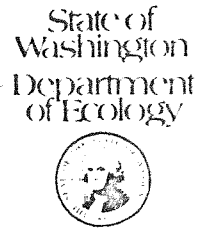


CHECK
INFORMATION
FOR ACTION
PERMIT
OTHER

TO: Ron Robinson, Ron Pine, Ron Devitt
FROM: Hans Cregg
SUBJECT: Pacific Beach
DATE: July 2, 1973



On March 22, 1973, an efficiency study was conducted on the Pacific Beach sewage lagoon system. The survey ran without incident.

Laboratory data shows that solid reduction does not meet D.O.E. standards. Coliform data, although close to waste water standards, could be improved upon through a more efficient chlorination system. At the present time chlorine gas is used as the disinfectant. The hose, which carries the gas, terminates three inches below the water's surface; consequently most of the chlorine escapes into the atmosphere.

HC:bjj

Attachment

STP SURVEY REPORT FORM

(EFFICIENCY STUDY)

City Pacific Beach Plant Type Lagoon Population 620 Design Capacity _____
 Receiving Water Joel Creek Engineer _____
 Date 3/22/73 Survey Period 8 hours Survey Personnel Hans Cregg
 Comp. Sampling Frequency hourly Weather Conditions fair
 (last 48 hours)
 Sampling Alequot 1000 mls

PLANT OPERATION

Total Flow 90,000 gal/day How Measured estimate
 Max. (Flow) _____ Time of Max. _____ Min. _____ Time of Min. _____
 Pre Cl₂ _____ #/day Post Cl₂ 15 #/day

FIELD RESULTS

Influent

Effluent

Determinations	Influent				Effluent			
	Max.	Min.	Mean	Median	Max.	Min.	Mean	Median
Temp. °C	12	11	11.75	12	13	10	11.25	11.5
pH	6.4	6.0	6.15	6.2	10.3	9.6	9.6	9.6
Conductivity (umhos/cm)								
Settleable Solids	4	4	4	4	.2	.1	.2	.2

LABORATORY RESULTS ON COMPOSITE IN PPM

Laboratory Number	Influent	Effluent	% Reduction
	73-1189	73-1190	
5-Day BOD	96	23	76.04
COD	290	124	57.24
T.S.	461	189	59
T.N.V.S.	189	124	34.39
T.S.S.	97	65	32.94
N.V.S.S.	23	4	82.61
pH	7.0	10.0	
Conductivity	420	160	
Turbidity	45	15	66.67

BACTERIOLOGICAL RESULTS

Na₂S₂O₃ added to sample before sample ~~XXXX~~ was taken ~~XXXX~~.

LAB #	SAMPLING TIME	COLONIES/100 MLS (MF)		Cl Residual	
		Total	Fecal	ppm	(after secs)
73-1191	0900	2500	<200	<.1	15
73-1192	1000	2000	<200	<.1	15
73-1193	1200	600	<200	<.1	15
73-1194	1300	2500	<200	<.1	15
73-1195	1400	1200	<200	<.1	15
73-1196	1600	700	<200	<.1	15

Operator's Name _____ Phone # 289-3404

Comments: _____

U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION
**SEWAGE TREATMENT PLANT OPERATION AND MAINTENANCE
PRACTICES QUESTIONNAIRE**

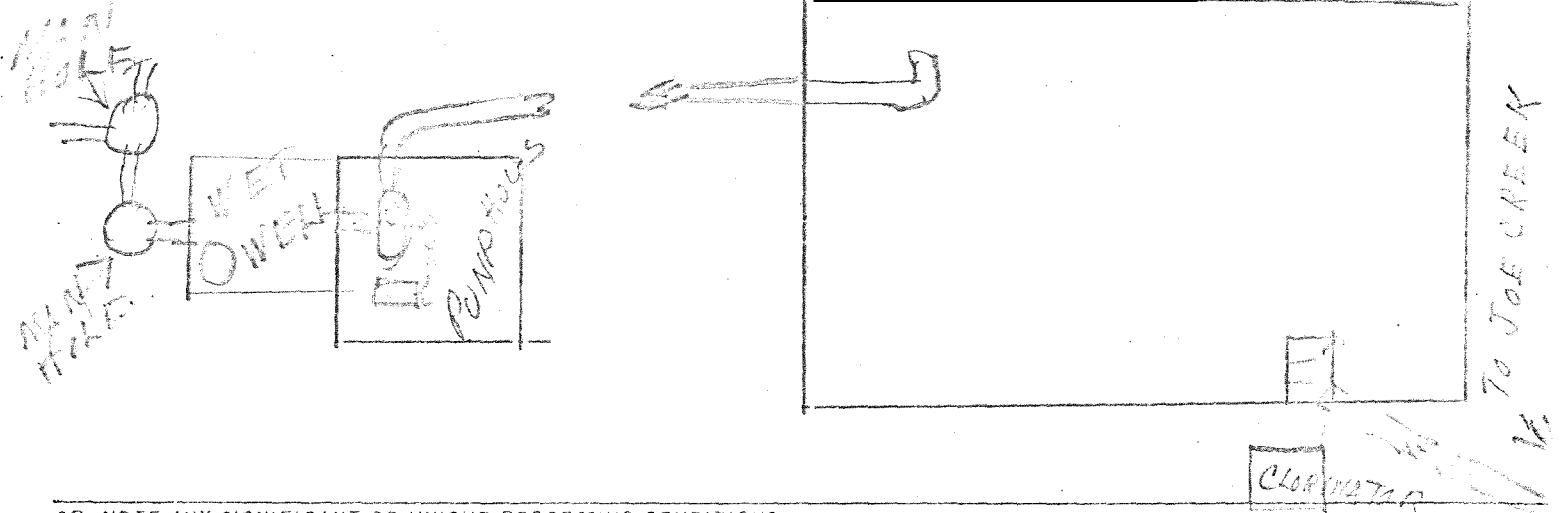
FORM APPROVED
BUDGET BUREAU NO. 42-R1527

CHECK ONE: <input type="checkbox"/> 1ST AUDIT <input type="checkbox"/> RE-AUDIT	DATE OF AUDIT	PLANT DESCRIPTION CODE (For Official Use Only)
--	---------------	--

A. GENERAL INFORMATION

1. PROJECT (State, Number)		SCOPE OF PROJECT (new plant, additions, etc.)	
2. PLANT LOCATION (City, county) PACIFIC BEACH		IDENTIFICATION OF AREAS SERVED	
3. POPULATION			
3A. FRACTION OF AREA POPULATION SERVED (%) 620	3B. PLANT DESIGN (population equivalent)	3C. SERVED BY PLANT (domestic) LAGOON	
4. TYPE OF COLLECTION SYSTEM			
4A. <input type="checkbox"/> COMBINED <input type="checkbox"/> SEPARATE <input checked="" type="checkbox"/> BOTH		4B. ESTIMATED FLOW CONTRIBUTED BY SURFACE OR GROUND WATER (infiltration, mgd) 50% in RAINY WEATHER	
5. YEAR COMMUNITY BEGAN SEWAGE TREATMENT	6. YEAR PRESENT SYSTEM PLACED IN OPERATION		
	6A. SEWER NO RECORD	6B. PLANT ABOUT 18 YEARS	6C. ANCILLARY WORKS
7A. SIZE OF PLANT SITE (acres) 2 ACERS	7B. APPROXIMATE AREA LEFT FOR EXPANSION (acres) 20 ACERS		

8A. IN THE SPACE PROVIDED BELOW FURNISH A SIMPLIFIED FLOW DIAGRAM OR A WRITTEN DESCRIPTION OF THE PLANT UNITS IN FLOW SEQUENCE. INCLUDE THE METHOD OF ULTIMATE SLUDGE DISPOSAL. SHOW APPROXIMATE SURFACE AREA OF STABILIZATION PONDS AND NUMBER OF CELLS. INDICATE WHETHER FLOW TO AND FROM PLANT IS BY PUMPING OR GRAVITY.



8B. NOTE ANY SIGNIFICANT OR UNIQUE PROCESSING CONDITIONS.

9. RECEIVING STREAM

9A. NAME OF STREAM Joe Creek		9B. STREAM FLOW IS	
<input type="checkbox"/> PERENNIAL	<input checked="" type="checkbox"/> INTERMITTENT	<input checked="" type="checkbox"/> NATURAL	<input type="checkbox"/> REGULATED
		<input type="checkbox"/> INTERSTATE	<input type="checkbox"/> INTRASTATE
		<input checked="" type="checkbox"/> COASTAL	

B. CURRENT PERFORMANCE AND PLANT LOADING INFORMATION

1A. ANNUAL AVERAGE DAILY FLOW RATE (mgd) 91000	1B. PEAK FLOW RATE (mgd)	1C. MINIMUM FLOW RATE (mgd)
	DRY WEATHER 30000	WET WEATHER 500000
2. AVERAGE BOD OF RAW SEWAGE (5 DAY 20°C) (mg/l)	3. AVERAGE SETTLEABLE SOLIDS OF RAW SEWAGE (mg/l)	
4. AVERAGE SUSPENDED SOLIDS OF RAW SEWAGE (mg/l)	5. AVERAGE COD (mg/l) OF RAW SEWAGE	
5. ANNUAL AVERAGE PLANT REMOVAL		
6A. BOD (%)	6B. SETTLEABLE SOLIDS (%)	6C. SUSPENDED SOLIDS (%)

7A. DOES PLANT HAVE STANDBY POWER GENERATOR FOR MAJOR PUMPING FACILITIES? YES NO

7B. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES? YES NO

8. ARE CHLORINATION FACILITIES PROVIDED? YES NO
IF YES, ANSWER 8A THRU G

IF YES, IS CHLORINATION CONTINUOUS? YES NO
IF NO, EXPLAIN REASON FOR INTERMITTENT CHLORINATION

LOWER BACTERIA COUNT

8A. PURPOSE OF CHLORINATION

LIQUID PUMP

8B. TYPE OF CHLORINATOR

8C. POINT OF APPLICATION OF CHLORINE
AT DISINFECTING CANAL

8D. CAN BYPASSED SEWAGE BE CHLORINATED?
 YES NO

8E. AVERAGE FEED RATE OF CHLORINE (lb/day)
15.0

8F. CHLORINE RESIDUAL IN EFFLUENT
PPM AT END OF _____ MINUTES

8G. MINIMUM SUPPLY OF CHLORINE STORED ON PREMISES (lb)
300 POUNDS

9. ARE FACILITIES PROVIDED FOR COMPLETE BYPASS OF RAW SEWAGE?

YES NO IF YES, ANSWER A THRU G BELOW, AND ANSWER H IN EITHER CASE.

9A. FREQUENCY (times monthly)

9B. AVERAGE DURATION (hours)

9C. REASON FOR BYPASSING
PLANT BIPASSING

9D. ESTIMATED FLOW RATE DURING BYPASS IS
 WITHIN HYDRAULIC CAPACITY OF PLANT
 BEYOND HYDRAULIC CAPACITY OF PLANT BY

9E. DOES SEWAGE OVERFLOW IN DRY WEATHER?
 YES NO

9F. TYPE OF DIVERSION STRUCTURE
SAND TRAP

9G. AGENCIES NOTIFIED OF BYPASS ACTION

9H. DO OPERATORS HAVE OPTION TO BYPASS INDIVIDUAL PLANT UNITS? (If no, has this caused any operational problems?)

YES NO

10A. ARE BACK FLOW DEVICES PROVIDED AT ALL CONNECTIONS TO CITY WATER SUPPLY? (If no, explain)

YES NO

10B. CHECK TYPE OF BACK FLOW PREVENTION DEVICE

DOUBLE CHECK VALVE PRESSURE OPERATED PHYSICAL DISCONNECT OTHER (specify) INDEPENDENT TANK WITH FLOW

11. USES OF TREATMENT PLANT EFFLUENT
NONE

12. LIVES OF RECEIVING STREAM WITHIN 10 MILES OF OUTFALL
NONE

13. HAVE THERE BEEN ANY COLOR COMPLAINTS BY THE PLANT PROPERTY? (If yes, explain)

YES NO

14. HOW MANY REFUGES ARE MAINTAINED FOR EFFLUENT RECEIVING STREAMS IN A 100-YEAR

15. STABILIZATION PONDS

A. WEEDS CUT AND VEGETATIVE GROWTH IN PONDS ELIMINATED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	D. BANKS AND DICES MAINTAINED (erosion etc.)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
C. FENCING AND "WARNING - POLLUTED WATER" SIGNS PRESENT AND IN GOOD REPAIR? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	E. FREQUENCY OF INSPECTION BY OPERATOR 3 TIMES WEEKLY
E. WATER DEPTH (feet) UNKNOWN HIGH _____ LOW _____ MEDIUM _____	
F. ADEQUATE CONTROL OF DEPTH? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	G. SEEPAGE REPORTED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
H. ANY REPORTS OF SURROUNDING WATER CONTAMINATION FROM POND (if yes, give details)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

I. MOSQUITO BREEDING PROBLEM? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	IF YES, NAME OF SPECIES IF KNOWN	J. CAN SURFACE RUN-OFF ENTER POND? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
--	----------------------------------	---

C. SUPERVISORY SERVICES

1. IS A CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTATION ON OPERATING AND MAINTENANCE PROBLEMS?
 YES NO IF YES IS IT ON: CONTINUING BASIS OR UPON REQUEST BASIS
IF CONTINUING BASIS, WHAT IS THE FREQUENCY OF VISITS:

2. DO OPERATORS AND OTHER PERSONNEL ROUTINELY ATTEND SHORT COURSES, SCHOOLS OR OTHER TRAINING ACTIVITIES?
 YES NO
IF YES, CITE COURSE SPONSOR AND DATE OF LAST COURSE ATTENDED
IF NO, DO YOU KNOW OF ANY COURSES AVAILABLE TO SERVE THIS AREA?
NO

3A. ARE ALL EQUIPMENT AND PARTS OF THE PRESENT PLANT STILL IN OPERATION? YES NO (If no, explain)

B. ARE PROCESSING UNITS OPERATING AT DESIGN EFFICIENCY? YES NO (If no, explain)

4. HAVE THERE BEEN ANY DIFFICULTIES WITH THE SEWAGE TREATMENT PLANT?

A. STRUCTURAL YES NO (If yes explain) **THE PLANT WAS COMPLETELY TORN DOWN & A TANK & PUMPS REBUILT & REPLACED THE MONTH OF NOV. 20 1972**

B. MECHANICAL YES NO (If yes, explain)

C. OPERATIONAL YES NO (If yes, explain)

D. CAN YOU IDENTIFY ANY CHANGES THAT IF ANY CHANGES WOULD BE MADE TO IMPROVE THE EFFICIENCY OF THE PLANT?

5. ARE OPERATING RECORDS MAINTAINED? YES NO
 (If maintained, check general items included)

REPORTED? YES NO
 TO WHOM?

FREQUENCY	WEATHER	FLOW	SLUDGE HANDLED	CHEMICALS USED	DIGESTER	GRIT HANDLED	ELEC. USED	COST DATA	AIR USED	MAIN-TENANCE	OTHER
DAILY											
WEEKLY											
MONTHLY											
ANNUALLY				284,19			430,37			885.00	

6. ARE LABORATORY RECORDS MAINTAINED? (check appropriate box)

NOT AT ALL DAILY WEEKLY MONTHLY ANNUALLY

IF MAINTAINED CHECK FORM OF RECORD BELOW:

LOG BOOK TABULAR SHEET SEPARATE BY OPERATION CONTROL CHARTS GRAPHS

WHAT PLANT AND/OR LABORATORY EQUIPMENT, GAGES AND METERS ARE CALIBRATED PERIODICALLY?

7. IS LABORATORY TESTING ADEQUATE FOR THE CONTROL REQUIRED FOR THIS SIZE AND TYPE OF PLANT?

YES NO (If no, explain) *minimum of daily Cl_2 test*

8. INDUSTRIAL WASTES DISCHARGED TO MUNICIPAL SYSTEM:	A. NUMBER AND TYPES OF INDUSTRIES DISCHARGING TO SYSTEMS
B. POPULATION EQUIVALENT (BOD) OF INDUSTRIAL WASTES (pe)	C. POPULATION EQUIVALENT (SS) OF INDUSTRIAL WASTES (pe)
D. VOLUME OF INDUSTRIAL WASTES (mgd) <i>NONE</i>	E. COMPOSITION AND CHARACTERISTICS OF INDUSTRIAL WASTES
F. MAIN DIFFICULTY EXPERIENCED WITH INDUSTRIAL WASTE (explain)	

9. HAVE INDUSTRIAL EFFLUENT PROBLEMS BEEN SOLVED? YES NO (If yes, how?)

9A. METHOD OR METHODS USED TO ASSESS INDUSTRIAL WASTE TREATMENT COST (check appropriate box)

NO CHARGE BY CITY PROPERTY TAX WATER USE ASSESSMENT CHARGE BASED ON FLOW

CHARGED BASED ON BOD CHARGE BASED ON SS OTHER METHODS (describe)

COMMENT ON HOW CHARGE IS COLLECTED (fixed charge, sliding scale, etc.)

9B. IS INDUSTRIAL WASTE ORDINANCE IN EFFECT AND ENFORCED? YES NO

10. WHO PROVIDED INITIAL INSTRUCTION IN THE OPERATION OF THE PLANT?

11. IS A MANUAL OF PRACTICE OR INSTRUCTIONS AVAILABLE? YES NO

IF YES, WHO WROTE AND PROVIDED IT?

12. ESTIMATE OF MAN-HOURS PER WEEK DEVOTED TO LABORATORY WORK AND MAINTENANCE OF RECORDS AND REPORTS

D. PLANT PERSONNEL - Annual Average Staff for Most Recent Year Reported in Section "F"

JOB CATEGORY	NUMBER	TOTAL MAN-HOURS PER WEEK	TOTAL NUMBER CERTIFIED OR LICENCED	MAN IN PERCENT EMPLOYED AT PRESENT PLANT	MAN IN PERCENT OF LABOR FORCE WITH PRESENT HEALTH RECORDS
1. SUPERINTENDENT					
2. OPERATORS	<i>ONE</i>	<i>4</i>	<i>NONE</i>	<i>9</i>	
3. LABORATORY TECHNICIANS					
4. LABORSERS					
5. PART-TIME LABORSERS					
6. TOTAL					

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

ORIGINAL TO:
H. CREGG.....
COPIES TO:
.....
.....
LAB FILES.....

DATA SUMMARY

Source PACIFIC BEACH

Collected By H.C.

Date Collected _____

Goal, Pro./Obj. _____

Log Number:	73-	1189	1190	1191	1192	1193	1194	1195	1196		STORET
Station:	COMP. INF	COMP EFF	0900	1000	1200	1300	1400	1600			
pH	7.0	10.0									00403
Turbidity (JTU)	45.	15.									00070
Conductivity (umhos/cm)@25°C	420.	160.									00095
COD	290	124									00340
BOD (5 day)	96	23									00310
Total Coliform (Col./100ml)			2500	2000	600	2500	1200	700			31504
Fecal Coliform (Col./100ml)			<200	<200	<200	<200	<200	<200			31616
NO3-N (Filtered)											00620
NO2-N (Filtered)											00615
NH3-N (Unfiltered)											00610
T. Kjeldahl-N (Unfiltered)											00625
O-PO4-P (Filtered)											00671
Total Phos.-P (Unfiltered)											00665
Total Solids	461	189									00500
Total Non Vol. Solids	189	124									
Total Suspended Solids	97	65									00530
Total Sus. Non Vol. Solids	23	4									

Note: All results are in PPM unless otherwise specified. ND is "None Detected"
Convert those marked with a * to PPB (PPM X 10³) prior to entry into STORET

Summary By Stephen D. Roll Date 4-3-73