling are listed in Table 1. A work vessel with a two-person scientific staff will be aboard to collect sediment samples by hand, since no vessel with hydraulics is available in American Samoa.

STATION LOCATIONS AND FIELD POSITIONING

Sediment samples will be collected from a work vessel using five separate grab samples at each of the seven sites. Vessel navigation will be done by using a Motorola Mini-Ranger III electronic positioning system. Use of a Mini-Ranger III will accurate reoccupation of previous sampling stations and will provide range accuracy of approximately ±2 meters. A marker buoy will be deployed at the precalculated Mini-Ranger position of the new outfall diffuser prior to collecting sediment samples at the outer harbor outfall sites.

SEDIMENT SAMPLE COLLECTION

Sediment sampling will be conducted in accordance with the Procedures for Handling and Chemical Analysis of Sediment and Water Samples (U.S. EPA and Army COE, 1981). Sediment samples will be collected using a 0.0225 square meter Petite Ponar grab sampler. The Petite Ponar sampler is a weighted sediment grab sampler designed to penetrate and collect undisturbed samples of sediments ranging from silts to coarse gravels. This type of sampler has been used previously to collect sediment samples throughout Pago Pago Harbor. The grab sampler should be able to penetrate and provide a reliable sediment sample of a minimum depth of 4 cm.

Samples will be collected with a minimum of five separate grabs at each of the seven sites. Sufficient sediment materials will be collected at each site to provide adequate material for the sediment chemistry analyses. More than five grabs will be taken if required to collect sufficient material. If bottom the is hard or rocky, has no sediment, or bottom conditions at a site prevent sediment from being recovered, the site will be relocated based on the judgement of experienced scientists on the project staff.

Prior to disturbing the grab samples the following will be recorded in the field logbook: sediment sample penetration depth, color, texture, odor, temperature, pH, and Redox potential. The five (or more) samples from a single site will be composited in a stainless steel bowl, and samples will be taken from the composite for sediment chemistry analyses. The total of seven composite sediment samples for sediment chemistry analysis will be collected.

Samples collected at each site will be labeled with a unique designator to allow sample tracking; each sample designator will consist of a two-letter location code (IH or OH), followed by a numerical station code (1 through 7). Samples for chemical analyses will be immediately iced and/or preserved (as required) and prepared for shipment to the laboratory. The laboratory selection will be finalized prior to field sample collection

LABORATORY ANALYSES

Each composited sediment sample will be analyzed for the chemicals listed in Table 2. All sample collections, storage and analysis will be performed under the guidance of, and in accordance with: the Procedures for Handling and Chemical Analysis of Sediment and Water Samples (U.S. EPA and Army COE, 1981), Evaluation of Dredged Materials Proposed for Ocean Disposal (EPA/COE, 1991), and Quality Assurance/Quality Control (QA/QC) for 301(h) Monitoring Programs: Guidance on Field and Laboratory Methods (EPA, 1986) . Sample containers, sample handling requirements and sample preservation requirements are listed in Table 3. CH2M HILL previously recommended replacing the bulk density analysis with particle size analysis. This was agreed to by USEPA and ASEPA for the initial study and will be continued.

QUALITY ASSURANCE AND QUALITY CONTROL

The quality assurance and quality control objectives for the sediment studies are to collect representative sediments surface samples and provide laboratory chemical and physical measurements that are of known and acceptable quality. The following requirements will be followed to meet the objectives:

- Provide verifiable laboratory chemical analyses with QA to evaluate accuracy and precision targets
- Maintain and document accurate vessel positioning for sample collection
- Provide field equipment redundancy (backup equipment)
- Develop and use a field operations plan
- Examination of samples as collected and subsequent data by experienced scientists

FIELD OPERATIONS PLAN

A field operations plan for conducting the sediment sample collections was developed for the previous sampling activities. This operations plan will be reviewed and modified as needed and will be the basic element of quality assurance and control activities. The operations plan will include field data sheets, chain of custody forms, and a sample matrix collection checklist.

EQUIPMENT CALIBRATION

All equipment will be obtained prior to the beginning of the sediment studies field collections and checked to verify correct operation. Any instrument requiring calibration will be checked and calibrated upon its arrival to confirm that it is in working condition.

The Mini-Ranger will be calibrated to the manufacturer's specifications prior to conducting the dye study. The unit and transponders will be checked against known distances similar to those to be encountered during the study. A calibration range maintained by the National Ocean Service is used for this purpose.

DATA ANALYSIS AND PRESENTATION

Field data will be summarized and vessel positioning data will be processed to calculate and plot the sediment sampling locations. Laboratory chemical and physical data will be reviewed to determine whether analytical accuracy and precision targets were achieved and to assess the laboratory quality assurance. Sediment chemistry results will be presented in tabular formats.

A report of the results will be provided to EPA and USEPA following each monitoring episode (within 90 days of the field sampling). Any proposed future revisions to the study plan will be presented in the monitoring report or in a revised study plan document. Review comments from EPA and ASEPA will be incorporated into the revised study plan as appropriate. The report will provide summary information of previous sediment monitoring data.

Table 1
Field Equipment for Sediment Field Collections

Equipment Item	Purpose	Number of Units	Accuracy Standard
Work Vessel	Field Sampling Platform	1	N/A
0.02 meter^2 Petite Ponar Sediment Grab Sampler	Collect sediment samples at depth	1	Sediment grab acceptability of 4 cm depth
Motorola Mini-Ranger III System	Microwave positioning System with 3 shore-based transponders	1	±2 meters
ASTM brass sieves	Wet sieve sediments from samples	2	N/A
Orion Redox Potential and pH Instrument	Measure sediment oxidation-reduction potential and pH in the field	1	±0.5 millivolts
Sample Containers	Collections of sediments for chemical analyses	As required in plan	Pre-cleaned sample containers
Ice Chests	Sample jar holder, cool samples on ice, and sample shipment	As required in plan	Pre-cleaned containers

Table 2
Sediment Chemical Analyses

Parameter	EPA Method (a)	Other Methods (b,c,d)
Total Kjeldahl Nitrogen (TKN)	351.3	EPA/COE 1981; TKN in Sediments
Total Phosphorus (TP)	365.2	EPA/COE 1981; TP in Sediments
Total Sulfides	376.1	EPA/COE 1981; Sulfides in Sediments
Total Volatile Solids (Percent Organics)	160.4	EPA/COE 1981; TVS in Sediments
Total Organic Carbon	415.1	SM 5310B
Percent Solids	160.3	EPA/COE 1981; Solids in Sediments
Particle Size Analyses (Sieve/Hydrometer)	None	ASTM D422

(a) EPA methods are defined in 40 CFR 136.3, Guidelines Establishing Test Procedures for the Analysis of Pollutants.
(b) U.S. EPA and the Army Corps of Engineers. May 1981. Procedures for Handling and Chemical Analysis of Sediment and Water Samples.
(c) American Society for Testing Materials. 1974. Part 19:D422: Standard Method for Particle Size Analysis of Soils.
(d) Standard Methods for the Examination of Water and Wastewater, 17th edition. 1989.

Table 3
Sediment Sample Collection and Handling Requirements

Parameter	Holding Time	Minimum Sample Size	Preservation	Sample Container
Total Kjeldahl Nitrogen	7 days	10 g	Cool, 4°C	250 ml plastic jar
Total Phosphorus	7 days	10 g	Cool, 4°C	250 ml plastic jar
Sulfides	4 days	20 g	Cool, 4°C, add 2 ml ZN-acetate	250 ml plastic jar
Total Volatile Solids (Percent Organics)	7 days	100 g	Cool, 4°C	250 ml plastic jar
Total Organic Carbon	14 days	100g	Cool, 4°C	250 ml plastic jar
Percent Solids	None	50 g	Cool, 4°C	N/A
Particle Size	None	250 g	Cool, 4°C	250 ml plastic jar

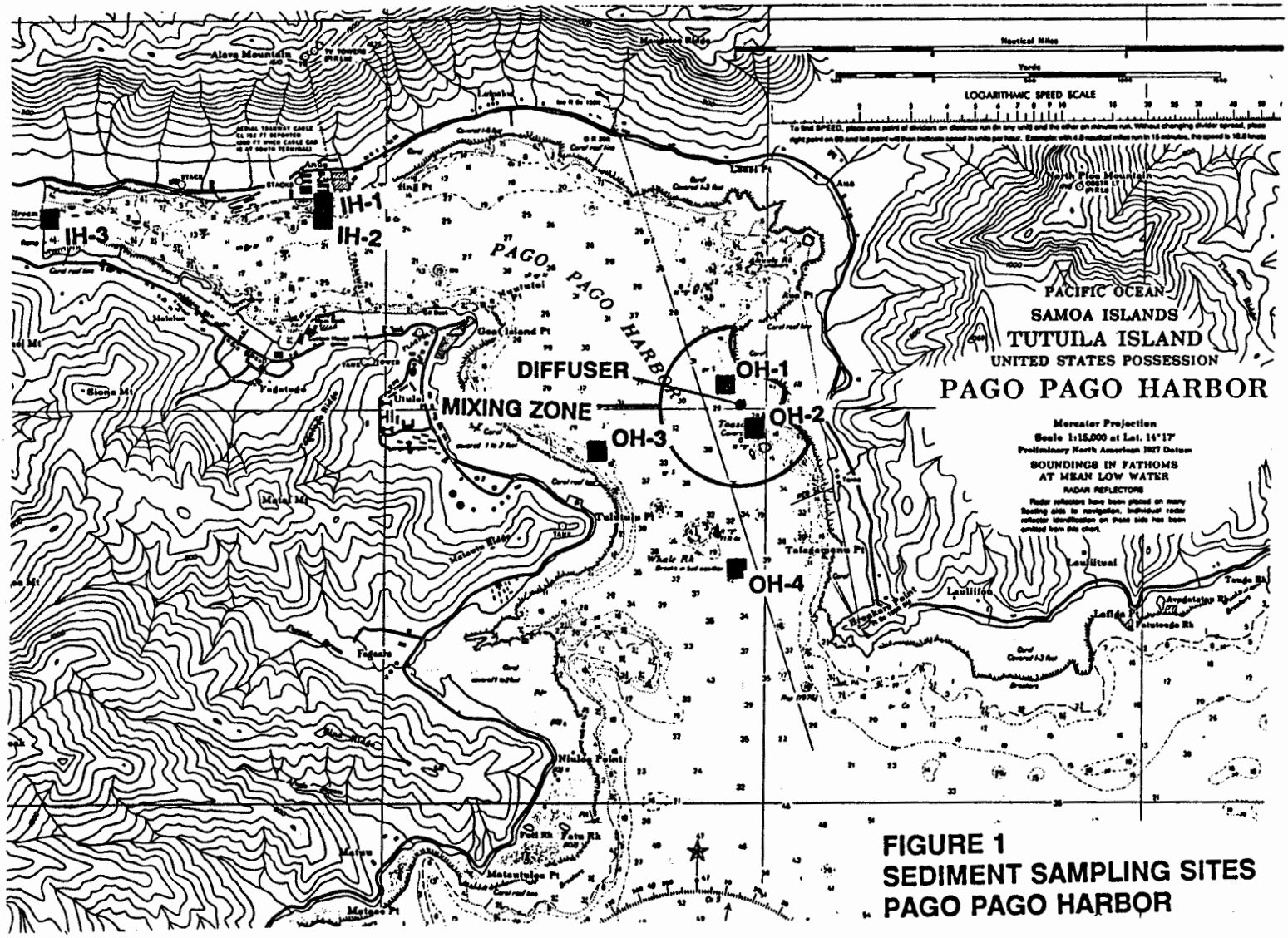

FIGURE 1
SEDIMENT SAMPLING SITES
PAGO PAGO HARBOR

ADDENDUM

RESPONSE TO COMMENTS ON PREVIOUS STUDY PLAN

This addendum provides responses to comments by USEPA, ASEPA, and ASDMWR on the *Joint Cannery Outfall Sediment Monitoring Study Plan* for the first sediment sampling period. The comments were received shortly before the actual field work and a formal response to the comments was not prepared prior to conducting the first sampling for the sediment monitoring study. However, CH2M HILL reviewed and incorporated into the first sampling episode, where appropriate, the comments and concerns. Copies of the comments are attached to this addendum.

RESPONSES TO USEPA COMMENTS (See attached letter of 22 Jan 1993)

Responses to American Samoa Department of Marine and Wildlife Resources comments and concerns are provided separately below. Responses to USEPA comments on the coral reef survey will be provided in a separate document. Responses to USEPA comments on the sediment monitoring plan for the first sediment sampling period are as follows:

Response to Comment 1. Analysis for Total Organic Carbon (TOC) was not proposed in the study plan or specifically required in the permits. TOC is a useful parameter, particularly in assessing and interpreting data on organic compounds. Analysis for specific organic compounds in the sediments is not part of the monitoring requirement. Total Volatile Solids (TVS) is considered adequate for the purposes of the study. However, we have modified the study plan to analyze for TOC for the second sampling period.

Response to Comment 2. We agree that grain size distribution should be included. Grain size distribution was not required in the permit condition and bulk density was a listed requirement. We do not think there is a need for bulk density, nor is there a feasible or appropriate way to measure it under the study conditions. Therefore, we have substituted grain size distribution for bulk density in the study.

Response to Comment 3. CH2M HILL has the documents cited and we routinely reference those documents for studies of this type. They have been added explicitly to the text of the study plan.

Response to Comment 4. Sediment traps were considered. The logistical, technical, and interpretational problems of installation, maintenance, and data evaluation for such studies can be formidable. The requirements and objectives of the study do not require the use of sediment traps, at least initially. If the ongoing sediment monitoring study results indicate no measurable impact of the joint cannery discharge then there is no need for more complex studies.

Sediments traps can, but may not, yield data that characterizes deposition of new and/or resuspended material. It is usually difficult, and sometimes impossible, to relate the trapped sediment to quantitative bottom deposition rates. It can also be difficult to determine the source of trapped material. A sediment trap program in Pago Pago Harbor would require long term deployment of traps installed throughout the harbor, and the collection and analysis of ancillary oceanographic and meteorological data at the same time. The data collected would most likely have to be evaluated on a qualitative/relative basis and would not yield quantitative results.

CH2M HILL's assessment is that sediment traps will not add substantial or significant data to the study at this time. If the sediment monitoring program indicates a problem with sediment chemistry changes in the mixing zone, then more comprehensive studies, such as sediment trap studies, may be justified.

We do not believe there is an advantage in using a van Veen sampler over a ponar sampler. Both obtain the same kinds of sample, both are well accepted samplers in the scientific community, and the small ponar is easier to ship and use by hand line from a vessel without hydraulics. If there is some specific reason to change to a van Veen sampler that we are unaware of (e.g. previous sampling programs) we will accommodate such a request. Otherwise, we prefer to continue using the ponar as we have had good success with it in Pago Pago Harbor during previous studies.

Response to Comment 5. Total sulfides will be measured using the method(s) described in Table 2 (as revised) of the study plan (EPA 376.1). Ammonia was not listed as a required constituent to be determined in the original permit requirements list of constituents. The samples in the outer harbor are well below the photic zone and direct influence on phytoplankton and macroalgae is unlikely. Measurement of total nitrogen and phosphorous appear sufficient for characterizing cannery discharge impacts, at least initially. We do not plan on adding constituents to the analysis unless a specific problem requiring such analysis is detected in the course of the ongoing studies.

Response to Comment 6. We plan to use an Orion Redox Potential probe using the method described in the description enclosed with the USEPA comment letter. The measurements will be done at the 2 cm depth if samples are recovered sufficiently intact. Otherwise measurements will be made within the sediment sample as appears appropriate to the lead scientist in the field. Profiles would require taking core samples. Core samples are not required to meet the objectives of the sediment monitoring study and are not planned. Since we are not collecting the kinds of undisturbed cores required for such measurements, profiles of Eh, pH, or other parameters in the sediment will not be done.

Response to Comment 7. See response to comment 6.

Response to Comment 8. Sea water rinsing and air drying is all that is required since we are not collecting samples for metals or organics analysis.

Response to Comment 9. We are taking grab samples. No cores are being collected. Core samples are not necessary since the concern is changes in the nutrient content of the surficial sediments.

Response to Comment 10. The intent of the change in sampling schedule is described in the study plan. As presently planned the first two sampling periods will be about 7 to 8 months apart, the third sampling period about 16 months after the second, and annually thereafter for a total of five sampling periods. The comment indicates that it is desirable to have the third sampling at the same time of year as the first. We agree for the same reason as stated in the comment: this will provide three samples at alternating seasons. However, if the third sampling period is taken 12 months after the second period, the second and third sampling periods will be during the same season. We recommend the sampling schedule proposed by CH2M HILL be used: 2/93, 10/93, 2/95, 2/96, 2/97. As stated in the permit condition the study can be reassessed for more or less frequent sampling after two sampling periods have been completed.

Response to Comment 11. We intend to take aliquots for sulfide analysis from each of five separate grabs at each station prior to compositing the samples.

Response to Comment 12. Sufficient sample material will be taken so that material will be available to immediately rerun analyses in case of problems (see Table 3). This could be as much as 1.5 liters of material. However, we do not plan on archiving samples after analyses have been successfully completed. Given the relatively straightforward nature of the limited number of tests required, and considering holding time and storage requirements, we see no reason for long term archiving.

Response to Comment 13. The reports are planned to be in a Technical Memorandum format (see the first report dated April 1993) with sections as follows: Introduction, Objectives and Approach, Methods, Results, Summary, and Appendices providing chain of custody and laboratory analysis results. These are functionally identical to the organization suggested in the comment. If after review of our initial report USEPA and ASEPA wish to modify the format we will make any necessary changes to the initial and subsequent reports.

Response to Comment 14. Table 2 was revised.

RESPONSES TO ASEPA COMMENTS (See attached facsimile transmission of 22 Jan 1993)

Responses to American Samoa Department of Marine and Wildlife Resources comments and concerns regarding the sediment monitoring plan are provided below. Responses to American Samoa Department of Marine and Wildlife Resources comments on the dye study are presented

in the revised dye study plan. Responses to ASEPA comments on the sediment monitoring plan for the first sediment sampling period are as follows:

Response to Comments. The location of IH-3 was changed for the first sampling and will remain so for subsequent sampling. The revised location is shown in Figure 1 and described in the study plan for the second sampling. Site OH-3 is near the Utulei STP outfall location and is intended to provide comparative information for that vicinity to assist in data evaluation and interpretation.

RESPONSES TO ASDMWR COMMENTS (See attached memorandum of 15 Jan 1993)

Response to Comments on Origin of Sediments (paragraph 3). The purpose of the sediment monitoring plan is to monitor the nutrient load in the sediments. A comprehensive sediment budget study, including identification of sediment sources, is not required to address this objective. If the sediment monitoring study indicates problems caused by changes in sediment nutrient load, additional studies of sediment origin, transport, and fate may be appropriate in the future. If no problems are observed, then more complex and sophisticated studies are not required.

Response to Comments on Age of Sediments (paragraph 5, item 1). There is no data available to determine the sediment accumulation rates over the past year. The objectives of the monitoring study are to monitor changes in particular aspects of sediment chemistry, and do not include addressing questions of relative age of sediment layers (see the response on origins of sediments above).

Response to Comments on Residence Time and Flushing of Sediments (paragraph 5, item 2). Sediments from all sources, natural and anthropogenic, will accumulate in the harbor over time. This is a natural process that occurs in all bays and estuaries. Sediments deposited, from any source, in deep water will generally remain there indefinitely. Some fraction of sediments will be disturbed and carried out of the harbor. For example, wave suspension in shallow water and bioturbation in deeper water can mobilize sediments.

Response to Comments on Origin of Sediments (paragraph 5, item 3). Please see the responses to the comments above.

Response to Comments on Resuspension of Nutrients (paragraph 6). The objective of the permit requirement is to monitor the impact of the inner harbor sediment nutrient content, which is relatively high, on the water quality of the inner harbor. Specifically, the relocation of the canneries discharge from the inner harbor will result in lower nutrient concentrations in the water column. However, if the nutrients now contained in the inner harbor sediments are released back into the water column the improvement, or recovery, of the inner harbor water

quality may be affected and may not react as predicted in outfall relocation feasibility and design studies. To address this issue we do not need to look at resuspension of sediments (which is unlikely), but rather "resuspension" of the nutrient load in the sediments. This objective is achieved by monitoring the nutrients in the sediments (this sediment monitoring study), monitoring the nutrients in the water column (another permit condition), and reevaluating and verifying the previous model predictions (also a permit requirement).

Response to Comments on Accumulation of Nutrients (paragraph 7). The objective is to monitor the accumulation of nutrients in the sediments, not the total sedimentation rates. Although grab samples would not be adequate for determining sedimentation rates, grab samples of sediments are adequate to provide sediment samples for chemical analysis of nutrients. Thus, the accumulation of nutrients in the sediments, particularly in the outer harbor in the vicinity of the new outfall, can be adequately monitored. If an apparent problem is identified, then some of the more sophisticated studies described in the above comments may be required to better define sources, sinks, and transport paths of sediment and nutrients in the sediments. However, the issues addressed by this permit requirement is to monitor conditions to determine if a problem with sediment nutrient content exists.

Response to Comments on Monitoring Sediment Deposition (paragraph 8). This comment refers to sediment traps. Essentially the same comment was addressed under USEPA comment number 4 above.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

January 22, 1993

Steven L. Costa
Project Manager
CH2M Hill
1111 Broadway
P.O. Box 12681
Oakland, CA 94604-2681

Re: Review of the Joint Cannery Outfall Sediment Monitoring and Coral Reef Draft Study Plans

Dear Steve:

We have reviewed the draft sediment monitoring and coral reef study plans submitted to us on January 6, 1993. Both studies are required by the canneries' NPDES permits. Generally both plans are acceptable, and address the objectives of the studies as outlined in the permits. Both studies appear to be well planned. We find that the use of the Mini-Ranger for locating sampling sites is an excellent idea.

However, we have the following comments and recommendations which we would appreciate being commented upon and/or addressed in the final plan:

Draft Sediment-Monitoring Plan

1. Total Organic Carbon measurements are preferred over Total Volatile Solids (TVS) because it is a better indicator of sediment organic compounds.

2. Total grain size distribution measurements should not be optional as they are an important assessment of solids dispersal in the harbor (i.e., percent silt, clays, sands, etc.).

3. In addition to references mentioned in the plan, other reference documents should be consulted re: collection, storage, analyses, i.e, EPA's 301(h) QA/QC document (EPA 430/9-86-004) and the EPA/COE 1991 Evaluation of Dredged Materials Proposed for Ocean Disposal (EPA-503/8-91/001). If you do not have these documents, feel free to visit our office to review our copies.

4. Have sediment traps been considered? If not, why not? Sediment traps would enable one to determine deposition of new

material over time. Also, a van Veen sediment grab sampler is preferred over a Ponar sampler.

5. Will total and/or water soluble sulfides be measured? What methods will be used? (See 301(h) QA/QC document). Should ammonia also be measured since it is the form of nitrogen that is most readily utilized by phytoplankton and macroalage?

6. How will Eh be measured? (A copy of a suggested procedure is enclosed as Attachment 1.) At what depth will it be measured? If only one measurement will be taken we suggest it be at the 2 cm depth. However, a full vertical profile through the sediments is preferred.

7. Where will temperature and pH be measured? Will they be measured at the surface, 2 cm depth, and at other depths? Please explain the rationale and objectives for measuring pH, Eh and temperature at depth(s) chosen.

8. How will the sediment grab sampler and stainless steel bowls be cleaned between sampling events to minimize cross-contamination between stations?

9. Will only the surface sediments be photographed? If yes, why? We suggest that photographs also be taken of sediment cores as changes in color could then be correlated with other data re: Eh, particle size, hydrogen sulfide, etc.

10. We have no objection to the modification of the monitoring schedule proposed, i.e., having the first two sampling episodes during the first year of the study, six months apart. However, we recommend that the third sampling event occur 12 months after the second episode, versus 18 months as proposed in the study. We feel that the 18-month interval is too long after the second sampling event. Also, a 12-month interval would enable the sampling to take place during the same time as the first event. This should provide information to assist in determining the best season for the annual sampling in the future.

11. Compositing the sediment samples may greatly affect the hydrogen sulfide measurements. Perhaps separate discrete samples should be collected for hydrogen sulfide measurements before compositing.

12. We suggest that a minimum of 2 liters of sediment per station be collected and that excess sediment samples be archived in case there are problems with any of the measurements.

13. The final report on the study results submitted to USEPA and ASEPA should include the following: Introduction, Methods and

Materials, Results, Discussion and Recommendations, and Conclusions.

14. Table 2 on Sediment Chemical Analyses indicates standard methods numbers which are outdated. See 1989 edition of Standard Methods.

Draft Coral Reef Study Plan

The draft plan for the coral reef study is generally good. We especially find noteworthy the use of a Mini-Ranger for siting, use of permanent transects and the adequate number of stations to be surveyed, and the various depths at each station. Our review comments are as follows:

1. Benthic organisms included in the semi-quantitative data sets at each transect should be macroinvertebrates and macroalgae.

2. If possible, water quality sampling should be coordinated with the reef surveys so that any potential correlations between water quality and biological data can be noted. Water quality monitoring should be performed either on the same day or within a week of the coral reef surveys.

3. On page 5, end of the third paragraph, only five representative sites are specified where video records of reef flats will be taken. Where is the sixth representative site?

4. Will the marine ecologist who will be analyzing the videos also be involved in conducting the transects? Please provide a copy of his resume/experience in tropical marine waters.

5. Please describe in detail how the video transect records will be "analyzed and summarized" (see page 2 of the draft plan).

6. We recommend that all sites be visited at least once per year to ensure that the transect marker stakes are still present and/or whether any major changes to each site have occurred.

7. Please describe in detail the video equipment and methods to be used during the videotaping of each transet. This would include information describing:

   a. The camera(s) to be used and "line of resolution" per frame;

   b. Recommended swimming speed for each transect;

   c. Standardized distance from the bottom that will be used during videotaping and the taking of still pictures; and,

d. Any other revelant information.

8. In order to quantitatively document changes within and between the silts over time, we strongly recommend that at least one permanent square-meter quadrant be established along each transect line.

9. For additional guidance in modifying the design of the coral survey plans, please refer to the attached documents entitled: Effects of Sugar Mill Waste Discharge on Reef Coral Community Structure, Hamakua Coast, Island of Hawaii (Attachment 2) and Proposal for Long-Term Monitoring and Management Research on Coral Reefs (Attachment 3).

10. It might be worthwhile to investigate whether a chemical indicator exists in the cannery effluent (e.g., aluminum from the alum added to the wastewater treatment system) which can be measured in the sediment. This would assist in determining transport, dispersion, etc. of the effluent in the harbor.

11. The final report on the study results submitted to USEPA and ASEPA should include the following: Introduction, Methods and Materials, Results, Discussion and Recommendations, and Conclusions.

Also attached are the American Samoa Department of Marine and Wildlife Resources' (DMWR) comments on the sediment monitoring plan and the dye study plan (Attachment 4). We would appreciate your response (in writing) regarding our concerns raised above, and the comments provided by DMWR regarding the draft sediment monitoring plan and the dye study plan. Please call Pat Young at 415/744-1591 if you have any questions.

Sincerely,

James B. Brand

for Norman L. Lovelace, Chief
Office of Pacific Island and Native
American Programs (E-4)

Enclosures (4)

cc: Sheila Wiegman, American Samoa EPA

OFFICE OF THE GOVERNOR
ENVIRONMENTAL PROTECTION AGENCY

January 22, 1993

To: Steve Costa, CH2M Hill

From: Sheila Wiegman, American Samoa EPA

Re: Comments on Sediment and Outfall Dye Studies for American Samoa Canneries.

We have reviewed the draft study plans for the above referenced studies and have the following comments. The AS Department of Marine and Wildlife Resources submitted the attached comments to me.

My only comment on the sediment study is concerning the location of the stations. The inner harbor should probably be sampled near Pago Park. Sites IH-3 or site IH-2 could be moved. Also, site OH-3 is near the Utulei STP outfall and would propbably reflect that discharge rather than the cannery discharge.

Please feel free to contact me if you have any questions on these comments.

January 15, 1993

FROM: John McConnaughey
Fisheries Biologist

TO: Sheila Wiegman, ASEPA
Norman Wei, StarKist Samoa Inc
Jim Cox, VCS Samoa Packing Company

SUBJECT: Comments on "Joint Cannery Outfall Sediment Monitoring Study Plan.

A copy of the Joint Cannery Outfall Sediment Monitoring Study Plan dated January 6, 1992 has been forwarded to our department for review and comments. This study is written to comply with NPDES permits AS0000018 and AS0000027, which allow for the construction and use of the cannery outfall.

In reviewing the study plan I have some questions regarding the usefulness of the studies potential results as far as evaluating the effects of the wastes discharged from the cannery outfall.

My main problem with the sediment sampling program as described is that no mention is made in the methodology as to what criteria will be used to determine the origin of sediments recovered from the harbor.

We know that large volumes of organic wastes were discharged at the cannery sites prior to the construction of the 1.5 mile long discharge pipe. We also know that this pipe is now discharging wastes at a site that is now deeper and further removed from the inner harbor. And we know that there are numerous other sources of wastes and sediments entering the harbor on all sides.

My questions are these:

1) Of the top layer of sediments, how much is new material v.s. old material?

2) What is the resident time of sediments in the harbor? Do they eventually flush out, or do sediments just continue to accumulate?

3) For sediments which have been deposited in the last year, what proportion of them are 1) from wastes discharged from the canneries, 2) from other sources, or 3) sediments which have been resuspended and now just redeposited in their present location?

Section G of the Star-Kist Samoa and Samoa Packing NPDES permit states:

> "Sediment monitoring is conducted"..."and if harbor recovery will be affected by resuspension of the nutrients."

From the study plan, I do not see how the resuspension issue will be addressed. It seems to me that in order to investigate the resuspension issue, that one needs to know what proportion of the observed sediments are new v.s. older resuspended sediments.

Section G also states:

> "The permittee"..."shall undertake a yearly sediment monitoring program in Pago Pago Harbor in order to assess"..."the rate of accumulation of nutrients".

I question whether using grab samples as outlined in the study proposal will address the issue of sediment accumulation rates.

I have only very limited experience working on marine sediment studies, but it seems to me that an alternative procedure which would monitor the sedimentation on a bare surface would provide more useful information on the nature and deposition rates of sediments being currently deposited.

cc: Ray Tulafono, Director DMWR
Peter Craig, Chief Biologist DMWR

SEDIMENT STUDY
Rcd 5/3/93
Copy to Oda
Stuart/Melgan

Engineers
Planners
Economists
Scientists

29 April 1993

PDX30702.SM

Patricia N.N. Young
American Samoa Program Manager
Office of Pacific Islands and Native American Programs
U.S. Environmental Protection Agency
75 Hawthorne Street (E-4)
San Francisco, California 94105

Dear Pat:

Subject: Joint Cannery Outfall Sediment Monitoring Study

Enclosed are two copies of a Technical Memorandum describing the results of the Sediment Monitoring Study done under StarKist Samoa and VCS Samoa Packing NPDES permit requirements. We will be forwarding our study plan for the second sampling event for your review by the end of May 1993. We foresee no significant modifications.

If have any questions please feel free to call me at your convenience.

Sincerely,

CH2M HILL

Steven L. Costa
Project Manager

cc: Norman Wei/StarKist Seafood Company
James Cox/Van Camp Seafood Company
Maurice Callaghan, StarKist Samoa, Inc.
Michael Macready, VCS Samoa Packing Co.

CH2M HILL 1111 Broadway, Suite 1200, Oakland, CA 94607-4046 510 251-2426
P.O. Box 12681, Oakland, CA 94604-2681 Fax No. 510 893-8205

TECHNICAL MEMORANDUM CH2M HILL

PREPARED FOR: StarKist Samoa, Inc
VCS Samoa Packing Company

PREPARED BY: David Wilson/CH2M HILL/SEA
Steve Costa/CH2M HILL/SFO

DATE: 29 April 1993

SUBJECT: **Sediment Monitoring Study**
February 1993 Data Collection

PROJECT: PDX30702.SM.R1

Introduction

This memorandum presents the field collection and laboratory analysis of marine sediments collected in the inner and outer regions of Pago Pago Harbor. This is the first sediment monitoring episode and provides a baseline for comparison with future measurements. This work has been conducted to comply with Section G of the StarKist Samoa and Samoa Packing NPDES permits, which state the following:

> "Sediment monitoring is conducted to determine the character of the sediments in relation to long-term high nutrient discharge by the permittee in the harbor and if harbor recovery will be affected by resuspension of the nutrients.
>
> The permittee, cooperatively with (Samoa Packing Co.; StarKist, Inc) shall undertake a yearly sediment monitoring program in Pago Pago Harbor in order to assess the concentration of nutrient and organic components, the distribution of stored nutrients, the size of the nutrient reservoir, and the rate of accumulation of nutrients. Seven sites shall be located within Pago Pago Harbor and analyzed for total nitrogen, total phosphorus, percent organics, percent solids, bulk density, oxidation-reduction potential, and sulfides. Three sites shall be located in inner Pago Pago Harbor and four sites shall be located in the outer harbor. These sites and monitoring plan shall be submitted within three months of the effective date of the permit for approval by ASEPA and EPA. Thereafter, these sites shall be approved annually by the anniversary date of the effective date of the permit. A report of the sediment monitoring program findings shall be submitted to the ASEPA and EPA 90 days after completion of sampling.
>
> After the first two studies have been performed and the results have been assessed, the permit may be reopened for the inclusion of a more frequent or less frequent monitoring schedule."

Sediment Monitoring Study
February 1993 Data Collection
StarKist Samoa/VCS Samoa Packing

A Sediment Monitoring Study Plan was submitted for review and approval to the EPA and ASEPA on January 6, 1993. During the development and review of the Sediment Monitoring Study Plan, specific changes or clarification of the sediment analyses were agreed to with the EPA and ASEPA. Particle size analysis replaced bulk density, and the percent organics in sediments is to be provided by total volatile solids analysis. In addition, the location of one sediment sampling site (IH-3) was changed, at the request of ASEPA, and the revised location was near the mouth of Pago Pago Stream. The changes have all been incorporated into the final study plan for the initial sediment sampling and analysis.

Objectives and Approach

The objectives of the Sediment Monitoring are: (1) to evaluate the characteristics and nutrient load of the marine sediments in the vicinity of the canneries historic (abandoned) outfalls in the inner harbor; (2) to evaluate the characteristics and nutrient load of the marine sediments in the vicinity of the new joint cannery outfall diffuser into the outer harbor; and (3) to provide data for an evaluation of changes in harbor sediments over time. The sediment data presented in this document are the first data set for the Sediment Monitoring Study, and subsequent sample collections and analyses will provide data for the assessment of changes over time, as well as changes between sites within Pago Pago Harbor.

Sampling sites were located based on the predominant current directions at the outfall areas, bathymetry of the area, limited information on sediment physical characteristics, and the location of other point sources. Sediment samples were collected at the following seven sites (Figure 1) in February 1993, in accordance with the approved study plan:

- Inner harbor site IH-1: located within 100 feet of, and between, the two previous cannery outfalls in the inner harbor

- Inner harbor site IH-2: located within 500 feet directly south of, and between, the two previous cannery outfalls in the inner harbor

- Inner harbor site IH-3: located within 250 feet of the mouth of Pago Pago Stream, at the west end of the inner harbor

- Outer harbor site OH-1: located within 400 feet north-northeast of the new outfall diffuser in the outer harbor;

- Outer harbor site OH-2: located within 400 feet south-southwest of the new outfall diffuser

- Outer harbor site OH-3: located directly across the outer harbor from the new outfall diffuser and about 20 feet of the Utulei WWTP outfall

- Outer harbor site OH-4: located in the center of the outer harbor area mid-way between Tulutulu Point and Tafagamanu Point, and north of Whale Rock.

The sampling sites were located using a MiniRanger. This provides a high degree of repeatability for stationing for future sampling episodes. The MiniRanger coordinates for each Station are given in Table 1.

Methods

Sediment sampling was conducted in accordance with the approved Sediment Monitoring Study Plan, and consistent with the Procedures for Handling and Chemical Analysis of Sediment and Water Samples (U.S. EPA and Army COE, 1981).

Sediment samples were collected using a 0.0225 meter^2 petite Ponar grab sampler. The Ponar sampler is a weighted sediment grab sampler designed to penetrate and collect undisturbed samples of sediments ranging from silts to coarse gravels. Samples were collected in five separate grabs at each of the seven sites, except at OH-3. At OH-3, three grab samples were collected by a diver from the seabed within 20 feet of the Utulei outfall discharge port. Sufficient sediment materials were collected for the sediment chemistry tests and to provide archive materials.

Prior to disturbing the sample, the following were recorded in the field logbook; date, time, water depth, sediment sample penetration depth, color, texture/type, odor, depth of visible oxidation-reduction layer, and photograph and film roll number. Photographs were taken of each sediment sample. The Orion Redox Potential and pH meter was damaged during shipment, and oxidation-reduction potential measurements could not be taken. However, visual observations of the depth to anoxic sediments were made which partially compensate for the lack of direct measurements.

The surface 2 cm depth layer of each grab sample was composited into a stainless steel bowl and small (<1-oz.) sample portion of each grab was place directly into a 4-ounce jar for the sulfide analysis. The composite sample was stirred, and an 8-ounce and 16-ounce container were filled from the composite sediment sample using a pre-cleaned

stainless steel spoon. The surface sediments collected by hand by a diver at OH-3 were composited for all tests. Samples collected at each site were labeled with a unique label. All sediment sample containers were sealed into ziplock bags and stored on ice in an ice chest for transport to the laboratory. A total of seven composite sediment samples were submitted for chemical and physical analyses.

Sediment sampling was completed at IH-1, IH-2, IH-3, OH-3, and OH-4 on February 13, 1993. Sediment samples were collected at OH-1 and OH-2 on February 18, 1993, after the outfall diffuser in the outer harbor was located and marked with a buoy. All sediment samples were stored on ice until delivered to the laboratory. Sample chain of custody forms were completed and then sealed into zip-lock bags and taped inside the lid of the ice chest. Samples were shipped as checked luggage on flights from Pago to Honolulu and then to Seattle. Samples were delivered to North Creek Analytical Laboratory before 1200 on February 23rd.

Sediment samples were analyzed for the chemical and physical parameters listed in Table 2. The sample containers, sample handling requirements and sample preservation requirements were in accordance with those listed in Table 2, with the exception that sulfide samples exceeded the recommended holding time. This holding time exceedance is not considered significant, since the sulfide samples were preserved with zinc acetate and held on ice. The sediment sampling and shipping dates were extended in the field, because of unavoidable delays in obtaining field equipment in American Samoa.

Results

Complete laboratory data sets, laboratory quality control data reports, and chain-of-custody forms are attached to this memorandum. The chain-of-custody form is included in Attachment 1 and analytical data sheets and quality control data reports are included as Attachment 2. The physical characteristics and descriptions of the marine sediments collected in Pago Pago Harbor are provided in Table 3, and the results of the chemical analyses are provided in Table 4.

Physical Analysis. The physical characteristics of the sediments near the old cannery outfalls (IH-1) are very similar to those near the mouth of Pago Pago Stream (IH-3) in the inner harbor (Table 3). Sediments at both IH-1 and IH-3 consisted of grey-black sandy-silts with visible oil sheen, a strong sulfurous odor, and essentially no surface oxidized sediment layer. Both of these inner harbor sites had sediments with low densities (26 and 30 percent solids), indicating organic material depositions at these sites. Sediments collected from 500 feet south of the old cannery outfalls (IH-2)

consisted primarily of silts with a thin (1-2 cm) oxidized surface layer, a slight sulfurous odor, and 45 percent solids content.

Sediments collected from the outer harbor all consisted of oxidized sediments with varying mixes of silts and sands. These outer harbor sediments also had a much greater density (e.g. 58 to 69 percent solids). Sediment sampling sites OH-1 and -2 were located near the new canneries outfall and proximate to the coral reef slope on the east side of harbor. OH-3 was located near the Utulei sewage outfall and within 200 feet of the coral reef on the west side of the harbor. OH-4 was located in the middle of the outer harbor. Sediments collected near the joint cannery outfall (at OH-1 and -2) were predominantly tan silts with less than 20 percent sands and they were oxidized throughout the entire sample depth (6 cm). Sediments from the middle of the outer harbor (OH-4) were 56% coral sands and medium sands and 43% silts, and they were oxidized throughout the entire sample depth (6 cm). Sediments collected at the Utulei outfall (OH-3) were much coarser than the middle and eastern regions of the outer harbor, with 90% coral sands and less than 10 percent silts.

Chemical Analysis. Sediment chemical analyses results for the inner and outer harbor sites are summarized in Table 4. The sediment physical data indicates substantial differences between the inner and outer harbor areas, and these difference correlate with the sediment organic content. Sediment organics, as measured by total volatile solids, ranged from 9.3 to 19 percent in the inner harbor sites compared with 3.1 to 5.6 percent in the outer harbor sites. Sediments collected at IH-1 and IH-3 show substantially elevated values of total volatile solids (TVS), total Kjeldahl nitrogen (TKN), total phosphorus (TP), and total sulfide compared to other sites. In comparison, IH-2, located only 500 feet from the previous cannery outfalls and near the center of the inner harbor basin, had TVS, TKN, and total sulfide concentrations that were 50 percent less than at IH-1 and 30 percent less than at IH-3. An oxidized surface sediment layer was also observed at IH-2, indicating that the anoxic sediments may be localized near stream mouths and previous outfalls.

The outer harbor sediments show very little difference in organic contents between the four sites (Table 4), despite the differences in sediment physical characteristics (Table 3). The sediments at OH-1 and -2, located near the new outfall diffuser, consisted primarily of silts and these sites had total volatile solids values of 5.6 and 4.9 percent, respectively. By comparison, the sediments at OH-3 and -4 consisted mainly of sands and these sites had TVS values of 3.1 and 4.2 percent, respectively. TKN and TP values were equivalent at all sites in the outer harbor. Total sulfides concentrations were slightly above the reporting limit for samples from the two near outfall sites, and were not detected at the other two sites. Sediments from these four outer harbor

sampling sites were observed to be completely oxidized throughout the sample depth, with no oxidation-reduction layer.

Summary

The sediments near the old cannery outfalls (IH-1) have similar physical and chemical characteristics to those near the mouth of Pago Pago Stream (IH-3) in the inner harbor. Sediments at IH-1 and IH-3 consist of anoxic, grey-black sandy-silts with oil sheen, a strong sulfurous odor, and elevated levels of volatile organics, nitrogen compounds, phosphorus compounds, and sulfides. Both of these inner harbor sites have sediments that appear to consist of deposited organic materials. The sources of the organic deposits and contaminants at both sites include all activities in the inner harbor and its watershed. Sediments from IH-2, only 500 feet south of the old cannery outfalls were grey-brown silts with an oxidized surface layer. IH-2 samples had 30- to 50-percent lower volatile organics, nitrogen compounds, and sulfides, and 10- to 25-percent lower phosphorus compounds, than the sediment samples at IH-1 and IH-3. The transition into oxidized sediments at IH-2, indicates that the organic sediments appear to occur in a localized area.

Although the outer harbor sediments range from predominantly silts near the new outfall (OH-1 and -2) to mainly sands at the middle and west side sampling sites (OH-3 and -4) in the outer harbor, the data show very little difference in organic contents between the four sites. Sediments from these four outer harbor sampling sites were completely oxidized throughout the sample, and sediment nitrogen and phosphorus levels were equivalent at all sites in the outer harbor.

Table 1
Sampling Locations for Sediments in Pago Pago Harbor

Station	Sampling Location and Depth (feet)	Navigation Coordinates for MiniRanger III System (a,b)	
		Code 1	Code 4
IH-1	Between old cannery outfalls in inner harbor (60 feet)	1420 (N)	581 (N)
IH-2	500 feet South of and between old cannery outfalls in inner harbor (100 ft)	1459 (N)	731 (N)
IH-3	250 feet off mouth of Pago Pago Stream in inner harbor (25 ft)	2992 (N)	1679 (N)
OH-1	400 feet NNE of cannery outfall in outer harbor (160 ft)	1264 (S)	1504 (S)
OH-2	400 feet SSW of cannery outfall in outer harbor (180 ft)	1561 (S)	1725 (S)
OH-3	Within 20 feet of the Utulei outfall discharge (120 ft)	1596 (S)	1265 (S)
OH-4	Outer harbor between Tulutulu and Tafagamanu Pts (180 ft)	2048 (S)	1768 (S)

NOTES:

(a) The shore-based Mini-Ranger transponders were located at survey control points as follows: Code 1 - located at Pago Pago Harbor Front Range Tower (261,551.58E and 309,857.04N, State Coordinates (feet)); Code 4 - located at Fagatogo Tram Park Building (258,117.06E and 305,879.24N, State Coordinates (feet)).

(b) The navigation readings are designated as either north (N) or south (S) of the alignment between the Code 1 and Code 4 shore transponder stations.

(c) Coordinates were acquired at the time of sampling at Stations OH-1 and OH-2. At other stations coordinates were determined by revisiting the sites two days later. This procedure was followed because of delays in receiving equipment.

Table 2
Sediment Sample Analyses and Handling Procedures

Parameter	Analytical Methods (a,b,c)	Reporting Detection Limits	Sample Holding Time	Sample Container	Sample Preservation
Total Kjeldahl Nitrogen	EPA 351.3	1 mg/kg	14 days	8-oz. glass	4 deg. C
Total Phosphorus	EPA 6010	10 mg/kg	14 days	8-oz. glass	4 deg. C
Total Sulfides	EPA/COE 1981	0.12 mg/kg	7 days	4-oz. glass	4 deg. C, add 2 ml. Zn-acetate
Total Volatile Solids	EPA 160.4	0.5%	14 days	8-oz. glass	4 deg. C
Percent Solids	EPA/COE 1981; SM2540/B	N/A	14 days	8-oz. glass	None
Particle Size Analysis	ASTM D422	N/A	6 months	8-oz. glass	None

(a) EPA methods are defined in 40 CFR 136.3, Guidelines Establishing Test Procedures for the Analysis of Pollutants.
(b) U.S. EPA and Army Corps of Engineers. May 1981. Procedures for Handling and Chemical Analysis of Sediment and Water Samples.
(c) American Society for Testing Materials. 1974. Part 19:D422; Standard Method for Particle Size Analysis of Soils.

Table 3
Physical Characteristics of Pago Pago Harbor Sediments

Station	Location and Depth (feet)	Sediment Type	Redox Depth (cm)	Particle Size Distribution (Percent)			Percent Solids
				Sand	Silt	Clay	
INNER HARBOR STATIONS							
IH-1	Between old cannery outfalls in inner harbor (60 feet)	Grey-black sandy silts with visible oil sheen and strong sulfurous odor	<0.5	30	70	0	26
IH-2	500 feet South of and between old cannery outfalls in inner harbor (100 ft)	Grey-brown silts with clay, and with slight odor	1-2	8	86	6	45
IH-3	250 feet off mouth of Pago Pago Stream in inner harbor (25 ft)	Grey-black sandy silts with visible oil sheen and strong sulfurous odor	<0.5	33	67	0	30
OUTER HARBOR STATIONS							
OH-1	400 feet NNE of cannery outfall in outer harbor (160 ft)	Tan, sandy silts with clay and no odor	None	11	83	6	60
OH-2	400 feet SSW of cannery outfall in outer harbor (180 ft)	Tan, sandy silts with some clay and no odor	None	19	79	2	59
OH-3	Within 20 feet of the Utulei outfall discharge (120 ft)	Grey-white coral sands and dark gray medium sands, with no odor	None	90	9	1	58
OH-4	Outer harbor between Tulutulu Pt and Tafagamanu Pt (180 ft)	Tan, mixed coral and medium sands and silts, with no odor	None	56	43	1	69

Table 4
Results of Pago Pago Harbor Sediment Chemical Analyses

Site	Sampling Location (Depth in feet)	Percent Solids	Total Volatile Solids (percent)	Total Kjeldahl Nitrogen (mg/kg, dry)	Total Phosphorus (mg/kg, dry)	Total Sulfide (mg/kg, dry)
INNER HARBOR STATIONS						
IH-1	Between old cannery outfalls in inner harbor (60 feet)	26	19	1,700	1,200	41
IH-2	500 ft S & between old cannery outfalls in inner harbor (100 ft)	45	9.3	770	1,100	22
IH-3	250 feet off mouth of Pago Pago Stream in inner harbor (25 ft)	30	14	1,100	1,500	34
OUTER HARBOR STATIONS						
OH-1	400 feet NNE of cannery outfall in outer harbor (160 ft)	60	5.6	480	600	0.8
OH-2	400 feet SSW of cannery outfall in outer harbor (180 ft)	59	4.9	470	570	0.5
OH-3	Within 20 feet of the Utulei outfall discharge (120 ft)	58	3.1	410	530	<0.1
OH-4	Mid-outer harbor between Tulutulu Pt and Tafagamanu Pt (180 ft)	69	4.2	470	470	<0.1

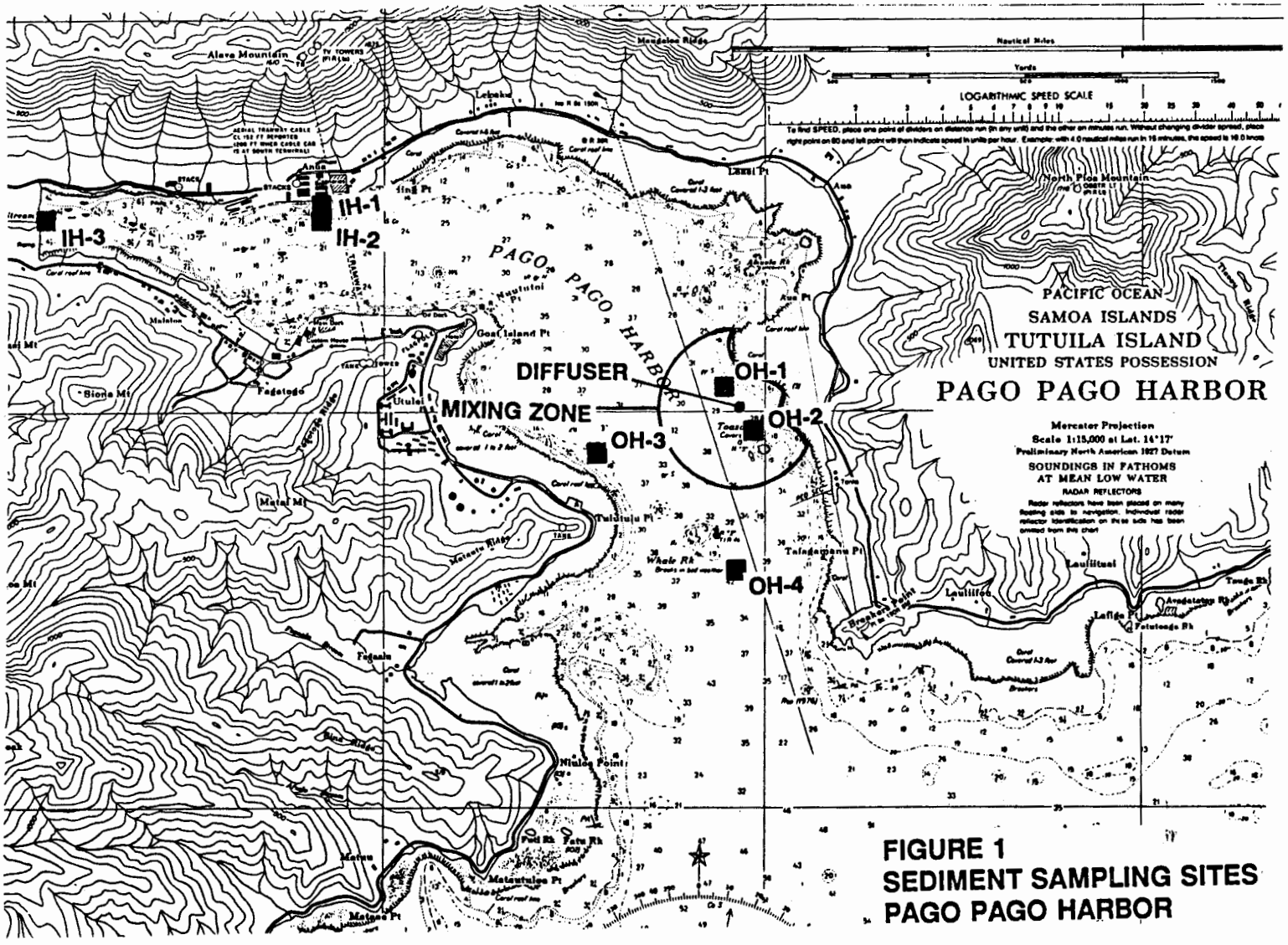

FIGURE 1
SEDIMENT SAMPLING SITES
PAGO PAGO HARBOR

ATTACHMENT 1

CHAIN OF CUSTODY FORMS

Marine Sediment Samples from Pago Pago Harbor, American Samoa
February 1994

STARKIST SAMOA, INC. and VCS SAMOA PACKING COMPANY

CH2M HILL

QUALITY ANALYTICAL LABORATORIES

CHAIN OF CUSTODY RECORD AND AGREEMENT TO PERFORM SERVICES

CH2M HILL Project #: ☐☐☐☐☐☐☐.☐☐.☐☐

Purchase Order #:

Project Name: Stockton/Samoa NPDES

Company Name/CH2M HILL Office: CH2M-Hill SEA

Project Manager & Phone #: Mr. [ ] Ms. [ ] Dr. [ ] David Wilson

Report Copy to:

Requested Completion Date:

Sampling Requirements: SDWA ☐ NPDES ☐ RCRA ☐ OTHER ____

Sample Disposal: Dispose ☐ Return ☐

LAB TEST CODES

SHADED AREA -- FOR LAB USE ONLY: Lab 1 # / Lab 2 # / Quote # / Kit Request # / Project # / No. of Samples / Page / of / COC Rev / Login / LIMS Ver / Ack Gen

ANALYSES REQUESTED

'93 Sampling Date	Time	Type COMP	Type GRAB	Matrix WATER	Matrix SOIL	CLIENT SAMPLE ID (9 CHARACTERS)	# OF CONTAINERS	Total Nitrogen	Total Phosphorus	Sulfides	Total Volatile Solids	Percent Solids	Percent Size	Extra Volume	REMARKS	LAB 1 ID	LAB 2 ID
2/13	1145	X	X	X		I H - 3	1	X	X		X	X	X	X	8oz Glass	3020769	
↓	↓	X	X	X		I H - 3	1			X					4oz Glass w ZnAc		
↓	↓	X	X	X		I H - 3	1							X	16oz Poly		
2/13	12:20	X	X	X		I H - 1	1	X	X		X	X	X		8oz Glass	3020770	
↓	↓	X	X	X		I H - 1	1			X					4oz Glass w ZnAc		
↓	↓	X	X	X		I H - 1	1							X	16oz Poly		
2/13	1320	X	X	X		I H - 2	1	X	X		X	X	X		8oz Glass	3020771	
↓	↓	X	X	X		I H - 2	1			X					4oz Glass w ZnAc		
↓	↓	X	X	X		I H - 2	1							X	16oz Poly		

Sampled By & Title (Please sign and print name)	Date/Time 2/13/93 1540	Relinquished By (Please sign and print name)	Date/Time 2/13/93
Received By (Please sign and print name) Dave Lacher DAVE LACHER	Date/Time 2/23/93 1000	Relinquished By (Please sign and print name) Dave Lacher DAVE LACHER	Date/Time 11:15 2/23/93
Received By (Please sign and print name) Dana Heinz DANA HEINZ NCA	Date/Time 2/23/93 11:15	Relinquished By (Please sign and print name)	Date/Time
Received By (Please sign and print name)	Date/Time	Shipped Via: UPS BUS Fed-Ex Hand Other ____	Shipping #
Work Authorized By (Please sign and print name)	Remarks		

HAZWRAP/NESSA: Y N

QC Level: 1 2 3 Other: ____

COC Rec	ICE
Ana Req	TEMP
Cust Seal	Ph

Instructions and Agreement Provisions on Reverse Side

DISTRIBUTION: ORIGINAL - LAB, Yellow - LAB, Pink - Client

REV 11/92 FORM 340

CH2M HILL

QUALITY ANALYTICAL LABORATORIES

CHAIN OF CUSTODY RECORD AND AGREEMENT TO PERFORM SERVICES

CH2M HILL Project #:

Purchase Order #:

Project Name: Starkist / Samoa NPDES

Company Name/CH2M HILL Office: CH2M-Hill - SEA

Project Manager & Phone #: Ms. David Wilson

Report Copy to:

Requested Completion Date:

Sampling Requirements: SDWA [ ] NPDES [ ] RCRA [ ] OTHER ____

Sample Disposal: Dispose [ ] Return [ ]

LAB TEST CODES

SHADED AREA – FOR LAB USE ONLY: Lab 1 # ; Lab 2 # ; Quote # ; Kit Request # ; Project # ; No. of Samples ; Page ; of ; COC Rev ; Login ; LIMS Ver ; Ack Gen

ANALYSES REQUESTED

Sampling Date	Sampling Time	Type COMP	Type GRAB	Matrix WATER	Matrix SOIL	CLIENT SAMPLE ID (9 CHARACTERS)	# OF CONTAINERS	Sulfide	Total Nitrogen	Total Phosphorous	Total Vol. Solids	% Solids	Particial Size	Extra Volume	REMARKS	LAB 1 ID	LAB 2 ID
2/13	1400	X	X	X		OH-3	1	X							4oz Glass w ZnAc	302077~~B~~	772
↓	↓	X	X	X		OH-3	1		X	X	X	X	X		8oz Glass		
↓	↓	X	X	X		OH-3	1							X	16oz Poly		
2/13	1440	X		X		OH-4	1	X							4oz Glass w ZnAc	302077B	
↓	↓	X		X		OH-4	1		X	X	X	X	X		8oz Glass		
↓	↓	X		X		OH-4	1							X	16oz Poly		
2/18	1130	X		X		OH-2	1	X							4oz Glass w ZnAc	302077A	
↓	↓	X		X		OH-2	1		X	X	X	X	X		8oz Glass		
↓	↓	X		X		OH-2	1							X	16oz Poly		

Sampled By & Title (Please sign and print name): [signature] — Date/Time: 2/18/93 1140

Relinquished By (Please sign and print name): [signature] — Date/Time: 2/18/93

Received By (Please sign and print name): Dave Lacher DAVE LACHER — Date/Time: 2/23/93 10:00

Relinquished By (Please sign and print name): Dave Lacher DAVE LACHER — Date/Time: 2/23/93 11:15

Received By (Please sign and print name): Dana Heinz DANA HEINZ NCA — Date/Time: 2/23/93 11:15

Relinquished By (Please sign and print name): — Date/Time:

Received By (Please sign and print name): — Date/Time:

Shipped Via: UPS BUS Fed-Ex Hand Other ____ — Shipping #:

Work Authorized By (Please sign and print name): — Remarks:

HAZWRAP/NESSA: Y N

QC Level: 1 2 3 Other: ____

COC Rec | ICE

Ana Req | TEMP

Cust Seal | Ph

Instructions and Agreement Provisions on Reverse Side

DISTRIBUTION: ORIGINAL - LAB, Yellow - LAB, Pink - Client

REV 11/92 FORM 340

CH2M HILL

QUALITY ANALYTICAL LABORATORIES

CHAIN OF CUSTODY RECORD AND AGREEMENT TO PERFORM SERVICES

CH2M HILL Project #: ☐☐☐☐☐☐☐☐.☐☐.☐☐

Purchase Order #:

Project Name: Stackist/Simon NPDES

Company Name/CH2M HILL Office: CH2M-Hill -SEA

Project Manager & Phone #: Mr. [ ] Ms. [ ] Dr. [ ] David Wilson

Report Copy to:

Requested Completion Date:

Sampling Requirements: SDWA ☐ NPDES ☐ RCRA ☐ OTHER ____

Sample Disposal: Dispose ☐ Return ☐

LAB TEST CODES

SHADED AREA – FOR LAB USE ONLY: Lab 1 # | Lab 2 # | Quote # | Kit Request # | Project # | No. of Samples | Page | of | COC Rev | Login | LIMS Ver | Ack Gen

ANALYSES REQUESTED

'93 Sampling Date	Time	Type COMP	Type GRAB	Matrix WATER	Matrix SOIL	CLIENT SAMPLE ID (9 CHARACTERS)	# OF CONTAINERS	Sulfides	Total Nitrogen	Total Phosphorus	Total Vol. Solids	% Solids	Particle Size	Total Vol.	REMARKS	LAB 1 ID	LAB 2 ID
2/18	12:30	X		X	O H - 1		1	X							4oz Glass	3020	775
↓	↓	X		X	O H - 1		1		X	X	X	X	X		8oz Glass		
		X		X	O H - 1		1							X	16oz Poly		

Sampled By & Title (Please sign and print name)	Date/Time 12/18/93 1300	Relinquished By (Please sign and print name)	Date/Time 2/23/93
Received By (Please sign and print name) Dave Lacher DAVE LACHER	Date/Time 2/23/93 1000	Relinquished By (Please sign and print name) Dave Lacher DAVE LACHER	Date/Time 2/23/93 11:10
Received By (Please sign and print name) 2/23/93 Dana Heinz DANA HEINZ NCA 11:15	Date/Time 2/23/93 11:15	Relinquished By (Please sign and print name)	Date/Time
Received By (Please sign and print name)	Date/Time	Shipped Via: UPS BUS Fed-Ex Hand Other ____	Shipping #
Work Authorized By (Please sign and print name)	Remarks		

HAZWRAP/NESSA: Y N

QC Level: 1 2 3 Other: ____

COC Rec | ICE

Ana Req | TEMP

Cust Seal | Ph

Instructions and Agreement Provisions on Reverse Side

DISTRIBUTION: ORIGINAL - LAB, Yellow - LAB, Pink - Client

REV 11/92 FORM 340

ATTACHMENT II

LABORATORY DATA REPORT
North Creek Analytical Laboratory

Marine Sediment Samples from Pago Pago Harbor, American Samoa
February 1998

STARKIST SAMOA I & II and VCS SAMOA PACKING COMPANY

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101· Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

CH2M Hill	Client Project ID:	Starkist/Samoa NPDES		
777 108th Avenue NE	Matrix:	Soil		
Bellevue, WA 98009	Analysis for:	Moisture Content	Received:	Feb 23, 1993
Attention: David Wilson	First Sample #:	302-0769	Reported:	Mar 9, 1993

LABORATORY ANALYSIS FOR: Moisture Content

Sample Number	Sample Description	Total Solids %	Moisture Content %
302-0769	IH-3	30	70
302-0770	IH-1	26	74
302-0771	IH-2	45	55
302-0772	OH-3	58	42
302-0773	OH-4	69	31
302-0774	OH-2	59	41
302-0775	OH-1	60	40

The enclosed analytical results for soils, sediments and sludges have been converted to a DRY WEIGHT reporting basis.
To attain the wet weight "as received" equivalent, multiply the dry weight result by the decimal fraction of percent Total Solids.
The results in this report apply only to the samples analyzed, as indicated on the custody document.
This analytical report is to be reproduced only in its entirety.

NORTH CREEK ANALYTICAL inc

Steven G. Mayer
Project Manager

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

CH2M Hill	Client Project ID:	Starkist/Samoa NPDES	Sampled:	Feb 13, 1993
777 108th Avenue NE	Analysis Method:	EPA 351.3	Received:	Feb 23, 1993
Bellevue, WA 98009	Analysis for:	Total Kjeldahl Nitrogen	Analyzed:	Mar 2, 1993
Attention: David Wilson	First Sample #:	302-0769	Reported:	Mar 9, 1993

LABORATORY ANALYSIS FOR: Total Kjeldahl Nitrogen

Sample Number	Sample Description	Reporting Limit mg/kg (ppm)	Sample Result mg/kg
302-0769	IH-3	1.0	1,100
302-0770	IH-1	1.0	1,700
302-0771	IH-2	1.0	770
302-0772	OH-3	1.0	410
302-0773	OH-4	1.0	470
302-0774	OH-2 2/18/93	1.0	470
302-0775	OH-1 2/18/93	1.0	480
BLK030293	Method Blank	1.0	N.D.

Analytes reported as N.D. were not detected above the stated Reporting Limit.
The results reported above are on a dry weight basis.

NORTH CREEK ANALYTICAL inc

Please Note:
Report was amended on March 23, 1993.

Steven G. Mayer
Project Manager

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

CH2M Hill	Client Project ID:	Starkist/Samoa NPDES	Sampled:	Feb 13, 1993
777 108th Avenue NE	Analysis Method:	EPA 6010	Received:	Feb 23, 1993
Bellevue, WA 98009	Analysis for:	Total Phosphorus	Analyzed:	Feb 25, 1993
Attention: David Wilson	First Sample #:	302-0769	Reported:	Mar 9, 1993

LABORATORY ANALYSIS FOR: Total Phosphorus

Sample Number	Sample Description	Reporting Limit mg/kg (ppm)	Sample Result mg/kg
302-0769	IH-3	10	1,500
302-0770	IH-1	10	1,200
302-0771	IH-2	10	1,100
302-0772	OH-3	10	530
302-0773	OH-4	10	470
302-0774	OH-2 2/18/93	10	570
302-0775	OH-1 2/18/93	10	600
BLK022593	Method Blank	10	N.D.

Analytes reported as N.D. were not detected above the stated Reporting Limit.
The results reported above are on a dry weight basis.

NORTH CREEK ANALYTICAL inc

Steven G. Mayer
Project Manager

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

CH2M Hill	Client Project ID:	Starkist/Samoa NPDES	Sampled:	Feb 13, 1993
777 108th Avenue NE	Analysis Method:	PSDDA Conventionals	Received:	Feb 23, 1993
Bellevue, WA 98009	Analysis for:	Sulfide	Analyzed:	Feb 25, 1993
Attention: David Wilson	First Sample #:	302-0769	Reported:	Mar 9, 1993

LABORATORY ANALYSIS FOR: Sulfide

Sample Number	Sample Description	Reporting Limit mg/kg (ppm)	Sample Result mg/kg
302-0769	IH-3	0.12	34
302-0770	IH-1	0.12	41
302-0771	IH-2	0.12	22
302-0772	OH-3	0.12	N.D.
302-0773	OH-4	0.12	N.D.
302-0774	OH-2 2/18/93	0.12	0.46
302-0775	OH-1 2/18/93	0.12	0.75
BLK022593	Method Blank	0.12	N.D.

Analytes reported as N.D. were not detected above the stated Reporting Limit.
The results reported above are on a dry weight basis.

NORTH CREEK ANALYTICAL inc

Steven G. Mayer
Project Manager

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

CH2M Hill	Client Project ID:	Starkist/Samoa NPDES	Sampled:	Feb 13, 1993
777 108th Avenue NE	Sample Descript:	Sediment, IH-3	Received:	Feb 23, 1993
Bellevue, WA 98009	Analysis Method:	ASTM D422-63	Analyzed:	Feb 24, 1993
Attention: David Wilson	Sample Number:	302-0769	Reported:	Mar 9, 1993

LABORATORY ANALYSIS: PARTICLE SIZE DISTRIBUTION

Sieve Size	Hydrometer < Phi Size	Particle Size microns	Passing %	Fractional %
4		>4750	100	0
10		4750 - 2000	98	2
20		2000 - 850	96	2
40		850 - 425	93	3
60		425 - 250	89	5
140		250 - 106	75	14
200		106 - 75	70	5
230		75 - 62.5	68	2
	4	62.5 - 31.2	22	46
	5	31.2 - 15.6	16	5
	6	15.6 - 7.8	5	11
	7	7.8 - 3.9	0	5
	8	3.9 - 1.9	0	0
	9	1.9 - 0.9	0	0
	10	<0.9	0	0

Total Solids, %: 30
Total Volatile Solids, %: 14

NORTH CREEK ANALYTICAL, Inc.

Steven G. Mayer
Project Manager

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

CH2M Hill	Client Project ID:	Starkist/Samoa NPDES	Sampled:	Feb 13, 1993
777 108th Avenue NE	Sample Descript:	Sediment, IH-1	Received:	Feb 23, 1993
Bellevue, WA 98009	Analysis Method:	ASTM D422-63	Analyzed:	Feb 24, 1993
Attention: David Wilson	Sample Number:	302-0770	Reported:	Mar 9, 1993

LABORATORY ANALYSIS: PARTICLE SIZE DISTRIBUTION

Sieve Size	Hydrometer < Phi Size	Particle Size microns	Passing %	Fractional %
4		>4750	97	3
10		4750 - 2000	96	1
20		2000 - 850	92	4
40		850 - 425	84	8
60		425 - 250	79	5
140		250 - 106	71	8
200		106 - 75	70	1
230		75 - 62.5	70	0
	4	62.5 - 31.2	16	54
	5	31.2 - 15.6	11	5
	6	15.6 - 7.8	5	6
	7	7.8 - 3.9	0	5
	8	3.9 - 1.9	0	0
	9	1.9 - 0.9	0	0
	10	<0.9	0	0

Total Solids, %: 27
Total Volatile Solids, %: 19

NORTH CREEK ANALYTICAL, Inc.

Steven G. Mayer
Project Manager

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

CH2M Hill	Client Project ID:	Starkist/Samoa NPDES	Sampled:	Feb 13, 1993
777 108th Avenue NE	Sample Descript:	Sediment, IH-2	Received:	Feb 23, 1993
Bellevue, WA 98009	Analysis Method:	ASTM D422-63	Analyzed:	Feb 24, 1993
Attention: David Wilson	Sample Number:	302-0771	Reported:	Mar 9, 1993

LABORATORY ANALYSIS: PARTICLE SIZE DISTRIBUTION

Sieve Size	Hydrometer < Phi Size	Particle Size microns	Passing %	Fractional %
4		>4750	100	0
10		4750 - 2000	100	0
20		2000 - 850	100	0
40		850 - 425	99	0
60		425 - 250	99	1
140		250 - 106	96	2
200		106 - 75	94	3
230		75 - 62.5	92	2
	4	62.5 - 31.2	50	42
	5	31.2 - 15.6	22	28
	6	15.6 - 7.8	9	13
	7	7.8 - 3.9	6	3
	8	3.9 - 1.9	3	3
	9	1.9 - 0.9	0	3
	10	<0.9	0	0

Total Solids, %: 45
Total Volatile Solids, %: 9.3

NORTH CREEK ANALYTICAL, Inc

Steven G. Mayer
Project Manager

Please Note:
Report was amended on March 19, 1993.

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

CH2M Hill	Client Project ID:	Starkist/Samoa NPDES	Sampled:	Feb 13, 1993
777 108th Avenue NE	Sample Descript:	Sediment, OH-3	Received:	Feb 23, 1993
Bellevue, WA 98009	Analysis Method:	ASTM D422-63	Analyzed:	Feb 24, 1993
Attention: David Wilson	Sample Number:	302-0772	Reported:	Mar 9, 1993

LABORATORY ANALYSIS: PARTICLE SIZE DISTRIBUTION

Sieve Size	Hydrometer < Phi Size	Particle Size microns	Passing %	Fractional %
4		>4750	86	14
10		4750 - 2000	62	24
20		2000 - 850	52	10
40		850 - 425	45	7
60		425 - 250	38	7
140		250 - 106	18	20
200		106 - 75	12	6
230		75 - 62.5	10	2
	4	62.5 - 31.2	2	8
	5	31.2 - 15.6	1	1
	6	15.6 - 7.8	1	0
	7	7.8 - 3.9	1	0
	8	3.9 - 1.9	1	0
	9	1.9 - 0.9	0	1
	10	<0.9	0	0

Total Solids, %: 58
Total Volatile Solids, %: 3.1

NORTH CREEK ANALYTICAL, Inc.

Steven G. Mayer
Project Manager

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA [illegible]
Phone (206) 481-9200 · FAX (206) 485-2992

CH2M Hill	Client Project ID:	Starkist/Samoa NPDES	Sampled: Feb 13, 1993
777 108th Avenue NE	Sample Descript:	Sediment, OH-4	Received: Feb 23, 1993
Bellevue, WA 98009	Analysis Method:	ASTM D422-63	Analyzed: Feb 24, 1993
Attention: David Wilson	Sample Number:	302-0773	Reported: [illegible]

LABORATORY ANALYSIS: PARTICLE SIZE DISTRIBUTION

Sieve Size	Hydrometer < Phi Size	Particle Size microns	Passing %	
4		>4750	97	[illegible]
10		4750 - 2000	89	[illegible]
20		2000 - 850	75	
40		850 - 425	62	
60		425 - 250	57	5
140		250 - 106	50	
200		106 - 75	46	[illegible]
230		75 - 62.5	44	[illegible]
	4	62.5 - 31.2	20	[illegible]
	5	31.2 - 15.6	7	13
	6	15.6 - 7.8	3	
	7	7.8 - 3.9	1	[illegible]
	8	3.9 - 1.9	1	0
	9	1.9 - 0.9	0	[illegible]
	10	<0.9	0	[illegible]

Total Solids, %: 69
Total Volatile Solids, %: 4.2

NORTH CREEK ANALYTICAL, Inc.

Steven G. Mayer
Project Manager

302076s.Crnt [illegible]

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

CH2M Hill	Client Project ID:	Starkist/Samoa NPDES	Sampled:	Feb 18, 1993
777 108th Avenue NE	Sample Descript:	Sediment, OH-2	Received:	Feb 23, 1993
Bellevue, WA 98009	Analysis Method:	ASTM D422-63	Analyzed:	Feb 24, 1993
Attention: David Wilson	Sample Number:	302-0774	Reported:	Mar 9, 1993

LABORATORY ANALYSIS: PARTICLE SIZE DISTRIBUTION

Sieve Size	Hydrometer < Phi Size	Particle Size microns	Passing %	Fractional %
4		>4750	100	0
10		4750 - 2000	100	0
20		2000 - 850	100	0
40		850 - 425	100	0
60		425 - 250	99	1
140		250 - 106	95	4
200		106 - 75	87	8
230		75 - 62.5	82	6
	4	62.5 - 31.2	22	60
	5	31.2 - 15.6	17	5
	6	15.6 - 7.8	10	7
	7	7.8 - 3.9	2	7
	8	3.9 - 1.9	0	2
	9	1.9 - 0.9	0	0
	10	<0.9	0	0

Total Solids, %: 59
Total Volatile Solids, %: 4.9

NORTH CREEK ANALYTICAL, Inc.

Steven G. Mayer
Project Manager

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

CH2M Hill	Client Project ID:	Starkist/Samoa NPDES	Sampled:	Feb 18, 1993
777 108th Avenue NE	Sample Descript:	Sediment, OH-1	Received:	Feb 23, 1993
Bellevue, WA 98009	Analysis Method:	ASTM D422-63	Analyzed:	Feb 24, 1993
Attention: David Wilson	Sample Number:	302-0775	Reported:	Mar 9, 1993

LABORATORY ANALYSIS: PARTICLE SIZE DISTRIBUTION

Sieve Size	Hydrometer < Phi Size	Particle Size microns	Passing %	Fractional %
4		>4750	100	0
10		4750 - 2000	100	0
20		2000 - 850	100	0
40		850 - 425	100	0
60		425 - 250	99	1
140		250 - 106	97	2
200		106 - 75	93	4
230		75 - 62.5	89	4
	4	62.5 - 31.2	30	59
	5	31.2 - 15.6	21	9
	6	15.6 - 7.8	12	9
	7	7.8 - 3.9	6	6
	8	3.9 - 1.9	3	3
	9	1.9 - 0.9	0	3
	10	<0.9	0	0

Total Solids, %: 60
Total Volatile Solids, %: 5.6

NORTH CREEK ANALYTICAL, Inc.

Steven G. Mayer
Project Manager

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

CH2M Hill 777 108th Avenue NE Bellevue, WA 98009 Attention: David Wilson	Client Project ID: Starkist/Samoa NPDES Sample Matrix : Soil Units: mg/kg (ppm)	Analyst: K. Arvon Reported: Mar 9, 1993

INORGANIC QUALITY CONTROL DATA REPORT

ANALYTE	Phosphorus	Sulfide
EPA Method:	6010	PSDDA
Date Analyzed:	Feb 25, 1993	Feb 25, 1993
ACCURACY ASSESSMENT		
LCS Spike Conc. Added:	500	5.0
LCS Spike Result:	390	4.7
LCS Spike % Recovery:	78	94
Upper Control Limit:	125	125
Lower Control Limit:	75	75
PRECISION ASSESSMENT		
Sample #:	302-0772	302-0775
Original:	310	0.75
Duplicate:	200	0.66
Relative % Difference:	43, Q-6	13
Maximum RPD:	25	25

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Steven G. Mayer
Project Manager

Please Note:
Q-6 = The RPD value for this QC sample is outside of the NCA established control limits.

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Phone (206) 481-9200 · FAX (206) 485-2992

CH2M Hill 777 108th Avenue NE Bellevue, WA 98009 Attention: David Wilson	Client Project ID: Starkist/Samoa NPDES Sample Matrix : Soil Units: mg/kg (ppm)	Analyst: K. Arvon Reported: Mar 25, 1993

INORGANIC QUALITY CONTROL DATA REPORT

ANALYTE	Total Kjeldahl Nitrogen

EPA Method:	351.3
Date Analyzed:	Mar 23, 1993

ACCURACY ASSESSMENT

LCS Spike Conc. Added:	500
LCS Spike Result:	476
LCS Spike % Recovery:	95
Upper Control Limit:	125
Lower Control Limit:	75

PRECISION ASSESSMENT

Sample #:	302-0773
Original:	460
Duplicate:	460
Relative % Difference:	0.0
Maximum RPD:	25

NORTH CREEK ANALYTICAL inc

Steven G. Mayer
Project Manager

SEDIMENT STUDY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, Ca. 94105-3901

DATE: January 7, 1993

MEMORANDUM

SUBJECT: Request for Review of Sediment Monitoring Plan for Tuna Cannery NPDES Permits

TO: Janet Hashimoto
Chief, Oceans and Estuaries Section

FROM: Pat Young Pat
American Samoa Program Manager (E-4)

Attached please find a copy of the draft plan for sediment monitoring of Pago Pago Harbor, the location of the joint cannery outfall in American Samoa. This study is required by the canneries' reccently-issued NPDES permits. We would greatly appreciate your assistance in having the study plan reviewed. If additional information is needed to assist in the review, please let me know.

Because this study is scheduled for the first week in February, we would greatly appreciate an expedited review of this draft and would appreciate any comments by January 15th (sorry for the short turn around time). Should the reviewer need to discuss the technical aspects of the proposal, he/she should feel free to contact Steve Costa of CH2MHillat (510) 251-2426-2251. Steve can also come into the office to discuss if necessary. Please call me at (415) 744-1591 if you have any questions.

Thanks again for your assistance.

Enclosure

cc: Doug Liden (W-5-1)
Mike Lee (E-4)

Printed on Recycled Paper

Copy to Doug Lidar,
Janet Hashimoto
Mike Lee

Engineers
Planners
CH2M HILL
Economists
Scientists

FAX No. 510/893-8205

FAX Cover Sheet

INFORMATION TO:

Name: PAT YOUNG

Office No.: 415-744-~~1604~~ 1591

Fax No.: 415-744-1604

Name:

Office No.:

FAX No.:

INFORMATION FROM:

Name: STEVE COSTA

Company: CH2M HILL

Subject: JOINT CANNERY OUTFALL SEDIMENT MONITORING PLAN

Date: 6 JANUARY 93

Do you want your original back? (YES) NO

TOTAL NO. OF PAGES TRANSMITTED INCLUDING COVER SHEET 13

IF YOU DO NOT RECEIVE ALL OF THE PAGES, PLEASE CALL OUR RECEPTIONIST AT 510/251-2426 BETWEEN 7:30 A.M. AND 5:30 P.M. PACIFIC TIME.

REMARKS: PAT -

Here is Sediment Study Plan, I am available to meet with your reviewer if that will help speed things up any

Steve

CH2M HILL 1111 Broadway, Suite 1200 Oakland, CA 94607-4046 510.251.2426 FAX 510.893.8205

AGENCY REVIEW DRAFT

JOINT CANNERY OUTFALL SEDIMENT MONITORING STUDY PLAN

for

StarKist Samoa, Inc.

and

VCS Samoa Packing Company

to comply with NPDES Permits

AS0000019

AS0000027

JANUARY 6, 1992

prepared by

CH2M HILL

ACENCY REVIEW DRAFT
6 January 1993

JOINT CANNERY OUTFALL DILUTION STUDY PLAN

INTRODUCTION

This Sediment Monitoring Study Plan presents a plan for conducting field collections and laboratory analyses of the marine sediments at seven sites in the inner and outer regions of Pago Pago Harbor, American Samoa. This sediment study plan is required under the conditions of the United States Environmental Protection Agency (EPA) NPDES Permit No. AS0000019 for Star-Kist Samoa, Inc. and NPDES Permit No. AS0000027 for VCS Samoa Packing Company. This document describes the objectives, approach, and field and laboratory methods for sediment monitoring in the harbor.

Section G of the Star-Kist Samoa and Samoa Packing NPDES permits addresses the Sediment Monitoring as follows:

> *"Sediment monitoring is conducted to determine the character of the sediments in relation to long-term high nutrient discharge by the permittee in the harbor and if harbor recovery will be affected by resuspension of the nutrients.*
>
> *The permittee, cooperatively with {Samoa Packing Co.; Star-Kist Samoa, Inc.} shall undertake a yearly sediment monitoring program in Pago Pago Harbor in order to assess the concentration of nutrient and organic components, the distribution of stored nutrients, the size of the nutrient reservoir, and the rate of accumulation of nutrients. Seven sites shall be located within Pago Pago Harbor and analyzed for total nitrogen, total phosphorus, percent organics, percent solids, bulk density, oxidation reduction potential, and sulfides. Three sites shall be located in inner Pago Pago Harbor and four sites shall be located in the outer harbor. These sites and monitoring plan shall be submitted within three months of the effective date of the permit for approval by ASEPA and EPA. Thereafter, these sites shall be approved annually by the anniversary date of the effective date of the permit. A report of the sediment monitoring program findings shall be submitted to the ASEPA and EPA 90 days after completion of sampling.*
>
> *After the first two studies have been performed and the results have been assessed, the permit may be reopened for the inclusion of a more frequent or less frequent monitoring schedule."*

This study plan is being submitted to EPA and American Samoa Environmental Protection Agency (ASEPA) to comply with the NPDES permit condition of Section G.

AGENCY REVIEW DRAFT
6 January 1993

APPROACH

The joint cannery outfall operated by Star-Kist Samoa and Samoa Packing extends a distance of approximately 1.5 miles from the cannery locations on the north shore of the inner harbor into the outer harbor offshore of Anasosopo Point. The outfall consists of a 16-inch HPDE pipe that terminates with a multiport long diffuser section located at a depth of approximately 176 feet below MLLW. The diffuser section has 4 active ports on alternating sides of the pipe at a spacing of 10 feet. The diffuser ports are all 5-inches in diameter and discharge horizontally. The approved zone of mixing zone boundary is defined according to Figure 1 in the NPDES permits.

OBJECTIVES

The objectives of the Sediment Monitoring Study are: (1) to evaluate the characteristics and nutrient load of the marine sediments in the vicinity of the canneries previous (abandoned) outfalls in the inner harbor; (2) to evaluate the characteristics and nutrient load of the marine sediments in the vicinity of the new joint cannery outfall diffuser in the outer harbor; (3) to provide data for an evaluation of changes in harbor sediments over time. Sediments are to be collected from seven sites, three sites proximate to the historic cannery outfalls in the inner harbor, three sites proximate to the new diffuser, and one site at the Utulei outfall discharge site. The relative location of the seven sediment sampling sites are shown in Figure 1.

SAMPLE SITE LOCATIONS

The location of the sampling sites was established based on the predominant current directions at the outfall areas, bathymetry of the area, limited available information on sediment physical characteristics, and the location of point source discharges of nutrients. The wastewater plume behavior and transport direction will be confirmed through the field dye study measurements. The sample sites are shown in Figure 1 and are located as follows:

- Inner harbor site IH-1 will be located within 100 feet of the previous cannery outfalls
- Inner harbor site IH-2 will be located within 500 feet and directly south of the previous cannery outfalls
- Inner harbor site IH-3 will be located at the seaward end of the inner harbor
- Outer harbor site OH-1 will be located about 400 feet NNE of the new outfall diffuser

- Outer harbor site OH-2 will be located about 400 feet SSW of the new outfall diffuser
- Outer harbor site OH-3 will be located directly across the harbor from OH-1 and OH-2
- Outer harbor site OH-4 will be located seaward of the outfall diffuser at the seaward end of the outer harbor

DATA COLLECTION AND ANALYSIS

Five separate samples will be collected at each sampling site and then composited to provide a single representative composite sample for chemical analyses. The field collections for the sediment studies will started in early February 1993, after plan approval by EPA and USEPA. The sediment physical characteristics at each sampling site will be described and photographed in the field.

Chemical analyses will include those listed in the NPDES permit, using analytical and QA/QC procedures provided in the Standard Methods for the Examination of Water and Wastewater (1989) and Procedures for Handling and Chemical Analysis of Sediment and Water Samples (U.S. EPA and Army COE, 1981).

Field and laboratory analytical data will be processed and presented in tabular formats in a sediment monitoring study report, and supporting data will be included in the report appendix.

MONITORING SCHEDULE

The NPDES permits specify yearly collections of sediment. CH2M HILL and the canneries have proposed to modify this schedule without decreasing the number of monitoring episodes. The modification provides for the first two sampling episodes to be made during the first year of the study about six months apart, the third sampling episode to be during the third year, approximately 18 months after the second, and subsequent collections annually thereafter or as determined after review of initial results.

The advantages to this modification include:

- A compressed time interval when sediment characteristics are expected to change most rapidly near the previous discharge locations in the inner harbor. Changes in sediment nutrient concentration near the previous outfalls can be expected to vary in a fashion similar to a first order decay phenomena. Most

of the change will be soon after the source removal (cannery discharge). With time the rate of change will probably slow. Therefore, a sampling schedule with more frequent samples at the beginning may better track the changes.

- A compressed time schedule for the initial collections near the new outfall location will provide a better baseline characterization of the sediment characteristics.

- The modified schedule will allow CH2M HILL staff doing the dye studies during year one to be directly involved in the sediment monitoring study and provide an opportunity to train personnel that might do similar collections in the future.

STUDY METHODS

The sediment monitoring study requires field data and sample collection and subsequent laboratory analysis. The methods to be used for these elements of the study are described below. The field work described in the following sections include the methods and equipment to be used for the field collection of sediments, station positionning, sample handling, and sample shipment. The Laboratory analysis methods listed are compatible with the NPDES permit requirements.

FIELD EQUIPMENT AND SAMPLING VESSEL

Field equipment requirements for the sediment sampling are listed in Table 1. A work vessel with a two-person scientific staff will be aboard to collect sediment samples by hand, since no vessel with hydraulics is available in American Samoa.

STATION LOCATIONS AND FIELD POSITIONING

Sediment samples will be collected from a work vessel using five separate grab samples at each of the seven sites. Vessel navigation will be done by using a Motorola Mini-Ranger III electronic positioning system. Use of a Mini-Ranger III will allow maximum flexibility in establishing sampling locations and will provide range accuracy of approximately ±2 meters. A marker buoy will be deployed at the precalculated Mini-Ranger position of the new outfall diffuser prior to collecting sediment samples at the outer harbor outfall sites.

AGENCY REVIEW DRAFT
6 January 1993

SEDIMENT SAMPLE COLLECTION

Sediment sampling will be conducted in accordance with the Procedures for Handling and Chemical Analysis of Sediment and Water Samples (U.S. EPA and Army COE, 1981). Sediment samples will be collected using a 0.0225 square meter Petite Ponar grab sampler. The Petite Ponar sampler is a weighted sediment grab sampler designed to penetrate and collect undisturbed samples of sediments ranging from silts to coarse gravels. This type of sampler has been used previously to collect sediment samples throughout Pago Pago Harbor. The grab sampler should be able to penetrate and provide a reliable sediment sample of a minimum depth of 4 cm.

Samples will be collected with a minimum of five separate grabs at each of the seven sites. Sufficient sediment materials will be collected at each site to provide adequate material for the sediment chemistry analyses. More than five grabs will be taken if required to collect sufficient material. If the is hard or rocky, has no sediment, or bottom conditions at a site prevent sediment from being recovered, the site will be relocated based on the judgement of experienced scientists on the project staff.

Prior to disturbing the grab samples the following will be recorded in the field logbook: sediment sample penetration depth, color, texture, odor, temperature, pH, and Redox potential. The five (or more) samples from a single site will be composited in a stainless steel bowl, and samples will be taken from the composite for sediment chemistry analyses. The total of seven composite sediment samples for sediment chemistry analysis will be collected.

Samples collected at each site will be labeled with a unique designator to allow sample tracking; each sample designator will consist of a two-letter location code (IH or OH), followed by a numerical station code (1 through 7). Samples for chemical analyses will be immediately iced and/or preserved (as required) and prepared for shipment to the laboratory. The laboratory selection will be finalized prior to field sample collection

LABORATORY ANALYSES

Each composited sediment sample will be analyzed for the chemicals listed in Table 2. All sample collections will be performed in accordance with the Procedures for Handling and Chemical Analysis of Sediment and Water Samples (U.S. EPA and Army COE, 1981). Sample containers, sample handling requirements and sample preservation requirements are listed in Table 3.

AGENCY REVIEW DRAFT
6 January 1993

QUALITY ASSURANCE AND QUALITY CONTROL

The quality assurance and quality control objectives for the sediment studies are to collect representative sediments surface samples and provide laboratory chemical and physical measurements that are of known and acceptable quality. The following requirements will be followed to meet the objectives:

- Provide verifiable laboratory chemical analyses with QA to evaluate accuracy and precision targets
- Maintain and document accurate vessel positioning for sample collection
- Provide field equipment redundancy (backup equipment)
- Develop and use a field operations plan
- Examination of samples as collected and subsequent data by experienced scientists

FIELD OPERATIONS PLAN

A field operations plan for conducting the sediment sample collections will be developed as the basic element of quality assurance and control activities. The operations plan will include field data sheets, chain of custody forms, and a sample matrix collection checklist.

EQUIPMENT CALIBRATION

All equipment will be obtained prior to the beginning of the sediment studies field collections and checked to verify correct operation. Any instrument requiring calibration will be checked and calibrated upon its arrival to confirm that it is in working condition.

The Mini-Ranger will be calibrated to the manufacturer's specifications prior to conducting the dye study. The unit and transponders will be checked against known distances similar to those to be encountered during the study. A calibration range maintained by the National Ocean Service is used for this purpose.

AGENCY REVIEW DRAFT
6 January 1993

DATA ANALYSIS AND PRESENTATION

Field data will be summarized and vessel positioning data will be processed to calculate and plot the sediment sampling locations. Laboratory chemical and physical data will be reviewed to determine whether analytical accuracy and precision targets were achieved and to assess the laboratory quality assurance. Sediment chemistry results will be presented in tabular formats.

A report of the results will be provided to EPA and USEPA following each monitoring episode (within 90 days of the field sampling). Any proposed revisions to the study plan will be presented in the monitoring report. Review comments from EPA and ASEPA will be incorporated into the revised study plan as appropriate.

Table 1
Field Equipment for Sediment Field Collections

Equipment Item	Purpose	Number of Units	Accuracy Standard
Work Vessel	Field Sampling Platform	1	N/A
0.02 meter^2 Petite Ponar Sediment Grab Sampler	Collect sediment samples at depth	1	Sediment grab acceptability of 4 cm depth
Motorola Mini-Ranger III System	Microwave positioning System with 3 shore-based transponders	1	±2 meters
ASTM brass sieves	Wet sieve sediments from samples	2	N/A
Orion Redox Potential and pH Instrument	Measure sediment oxidation-reduction potential and pH in the field	1	±0.5 millivolts
Sample Containers	Collections of sediments for chemical analyses	As required in plan	Pre-cleaned sample containers
Ice Chests	Sample jar holder, cool samples on ice, and sample shipment	As required in plan	Pre-cleaned containers

Table 2
Sediment Chemical Analyses

Parameter	EPA Method	Standard Methods No.
Total Kjeldahl Nitrogen	175	437
Total Phosphorus	249	481
Sulfides	284	505
Total Volatile Solids (Percent Organics)	272	95
Percent Solids	270	91
Bulk Density	TBD	TBD
Particle Size (Optional)	None	250 g

Table 3
Sediment Sample Collection and Handling Requirements

Parameter	Holding Time	Minimum Sample Size	Preservation	Sample Container
Total Kjeldahl Nitrogen	7 days	10 g	Cool, 4°C	250 ml plastic jar
Total Phosphorus	7 days	10 g	Cool, 4°C	250 ml plastic jar
Sulfides	7 days	20 g	Cool, 4°C, add 2 ml ZN-acetate	250 ml plastic jar
Total Volatile Solids (Percent Organics)	14 days	100 g	Cool, 4°C	250 ml plastic jar
Percent Solids	None	50 g	Cool, 4°C	N/A
Bulk Density	None	50 g	Cool, 4°C	N/A
Particle Size	None	250 g	Cool, 4°C	250 ml plastic jar

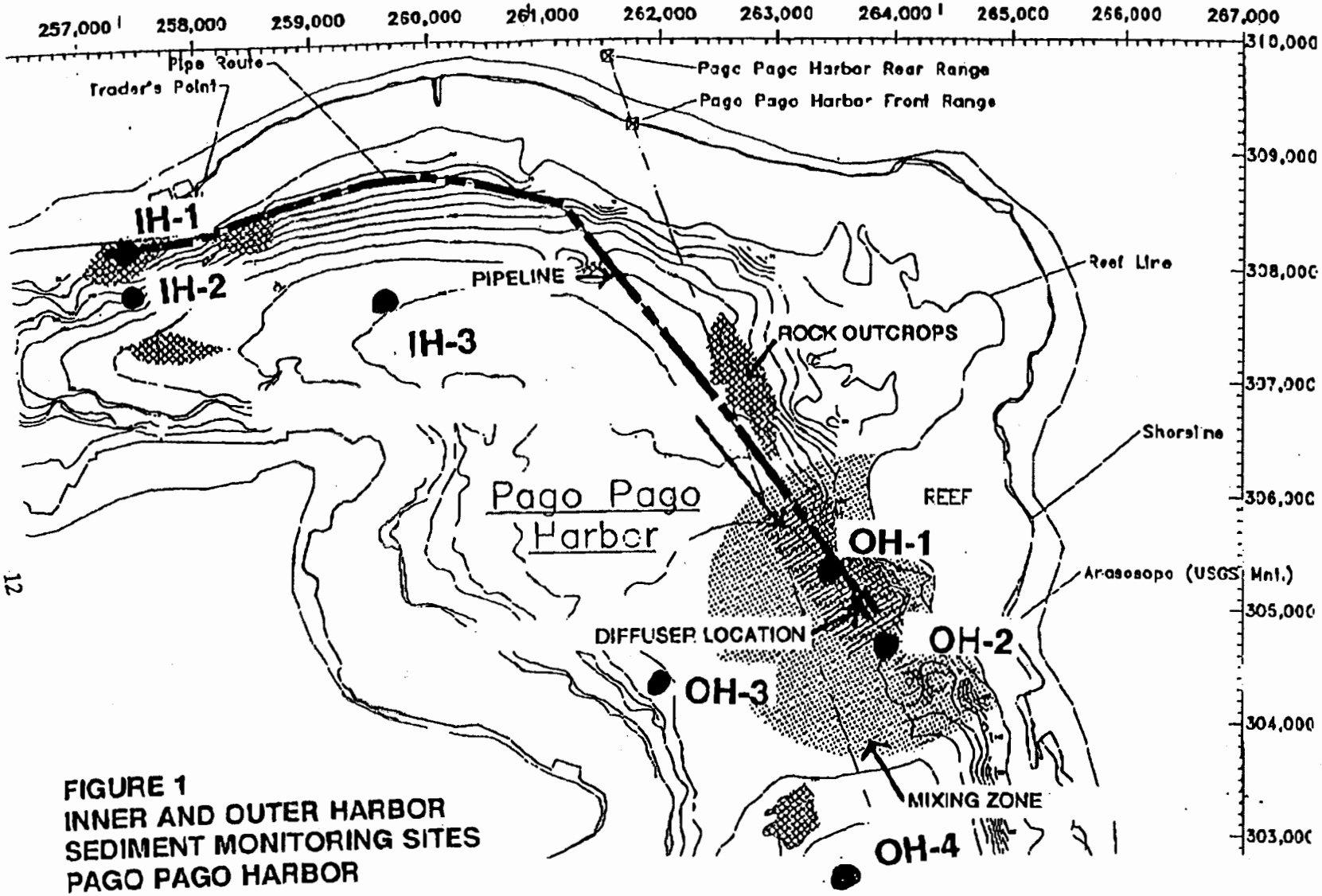

FIGURE 1
INNER AND OUTER HARBOR
SEDIMENT MONITORING SITES
PAGO PAGO HARBOR

Rcd 6/2/97
Copy to Doug

Star-Kist Foods, *Inc.*

Memo

Date: 30 May, 1997

To: Pat Young

From: Norman S. Wei NSW

Subject: NPDES Permit Renewal for StarKist Samoa

Please find enclosed a copy of StarKist Samoa's permit renewal application.

You can call Steve Costa or me if you have any questions.

Enclosure

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
2091 (specify) Tuna processing & canning	2047 (specify) pet food processing
C. THIRD	**D. FOURTH**
2048 (specify) Fishmeal production	3411 (specify) metal cans manufacturing

VIII. OPERATOR INFORMATION

A. NAME: STARKIST SAMOA INC

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box; if "Other", specify.)*
F = FEDERAL, S = STATE, P = PRIVATE, M = PUBLIC *(other than federal or state)*, O = OTHER *(specify)*: P (specify)

D. PHONE *(area code & no.)*: A 684 644 4231

E. STREET OR P.O. BOX: P.O. BOX 468

F. CITY OR TOWN: PAGO PAGO TUTUILA | G. STATE: AS | H. ZIP CODE: 96799

IX. INDIAN LAND
Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*: N AS0000019	D. PSD *(Air Emissions from Proposed Sources)*: P
B. UIC *(Underground Injection of Fluids)*: U	E. OTHER *(specify)*: 9 OD-93-01 (specify) OCEAN DUMPING Permit
C. RCRA *(Hazardous Wastes)*: R	E. OTHER *(specify)*: 9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

Starkist Samoa processes and cans tuna fish and other ingredients for human consumption. It also cans pet food and processes fishmeal. It manufactures its metal cans.

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
NORMAN WEI, Senior environmental manager	[signature]	5/30/97

COMMENTS FOR OFFICIAL USE ONLY

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 char. /inch).

Form Appr. OMB No. 2040-0086. Approval expires 5-31-92

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	MARK 'X' NO	MARK 'X' FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		X
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

SPECIFIC QUESTIONS	MARK 'X' YES	MARK 'X' NO	MARK 'X' FORM ATTACHED
B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*	
2 MILLS BARRY GENERAL MANAGER	684	644 4231

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX	B. CITY OR TOWN	C. STATE	D. ZIP CODE
3 PO BOX 468	4 PAGO PAGO TUTUILA	AS	96799

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER	B. COUNTY NAME	C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
5	MAOPUTASI	6 ATU'U	AS	96799	

CONTINUE ON REVERSE

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*

Please print or type in the unshaded areas only.

Form Approved
OMB No. 2040-0086
Approval expires 5-31-92

FORM 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER *(list)*	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER *(name)*
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
001	14 S	17	01	170W	40	02	Pago Pago Harbor

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined *(e.g., for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. *(list)*	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION *(list)*	b. ~~AVERAGE FLOW~~ *(include units)*	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
		% of total flow			
	a. Freezer condensate	0.4	DAF unit	1-H, 2-C, 4-B	
	b. Thaw water + can washing + boiler blowdown	63.7	DAF unit	1-H, 2-C, 4-B	
	c Butchering	1.7	DAF unit	1-H, 2-C, 4-B	
	d Precooker	3.5	ocean disposal via permit	~~1H, 2C~~	
	e Spray cooling	4.3	DAF unit	1H 2-C	4-B
	f press liquor	0.8	ocean disposal via permit		
	h washdown	25.6	DAF unit	1-H, 2-C, 4-B	

OFFICIAL USE ONLY *(effluent guidelines sub-categories)*

CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

☐ YES *(complete the following table)* ☒ NO *(go to Section III)*

1. OUTFALL NUMBER *(list)*	2. OPERATION(s) CONTRIBUTING FLOW *(list)*	3. FREQUENCY		4. FLOW				
		a. DAYS PER WEEK *(specify average)*	b. MONTHS PER YEAR *(specify average)*	a. FLOW RATE *(in mgd)*		b. TOTAL VOLUME *(specify with units)*		c. DURATION *(in days)*
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	

III. PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☒ YES *(complete Item III-B)* ☐ NO *(to to Section IV)*

B. Are the limitations in the applicable effluent guideline expressed in terms of production *(or other measure of operation)*?

☒ YES *(complete Item III-C)* ☐ NO *(go to Section IV)*

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION			2. AFFECTED OUTFALLS *(list outfall numbers)*
a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. *(specify)*	
454	Tons	Seafood	001
548 (Maximum)	Tons	Seafood	001
600 (projected)	Tons	Seafood	001

IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☐ YES *(complete the following table)* ☒ NO *(go to Item IV-B)*

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
	a. NO.	b. SOURCE OF DISCHARGE		a. REQUIRED	b. PROJECTED

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs *(or other environmental projects which may affect your discharges)* you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction. ☐ MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

 CONTINUE ON PAGE 3

EPA I.D. NUMBER (copy from Item 1 of Form 1)

CONTINUED FROM PAGE 2

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding – Complete one set of tables for each outfall – Annotate the outfall number in the space provided. NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
All analytical data have been submitted to EPA Region 9 under NPDES condition D.2			

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ YES *(list all such pollutants below)* ☒ NO *(go to Item VI-B)*

CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☒ YES *(identify the test(s) and describe their purposes below)* ☐ NO *(go to Section VIII)*

Nine bioassay tests have been conducted under NPDES condition D.1

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☒ YES *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* ☐ NO *(go to Section IX)*

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (list)
AECOS	970 N. Kalaheo Ave Kailua, HI 96734	(808) 254-5884	Part A 1a, 1b, 1c, 1d, 1e 1i Part B 1f, 1g, 1h 1i Part C 4m, 5m, 7m 8m, 13m
CH2M Hill	1111 Broadway Ockland CA 94604	510 251 2426	Priority Pollutants

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE *(type or print)*	B. PHONE NO. *(area code & no.)*
NORMAN WEI, SENIOR ENVIRONMENTAL MANAGER	310-517-2807
C. SIGNATURE	D. DATE SIGNED
	5/30/97

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item I of Form 1)*

OUTFALL N 001

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	708	6524	602	5011	393	4165	97	mg/l	lb/day			
b. Chemical Oxygen Demand *(COD)*	710	8851						mg/l	lb/day			
c. Total Organic Carbon *(TOC)*	290	3606						mg/l	lb/day			
d. Total Suspended Solids *(TSS)*	373	4267	177	2033	68	731	537	mg/l	lb/day			
e. Ammonia *(as N)*	119	1261	57	661	33	349	289	mg/l	lb/day			
f. Flow	VALUE 2.12		VALUE 1.61		VALUE 1.27		536	MGD		VALUE		
g. Temperature *(winter)*	VALUE N/A		VALUE N/A		VALUE N/A		N/A	°C °F		VALUE		
h. Temperature *(summer)*	VALUE 94		VALUE 87		VALUE 82		522	°C °F		VALUE		
i. pH	MINIMUM 6.1	MAXIMUM 9.8	MINIMUM 6.5	MAXIMUM 7.8			1526	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual		X												
c. Color	X		Believe	to be	not	important			1					
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)		X												
f. Nitrate-Nitrite *(as N)*	X		<0.01	<0.12					1	mg/l				

CONTINUE ON REVERSE

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)	X		312	3385	139	1696	82	874	533	mg/l	lb/day			
h. Oil and Grease	X		164	1837	40	470	21	222	531	mg/l	lb/day			
i. Phosphorus (as P), Total (7723-14-0)	X		25	293	17	202	6.4	69	533	mg/l	lb/day			
j. Radioactivity														
(1) Alpha, Total		X												
(2) Beta, Total		X												
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO_4) (14808-79-8)		X												
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants		X												
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)		X												
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)		X												
t. Magnesium, Total (7439-95-4)		X												
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total		X												

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*	OUTFALL NUMBER

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)			X							4					
2M. Arsenic, Total (7440-38-2)		X		0.01						8					
3M. Beryllium, Total, 7440-41-7)			X							4					
4M. Cadmium, Total (7440-43-9)		X		0.01 mg/l = 10 ug/l						8					
5M. Chromium, Total (7440-47-3)			X							4					
6M. Copper, Total (7440-50-8)		X		0.015						8					
7M. Lead, Total (7439-92-1)			X							8					
8M. Mercury, Total (7439-97-6)			X							8					
9M. Nickel, Total (7440-02-0)			X							4					
10M. Selenium, Total (7782-49-2)		X		0.015						8					
11M. Silver, Total (7440-22-4)			X	0.13	(Not detected in last 6 analyses during past 3 years)					8					
12M. Thallium, Total (7440-28-0)			X							4					
13M. Zinc, Total (7440-66-6)			X	0.180						8					
14M. Cyanide, Total (57-12-5)			X							4					
15M. Phenols, Total		X		1.3						8					
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS One test (undetected) at detection limit of 9.9 picogram/litre											

Cadmium - WQ Criteria
Chromi (III) 9.3
Acute (III) 42

SKS	Detection mg/l	Criteria mg/l
Arsenic	.01	.036
Cadmium	.01	.0093 mg/l
Copper	.015	.0031
Selenium	.015	.071
Phenols		—
Silver		
Zinc	0.180	.081
Ammonia as N	179	133

CONTINUE ON REVERSE

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*	OUTFALL NUMBER

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater; refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)			X							4					
2M. Arsenic, Total (7440-38-2)		X		0.01						8					
3M. Beryllium, Total, 7440-41-7)			X							4					
4M. Cadmium, Total (7440-43-9)		X		0.01						8					
5M. Chromium, Total (7440-47-3)			X							4					
6M. Copper, Total (7440-50-8)		X		0.015						8					
7M. Lead, Total (7439-92-1)			X							8					
8M. Mercury, Total (7439-97-6)			X							8					
9M. Nickel, Total (7440-02-0)			X							4					
10M. Selenium, Total (7782-49-2)		X		0.015						8					
11M. Silver, Total (7440-22-4)			X	0.13	(Not detected in last 6 analyses during past 3 years)					8					
12M. Thallium, Total (7440-28-0)			X							4					
13M. Zinc, Total (7440-66-6)			X	0.180						8					
14M. Cyanide, Total (57-12-5)			X							4					
15M. Phenols, Total		X		1.3						8					
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS One test (undetected) at detection limit of 9.9 picogram/litre											

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X							4					
2V. Acrylonitrile (107-13-1)			X							4					
3V. Benzene (71-43-2)			X							4					
4V. Bis *(Chloromethyl)* Ether (542-88-1)			X							4					
5V. Bromoform (75-25-2)			X	0.0078	(Believe to be lab contamination)					4					
6V. Carbon Tetrachloride (56-23-5)			X							4					
7V. Chlorobenzene (108-90-7)			X							4					
8V. Chlorodibromomethane (124-48-1)			X							4					
9V. Chloroethane (75-00-3)			X							4					
10V. 2-Chloroethylvinyl Ether (110-75-8)			X							4					
11V. Chloroform (67-66-3)			X							4					
12V. Dichlorobromomethane (75-27-4)			X							4					
13V. Dichlorodifluoromethane (75-71-8)			X							4					
14V. 1,1-Dichloroethane (75-34-3)			X							4					
15V. 1,2-Dichloroethane (107-06-2)			X							4					
16V. 1,1-Dichloroethylene (75-35-4)			X							4					
17V. 1,2-Dichloropropane (78-87-5)			X							4					
18V. 1,3-Dichloropropylene (542-75-6)			X							4					
19V. Ethylbenzene (100-41-4)			X							4					
20V. Methyl Bromide (74-83-9)			X							4					
21V. Methyl Chloride (74-87-3)			X							4					

CONTINUE ON PAGE V-5

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)			X							4					
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X							4					
24V. Tetrachloroethylene (127-18-4)			X							4					
25V. Toluene (108-88-3)			X							4					
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X							4					
27V. 1,1,1-Trichloroethane (71-55-6)			X							4					
28V. 1,1,2-Trichloroethane (79-00-5)			X							4					
29V. Trichloroethylene (79-01-6)			X							4					
30V. Trichlorofluoromethane (75-69-4)			X							4					
31V. Vinyl Chloride (75-01-4)			X							4					
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)			X							8					
2A. 2,4-Dichlorophenol (120-83-2)			X							8					
3A. 2,4-Dimethylphenol (105-67-9)			X							8					
4A. 4,6-Dinitro-O-Cresol (534-52-1)			X							8					
5A. 2,4-Dinitrophenol (51-28-5)			X							8					
6A. 2-Nitrophenol (88-75-5)			X							8					
7A. 4-Nitrophenol (100-02-7)			X							8					
8A. P-Chloro-M-Cresol (59-50-7)			X							8					
9A. Pentachlorophenol (87-86-5)			X							8					
10A. Phenol (108-95-2)		X		0.5						8					
11A. 2,4,6-Trichlorophenol (88-06-2)										8					

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)			X							8					
2B. Acenaphtylene (208-96-8)			X							8					
3B. Anthracene (120-12-7)			X							8					
4B. Benzidine (92-87-5)			X							8					
5B. Benzo *(a)* Anthracene (56-55-3)			X							8					
6B. Benzo *(a)* Pyrene (50-32-8)			X							8					
7B. 3,4-Benzo-fluoranthene (205-99-2)			X							8					
8B. Benzo *(ghi)* Perylene (191-24-2)			X							8					
9B. Benzo *(k)* Fluoranthene (207-08-9)			X							8					
10B. Bis *(2-Chloro-ethoxy)* Methane (111-91-1)			X							8					
11B. Bis *(2-Chloro-ethyl)* Ether (111-44-4)			X							8					
12B. Bis *(2-Chloroiso-propyl)* Ether (102-60-1)			X							8					
13B. Bis *(2-Ethyl-hexyl)* Phthalate (117-81-7)			X							8					
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)			X							8					
15B. Butyl Benzyl Phthalate (85-68-7)			X							8					
16B. 2-Chloro-naphthalene (91-58-7)			X							8					
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)			X							8					
18B. Chrysene (218-01-9)			X							8					
19B. Dibenzo *(a,h)* Anthracene (53-70-3)			X							8					
20B. 1,2-Dichloro-benzene (95-50-1)			X							8					
21B. 1,3-Dichloro-benzene (541-73-1)			X							8					

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CONTINUED FROM PAGE V-6

EPA I.D. NUMBER (copy from Item 1 of Form 1) | OUTFALL NUMBER

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)			X							8					
23B. 3,3'-Dichlorobenzidine (91-94-1)			X							8					
24B. Diethyl Phthalate (84-66-2)			X							8					
25B. Dimethyl Phthalate (131-11-3)			X							8					
26B. Di-N-Butyl Phthalate (84-74-2)			X							8					
27B. 2,4-Dinitrotoluene (121-14-2)			X							8					
28B. 2,6-Dinitrotoluene (606-20-2)			X							8					
29B. Di-N-Octyl Phthalate (117-84-0)			X							8					
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)			X							8					
31B. Fluoranthene (206-44-0)			X							8					
32B. Fluorene (86-73-7)			X							8					
33B. Hexachlorobenzene (118-74-1)			X							8					
34B. Hexachlorobutadiene (87-68-3)			X							8					
35B. Hexachlorocyclopentadiene (77-47-4)			X							8					
36B. Hexachloroethane (67-72-1)			X							8					
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)			X							8					
38B. Isophorone (78-59-1)			X							8					
39B. Naphthalene (91-20-3)			X							8					
40B. Nitrobenzene (98-95-3)			X							8					
41B. N-Nitrosodimethylamine (62-75-9)			X							8					
42B. N-Nitrosodi-N-Propylamine (621-64-7)			X							8					

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)			X							8					
44B. Phenanthrene (85-01-8)			X							8					
45B. Pyrene (129-00-0)			X							8					
46B. 1,2,4-Trichlorobenzene (120-82-1)			X							8					
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X							4					
2P. α-BHC (319-84-6)			X							4					
3P. β-BHC (319-85-7)			X							4					
4P. γ-BHC (58-89-9)			X							4					
5P. δ-BHC (319-86-8)			X							4					
6P. Chlordane (57-74-9)			X							4					
7P. 4,4'-DDT (50-29-3)			X							4					
8P. 4,4'-DDE (72-55-9)			X							4					
9P. 4,4'-DDD (72-54-8)			X							4					
10P. Dieldrin (60-57-1)			X							4					
11P. α-Endosulfan (115-29-7)			X							4					
12P. β-Endosulfan (115-29-7)			X							4					
13P. Endosulfan Sulfate (1031-07-8)			X							4					
14P. Endrin (72-20-8)			X							4					
15P. Endrin Aldehyde (7421-93-4)			X							4					
16P. Heptachlor (76-44-8)			X							4					

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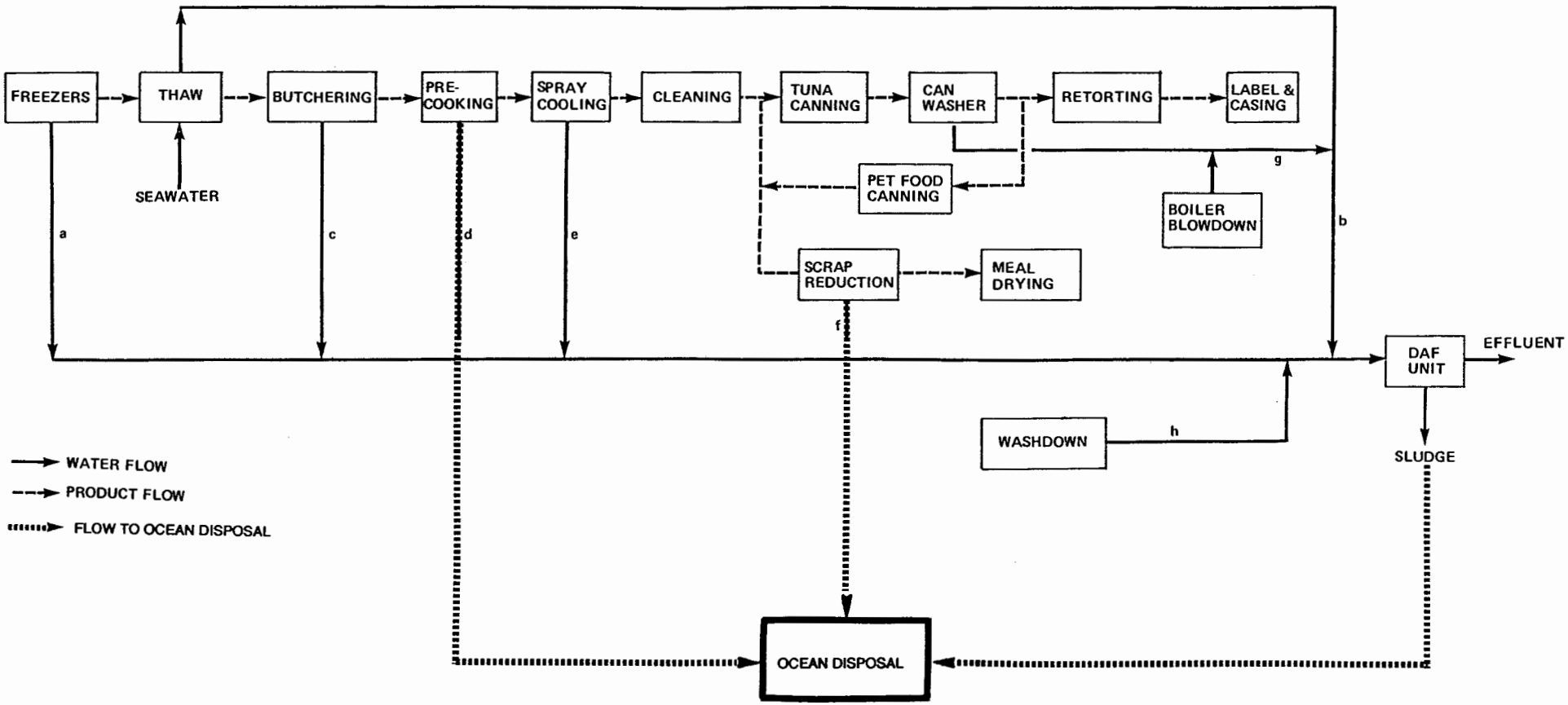
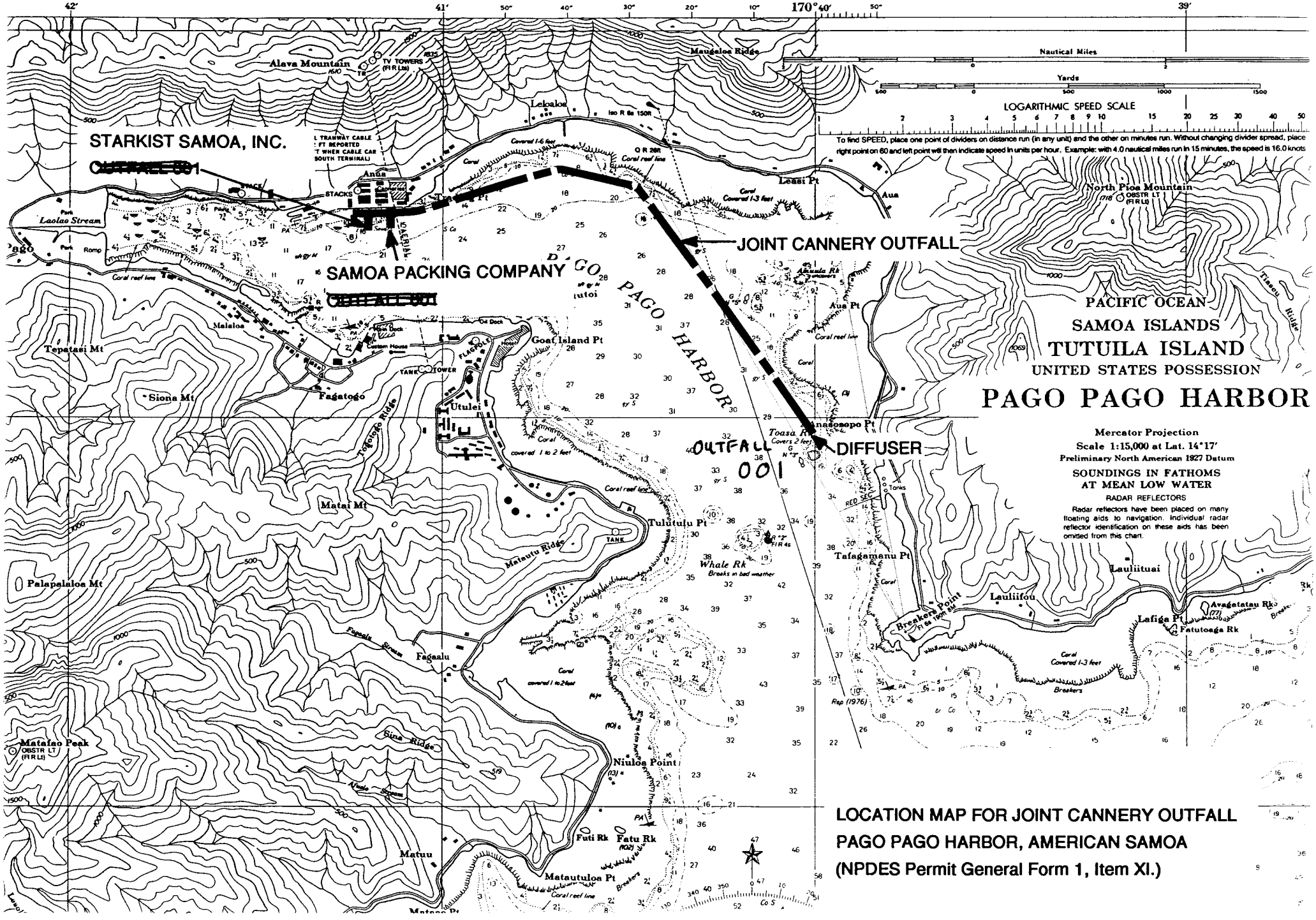
EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION -- PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X							4					
18P. PCB-1242 (53469-21-9)			X							4					
19P. PCB-1254 (11097-69-1)			X							4					
20P. PCB-1221 (11104-28-2)			X							4					
21P. PCB-1232 (11141-16-5)			X							4					
22P. PCB-1248 (12672-29-6)			X							4					
23P. PCB-1260 (11096-82-5)			X							4					
24P. PCB-1016 (12674-11-2)			X							4					
25P. Toxaphene (8001-35-2)			X							4					



WATER FLOW DIAGRAM
STARKIST SAMOA, INC.
(NPDES Permit Form 2C, Item IIA.)



LOCATION MAP FOR JOINT CANNERY OUTFALL
PAGO PAGO HARBOR, AMERICAN SAMOA
(NPDES Permit General Form 1, Item XI.)