

March 6, 1972

Publication No. 72-e07

MEMORANDUM

TO: Stew Messman

FROM: Ron Devitt

SUBJECT: Auburn STP, LACONN

On February 15, 1972 samples were taken from Auburn treatment facilities. The influent was composited after the Parshall flume. The effluent was sampled by the use of a Surveyor automatic sampler. Coliform samples were taken from the manhole near the river. In addition to the effluent composite which was from the east cell discharge, the other two cell effluents were tested for field parameters; they are designated as middle or west in field data below.

<u>Cell</u>	<u>Time</u>	<u>T. °C</u>	<u>pH</u>	<u>µmhos/cm Conductivity</u>
Middle	0830	6.4	7.0	350
East	0945	6.8	7.0	400
East	1100	6.8	7.0	350
Middle	1400	7.6	7.5	450
West	1540	---	6.9	450

RCD:bj

cc: Lloyd Taylor
Glen Phillips
Files

STP SURVEY REPORT FORM

(EFFICIENCY STUDY)

Aerated

City Auburn Plant Type Lagoon Population ~15,000 Design 8.0 MGD
Served Capacity

Receiving Water Green River Engineer Stew Messman

Date February 15, 1972 Survey Period 0830-1630 Survey Personnel Ron Devitt *RD*

Comp. Sampling Frequency Varied Weather Conditions Sprinkles, cold, wind
(last 48 hours)

Sampling Alequot Influent MGD ÷ 3 X 1000 ml/SA Effluent 200 ml/SA 5 X Hr.

PLANT OPERATION

Total Flow 1.105 MG in 8 Hrs. 5 Min. How Measured Totalizer - Parshall flume

Max. (Flow) 4.0 MGD Time of Max. 1630 Min. 3.3 MGD Time of Min. 1030

Pre Cl₂ -- #/day Post Cl₂ 90 #/day

FIELD RESULTS

Determinations	Influent				SEE TEXT Effluent				Tap H ₂ O
	Max.	Min.	Mean	Median	Max.	Min.	Mean	Median	
Temp. °C	12.4	10.8	11.8	11.9					---
pH	7.7	6.6	7.3	7.3					8.0
Conductivity (umhos/cm)	600	200	475	490					100
Settleable Solids	15.0	3.5	8.5	7.8					---

on influent

LABORATORY RESULTS ON COMPOSITE IN PPM

Laboratory Number	Influent	Effluent	% Reduction
	72-336	72-336	----
5-Day BOD	135	20	85
COD	270	85	69
T.S.	459	256	44
T.N.V.S.	224	172	23
T.S.S.	229	63	72
N.V.S.S.	71	32	55
pH	7.1	7.4	--
Conductivity	385	324	--
Turbidity	60	25	--
TSS	158	31	80

Auburn

BACTERIOLOGICAL RESULTS

Na₂S₂O₃ added to sample After min.

LAB #	SAMPLING TIME	COLONIES/100 MLS (MF)	Cl Residual	
			ppm	(after secs)
72-338	1430	200	1.0	360
72-339	1540	<100	1.0	360

Operator's Name Everett Effland Phone # TE 3 - 6050

Comments: _____

SAME AS FORM 10-10-65

Exhibit F
ONLY Change accelerators
FORM APPROVED
BUDGET BUREAU NO. 42-R1527

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

CHECK ONE 1ST AUDIT RE-AUDIT DATE OF AUDIT 2-14-72 PLANT DESCRIPTION CODE (For Official Use Only)

A. GENERAL INFORMATION

1. PROJECT (State, Number) ABURN, KING SCOPE OF PROJECT (new plant, additions, etc.) City & vicinity

2. PLANT LOCATION (City, county) IDENTIFICATION OF AREAS SERVED

3. POPULATION

3A. FRACTION OF AREA POPULATION SERVED (%) ~ 75-80 3B. PLANT DESIGN (population equivalent) 2MGD 3C. SERVED BY PLANT (domestic) ~ 15,000

4. TYPE OF COLLECTION SYSTEM

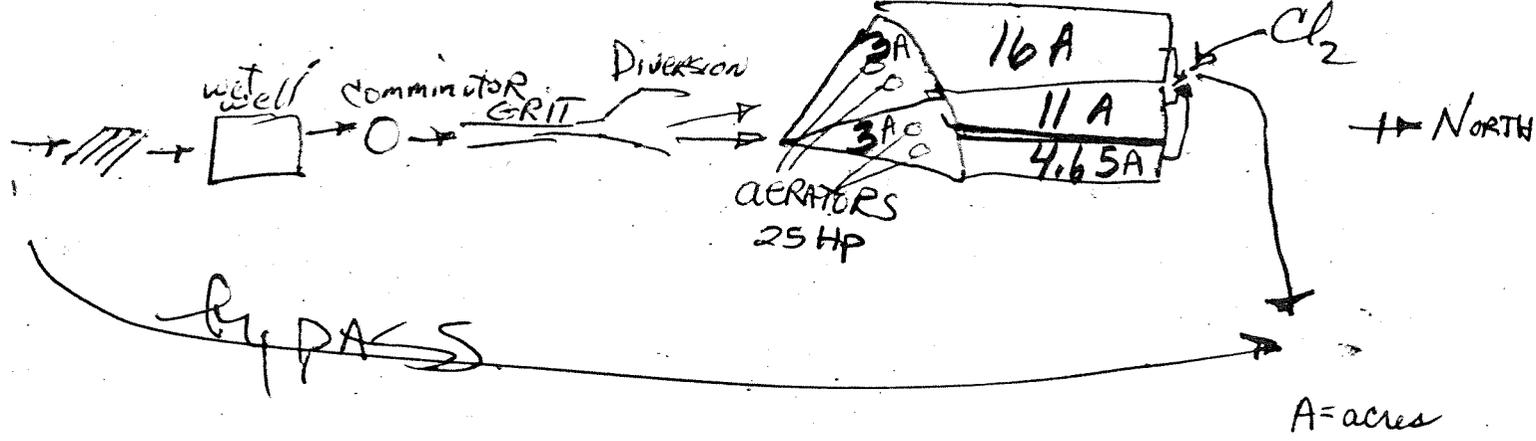
4A. COMBINED SEPARATE BOTH 4B. ESTIMATED FLOW CONTRIBUTED BY SURFACE OR GROUND WATER (infiltration, mgd)

5. YEAR COMMUNITY BEGAN SEWAGE TREATMENT 1927 6. YEAR PRESENT SYSTEM PLACED IN OPERATION

6A. SEWER 6B. PLANT 1963 6C. ANCILLARY WORKS 1970

7A. SIZE OF PLANT SITE (acres) 37 7B. APPROXIMATE AREA LEFT FOR EXPANSION (acres) 10

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.
Comminutor and grit channel after wet well
Bar screen in awkward place to clean

9. RECEIVING STREAM

9A. NAME OF STREAM GREEN RIVER

9B. STREAM FLOW IS PERENNIAL INTERMITTENT NATURAL REGULATED INTERSTATE INTRASTATE COASTAL

B. CURRENT PERFORMANCE AND PLANT LOADING INFORMATION

1A. ANNUAL AVERAGE DAILY FLOW RATE (mgd) 1.8 AVERAGE MONTHLY PEAK FLOW RATE (mgd) 1.3 1C. MINIMUM FLOW RATE (mgd) 2.1

2. AVERAGE BOD OF RAW SEWAGE (5 DAY 20°C) (ppm) 3. AVERAGE SETTLEABLE SOLIDS OF RAW SEWAGE (1:1000 Conc) (ml/l)

4. AVERAGE SUSPENDED SOLIDS OF RAW SEWAGE (mg/l) 5. AVERAGE COLIFORM DENSITY OF RAW SEWAGE (mpn/100 ml)

6. ANNUAL AVERAGE PLANT REDUCTION %

6A. BOD (%) 6B. SETTLEABLE SOLIDS (%) 6C. SUSPENDED SOLIDS (%) 6D. COLIFORM DENSITY (%)

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

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

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

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

8A. PURPOSE OF CHLORINATION
disinfection

8B. TYPE OF CHLORINATOR

8C. POINT OF APPLICATION OF CHLORINE
at effluent weir

8E. AVERAGE FEED RATE OF CHLORINE (lb/day)
60

8D. CAN BYPASSED SEWAGE BE CHLORINATED?
 YES NO

8F. CHLORINE RESIDUAL IN EFFLUENT
.75 PPM AT END OF *60* MINUTES @ *River*

8G. MINIMUM SUPPLY OF CHLORINE STORED ON PREMISES (lb)
600

9. ARE FACILITIES PROVIDED FOR COMPLETE BYPASS OF RAW SEWAGE?
 YES NO IF YES, ANSWER A THRU G BELOW, ANSWER H IN EITHER CASE.

9A. FREQUENCY (times monthly)
never

9B. AVERAGE DURATION (hours)
NA

9C. REASON FOR BYPASSING

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
head height

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)

11. USES OF TREATMENT PLANT EFFLUENT
NONE

12. USES OF RECEIVING STREAM WITHIN 10 MILES OF OUTFALL
RECREATION & IRRIGATION

13. HAVE THERE BEEN ANY ODOR COMPLAINTS BEYOND THE PLANT PROPERTY? (If yes, explain)
 YES NO
NOT SINCE aerators have been FUNCTIONING

14. OBSERVED APPEARANCE AND CONDITION OF EFFLUENT, RECEIVING STREAM, OR DRAINAGE WAY

15. STABILIZATION PONDS

A. WEEDS CUT AND VEGETATIVE GROWTH IN PONDS ELIMINATED?

YES NO

B. BANKS AND DIKES MAINTAINED (erosion etc.)?

YES NO

C. FENCING AND "WARNING - POLLUTED WATER" SIGNS PRESENT AND IN GOOD REPAIR?

fence
 YES NO

D. FREQUENCY OF INSPECTION BY OPERATOR

daily

E. WATER DEPTH (feet)

1st stage - 5.5
HIGH

2nd - 3.4
LOW MEDIUM

F. ADEQUATE CONTROL OF DEPTH?

YES NO

G. SEEPAGE REPORTED?

YES NO

H. ANY REPORTS OF GROUND WATER CONTAMINATION FROM POND (If yes, give details)?

YES NO

I. MOSQUITO BREEDING PROBLEM?

YES NO

IF YES, NAME OF SPECIES IF KNOWN

J. CAN SURFACE RUN-OFF ENTER POND?

YES 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

Now

IF NO, DO YOU KNOW OF ANY COURSES AVAILABLE TO SERVE THIS AREA?

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)

B. MECHANICAL YES NO (If yes, explain)

1-aerator

C. OPERATIONAL YES NO (If yes, explain)

D. BASED ON OPERATING EXPERIENCE TO DATE WHAT IF ANY CHANGES WOULD YOU RECOMMEND TO IMPROVE OPERATION OF THE PLANT?

E. LABORATORY CONTROL

Enter test codes opposite appropriate items. If any of the below tests are used to monitor industrial wastes place an "X" in addition to the test code.

CODES

1 - 7 or more per week 3 - 1, 2, or 3 per week 5 - 2 or 3 per month 7 - Quarterly 9 - Annually
 2 - 4, 5 or 6 per week 4 - as required 6 - 1 per month 8 - Semi-Annually

ITEM	RAW	PRIMARY EFFLUENT	MIXED LIQUOR	FINAL	SLUDGE		DIGESTOR	RECEIVING STREAM
					RAW	SUPER-NATANT		
1. BOD	5			5				
2. SUSPENDED SOLIDS								
3. SETTLEABLE SOLIDS	2	2		2				
4. SUSPENDED VOLATILE								
5. DISSOLVED OXYGEN	2	2		2				
6. TOTAL SOLIDS								
7. VOLATILE SOLIDS								
8. pH	2	2		2				
9. TEMPERATURE	2	2		2				
10. COLIFORM DENSITY				6*				
11. RESIDUAL CHLORINE								
12. VOLATILE ACIDS								
13. M. B. STABILITY								
14. ALKALINITY								
15.								
16.								
17.								
18.	* HEARTH Dept - KING Co.							
19.								

F. OPERATION AND MAINTENANCE COST FOR PLANT

YEAR OF OPERATION	SALARIES/WAGES	ELECTRICITY	CHEMICALS	MAINTENANCE	OTHER ITEMS	TOTAL
MOST CURRENT YEAR 19						
PRIOR YEAR 19						
PRIOR YEAR 19						
PRIOR YEAR 19						

EVALUATION PERFORMED BY <i>Ron Dwyer</i>	TITLE	ORGANIZATION <i>D. Ecology</i>

INFORMATION FURNISHED BY <i>Everett Offland</i>	TITLE <i>SR. Operator</i>	ORGANIZATION <i>city</i>	DATE

5. ARE OPERATING RECORDS MAINTAINED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO (If maintained, check general items included)						REPORTED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO TO WHOM? Dept Ecology					
FREQUENCY	WEATHER	FLOW	SLUDGE HANDLED	CHEMICALS USED	DIGESTER	GRIT HANDLED	ELEC. USED	COST DATA	AIR USED	MAIN-TENANCE	OTHER
DAILY	X	X		X						X	
WEEKLY											
MONTHLY							X				
ANNUALLY								X			

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?

pH meter

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

YES NO (If no, explain)

B. INDUSTRIAL WASTES DISCHARGED TO MUNICIPAL SYSTEM:

A. NUMBER AND TYPES OF INDUSTRIES DISCHARGING TO SYSTEMS

NONE

B. POPULATION EQUIVALENT (BOD) OF INDUSTRIAL WASTES (pe)

C. POPULATION EQUIVALENT (SS) OF INDUSTRIAL WASTES (pe)

D. VOLUME OF INDUSTRIAL WASTES (mgd)

E. COMPOSITION AND CHARACTERISTICS OF INDUSTRIAL WASTES

F. MAIN DIFFICULTY EXPERIENCED WITH INDUSTRIAL WASTE (explain)

G. 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?

Richard Wolf - Consulting (way back) also previous operators

11. IS A MANUAL OF PRACTICE OR INSTRUCTIONS AVAILABLE?

IF YES, WHO WROTE AND PROVIDED IT?

YES NO

Wolf

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

45

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

Including administrative

JOB CATEGORY	NUMBER	TOTAL MAN-HOURS PER WEEK	TOTAL NUMBER CERTIFIED OR LICENSED	RANGE IN YEARS EMPLOYED AT PRESENT PLANT	RANGE IN YEARS OF EXPERIENCE IN TREATMENT
1. SUPERINTENDENT	1	40	1	3	3
2. OPERATORS	3	60	3		varies
3. LABORATORY TECHNICIANS					
4. LABORERS	PEP	40		1 month	
5. PART-TIME LABORERS					
E. TOTAL					

G. NOTATIONS BY EVALUATOR

1. ADDITIONAL REMARKS (If remarks refer to a particular item, identify by number)

banks need WORK FOR EROSION
CONTROL

2. GENERAL COMMENTS ON HOUSEKEEPING AND MAINTENANCE

housekeeping good

3. REQUIREMENTS OF HIGHER AUTHORITY

3A. DOES THE PLANT PROVIDE THE DEGREE OF TREATMENT PRESENTLY REQUIRED BY THE STATE? (If no, explain)

YES NO

3B. ARE THERE ANY PENDING ACTIONS (enforcement conferences, change in water quality standards, etc.) THAT WOULD REQUIRE UPGRADING OF TREATMENT BY THIS PLANT?

YES NO (If yes, explain)

PLAN TO CONNECT TO METRO

3C. NUMBER OF STATE INSPECTIONS OF PRESENT PLANT TO DATE.

4. IS ANY FOLLOW-THRU ACTION REQUIRED TO (1) CORRECT DEFICIENCIES IN THE PLANT OR ITS OPERATION OR (2) RESOLVE INDUSTRIAL WASTE PROBLEMS? (If yes, describe required corrective action)

YES NO