

Date: 4 November 1982

Memorandum for the Record

From: Ms. Betz, Quality Control Lab, Environmental Br, NREAD, Facilities

Subj: Meetings with Wallace Carter on 2 November 1982

1. On 2 November 1982, Wallace Carter, of LANTDIV, met first with Danny Sharpe and Elizabeth Betz, of NREAD, at the Quality Control Lab. Then the three went to the Hadnot Point Water Treatment Plant and met with Fred Cone, Colan Wetherington, Willard Price, Mack Frazelle and Mack Davys, of Utilities Br, BMaintDiv.
2. At the first meeting, Wallace Carter asked if there were any problems. I mentioned the need for an Ion Selective Meter for fluoride certification, the problem with getting no assistance from PMU, the problem over pH differences between the plants and lab. Other equipment needed was a recorder for the AA.
3. Concerning the gas chromatograph, Wallace Carter seemed against the idea since the majority of THM sampling was not required.
4. Wallace Carter reminded us that the radiological sampling and analysis had to start in September 1983. The recent inorganic, corrosivity and sodium analysis were looked over. Wallace Carter requested a working copy as well as the copies that will be provided LANTDIV when the results are sent to the State.
5. Wallace Carter suggested a way to reduce the number of required samples for bacteria analysis by getting new population statistics and dividing into community and non-community populations. The suggestion was not regarded very highly by Elizabeth A. Betz since she felt any fewer samples taken and reported could not assure good water quality.
6. Wallace Carter suggested the lab take over taking the required samples and allowed the water plant to take the extras and only report the ones the lab collected. Several points were raised by Ms. Betz and Mr. Sharpe. The lab had a responsibility to report all results. The State lab had no problem with the water system personnel collecting compliance samples. A move by the lab to take over any portion of sampling would eventually result in the lab taking all samples at the Water and Sewage Plants.
7. Wallace Carter's final suggestion was the lab personnel should occasionally accompany plant personnel during weekly collections to check their procedures.
8. At the second meeting Wallace Carter started going through the 1979 LANTDIV survey. Approximately 9 areas were covered during the meeting. They are discussed below.
9. Chlorine residuals at the sewage treatment plants. In the 1979 survey, Norfolk recommended reducing chlorine residuals in the chlorine contact chambers. The recommendations were based on Maryland's and Virginia's chlorine residual limits. During the summer of 1981, when chlorine residuals fell to the suggested levels, total coliform counts reached 30,000/100 ml at Hadnot Point. The chlorine contact chamber at Hadnot Point has a hole in the bottom and the corner, where the sewage enters, has settles and is actually lower than the other end. Sludge builds up there and blocks organisms from being killed by chlorine. Honest efforts were made to comply with LANTDIV's recommendations. In addition, it was also mentioned

that due to high chlorine residual readings the lab spot checks for chlorine at the outfalls and their river trips. The highest reading has been 1.0ppm for samples taken right at the riser. It was pointed out that with recent experiments that geometric means limits could be met with 3.0ppm. It was stated by Betz and Davis, that even though the permit allows 70/100 ml, the base tried for 0/100 ml. This is based on health reasons. A good many fishermen on the New River ignore the buffer zones (which are not enforceable) around the outfalls. The seafood is shipped all over the country. The point made by Davis, was that since there was no chlorine residual limit and only traces found at outfalls, why dump live bacteria in the River when 1.00ppm more residual could kill them. Wallace Carter stated his major concern was the impact of the chlorine on the River. It was again stated that 4.0 at the end of the contact chamber was 1.0 at the end of the outfall line. Davis stated, in his opinion, river trips weren't run often enough.

10. Sampling. Several points were mentioned. Wallace Carter mentioned lab personnel should regularly accompany operators during sampling and it was accepted. Then Col. Marshall's inquiry into the possibility of the Lab taking over sewage sampling was mentioned and Frazelle stated that the lab could do water too. On the point of complaints, the water plant didn't mind present system, but were not objectionable to PMU. Mr. Davis expressed some objections and Mr. Price agreed, based on an incident with PMU many years ago. It was stated by Betz that since PMU technicians received as much as assistance from lab personnel as WTP operators, and PMU samples followed the same protocol, the lab had no reason to be any more suspicious of samples collected by PMU as those collected by WTP operators. Wallace Carter also suggested reevaluating sampling locations.

11. Chlorine Rooms at WTPs. It was stated that discrepancies noted in 1979 had not been acceptably corrected.

12. Auxillary Power. In 1979, it had been noted that no aux. power was provided at the New River WTP. Mr. Price stated that there was one pump to the distribution system that had aux. power, that was all. The plant could operate a $\frac{1}{2}$ day. Suggestion was made to Wallace Carter to recommend how much water (how many days) should be available in case of power outages to justify any needed changes. Also mentioned was Holcomb Blvd WTP's generator, as to whether it was large enough to handle the proposed expansions.

13. P996 Construction. Wallace Carter inquired into if there were any problems due to P996. Davis stated flows had increased, especially during heavy rains. He also stated Courthouse Bay was getting upgraded to handle its new volume. Camp Johnson was having problems during heavy rains with oil washing through. Frazelle and Cone brought up the settling pond behind Onslow Beach WTP for its backwash. It was decided samples and monitoring had to be done at the times it was pumped out. P996 had called for a pumper truck to pump it out and take it to a sewage plant.

14. Flow Meters. Davis stated that they were being taken care of. He explained several problems with the ones they had, with them getting clogged. Davis said that flow meters work best at effluent lines since most solids and such are removed by them.

15. Present or proposed Construction projects. The newly proposed project in French Creek on Main Service and Sneads Ferry Rd was brought up and the fact that no utilities were there presently or planned for. There were no problems of the plants handling the capacities. Cone stated that Public Works was the point of contact. Also R. Lanier in M&R Branch, BMaint Div was responsible for the distribution systems not Utilities Branch. Davis stated that since it was time to replace the pumps in the tow lift stations affected by the French Creek project, he was

... due to high chlorides residual... the highest reading was 1.0... It was pointed out that with... It was stated by... that even though the... as based on best... buffer zones (which are not... got all over the country... which residual time and... in the river when 1,000... the major concern was the... that 4.0 at the end of... Davis stated in his... river water...

10. Sampling. Several... Wallace Carter mentioned... some should regularly... The Col. Marshall's... sampling was mentioned... the point of complaint... not applicable to... based on an incident... PMU equipment... and PMU samples... the idea of... Wallace Carter also suggested...

11. Chlorine home at... It was stated that... been accepted...

12. Auxiliary Power. In 1979, it had been noted that no aux. power was... at the New River WTP. Mr. Carter stated that there was one pump to the... plan system that had aux. power, that was all. The plant could operate a... suggestion was made to Wallace Carter to... should be available in case of power outages to... mentioned was... handle the...

13. 1990 Construction. Wallace Carter... due to 1990. Davis stated flows had increased, especially during heavy rains. He also stated... Johnson was having... and Gora brought... It was desired... 1990 had called for a...

14. Flow Metering. Davis stated that they were being... several problems with the ones they had... that they...

15. Reservoir proposed... The newly proposed... the fact that... no... There was no... plans handling the... Also... Davis stated... the... by the...

ordering pumps with the capacity to handle the additional volume. As for the new Naval Hospital, do to open Feb. 83, it was stated by Frazelle that when it opened and until the Holcomb Blvd WTP was expanded, Holcomb Blvd will be operating at maximum capacity. When Holcomb Blvd is expanded Tarawa Terrace and Camp Johnson WTPs will be shut down, therefore projects to update those plants have been cancelled. As for the sewage from the new hospital theres no major problems anticipated.

16. Operators Certifications. Wallace Carter stated we were fine.

17. Additional Assistance by Lab in Operations. Wallace Carter asked if the lab could offer more assistance in running tests for operations. It was agreed.

Elizabeth A. Betz
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Supervisory Chemist

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Elizabeth A. ...
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1. ANY CORRECTIONS @ STP -

2. CERTIFICATIONS FOR LAB.

WATER POLLUTION CONT

POTABLE WATER

X FLUORIDE - ION SELECTIVE METER

X AA- RECORDER FOR CERTIFICATION - INORGANICS

3. PH READINGS ON CHEMICAL ANALYSIS SHEETS, WTP- 9.18 + LAB 9.00, TIME

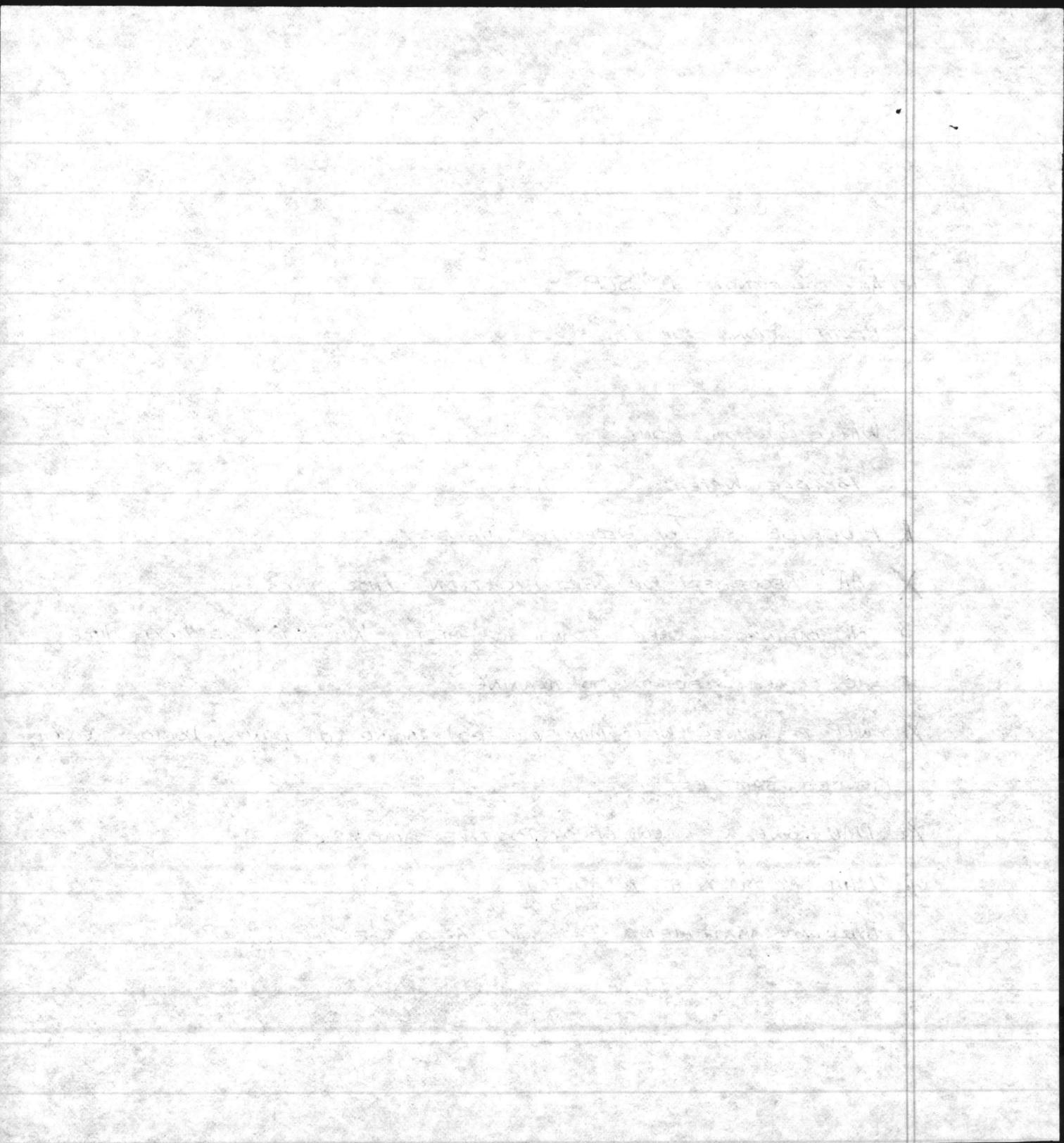
* LAG FROM COLLECTION TO READING.

X WTP PERSONNEL (WATER MANUFACTURERS) TAKING COMPLAINTS, DOCTOR RECOMMENDED SAMPLES.

X PMU DOING NO FOLLOW-UP ON POSITIVE SAMPLES.

6. THM PROBLEM AT MCAS(H)

7. POLLUTION ABATEMENT PROBLEMS ASSOCIATED WITH WTP



1. RAD. ANALYSIS - AUGUST 1983

~~1.~~ 1. Cl₂ RES. BATTLE

1. ENVIR CONCERNS
2. RIVER RUNS SHOW NO Cl_2
3. BAD HP Cl_2 CONTACT CHAMBER
4. MCBCL TARGET ZERO COLI
5. FISHING @ OUTFALLS

~~10.~~ 2. LAB SAMPLING

1. DO ALL
2. WELL RECEIVED
3. WHO HANDLES COMPLAINTS
4. PMU = WTOP SAMPLERS

~~11.~~ 3. LAB TECH ACCOMPANY SAMPLER OKAYED

~~12.~~ 4. Cl₂ ROOMS @ WTP

~~13.~~ 5. AUX. POWER @ NR WTP

~~14.~~ 6. POND @ OB WTP

~~14.~~ 7. FLOW METERS.

~~15.~~ 8. CHB STP UPGRADED.

~~16.~~ 9. FRENCH CREEK PROJECT

~~17.~~ 10. OPERATORS CERTIFICATION

~~18.~~ 11. ADDITION ASSISTANCE BY LAB IN OPERATIONS.

ADDITIONAL EXPERIMENT ON THE EFFECT OF TEMPERATURE ON THE RATE OF REACTION

1. Preparation of potassium persulphate solution

2. Preparation of potassium iodide solution

3. Preparation of sodium sulphate solution

4. Preparation of sodium bisulphate solution

5. Preparation of sodium metabisulphate solution

6. Preparation of sodium sulphite solution

7. Preparation of sodium sulphide solution

8. Preparation of sodium selenite solution

9. Preparation of sodium selenate solution

10. Preparation of sodium selenate solution

11. Preparation of sodium selenate solution

12. Preparation of sodium selenate solution

13. Preparation of sodium selenate solution

14. Preparation of sodium selenate solution

15. Preparation of sodium selenate solution

16. Preparation of sodium selenate solution

17. Preparation of sodium selenate solution

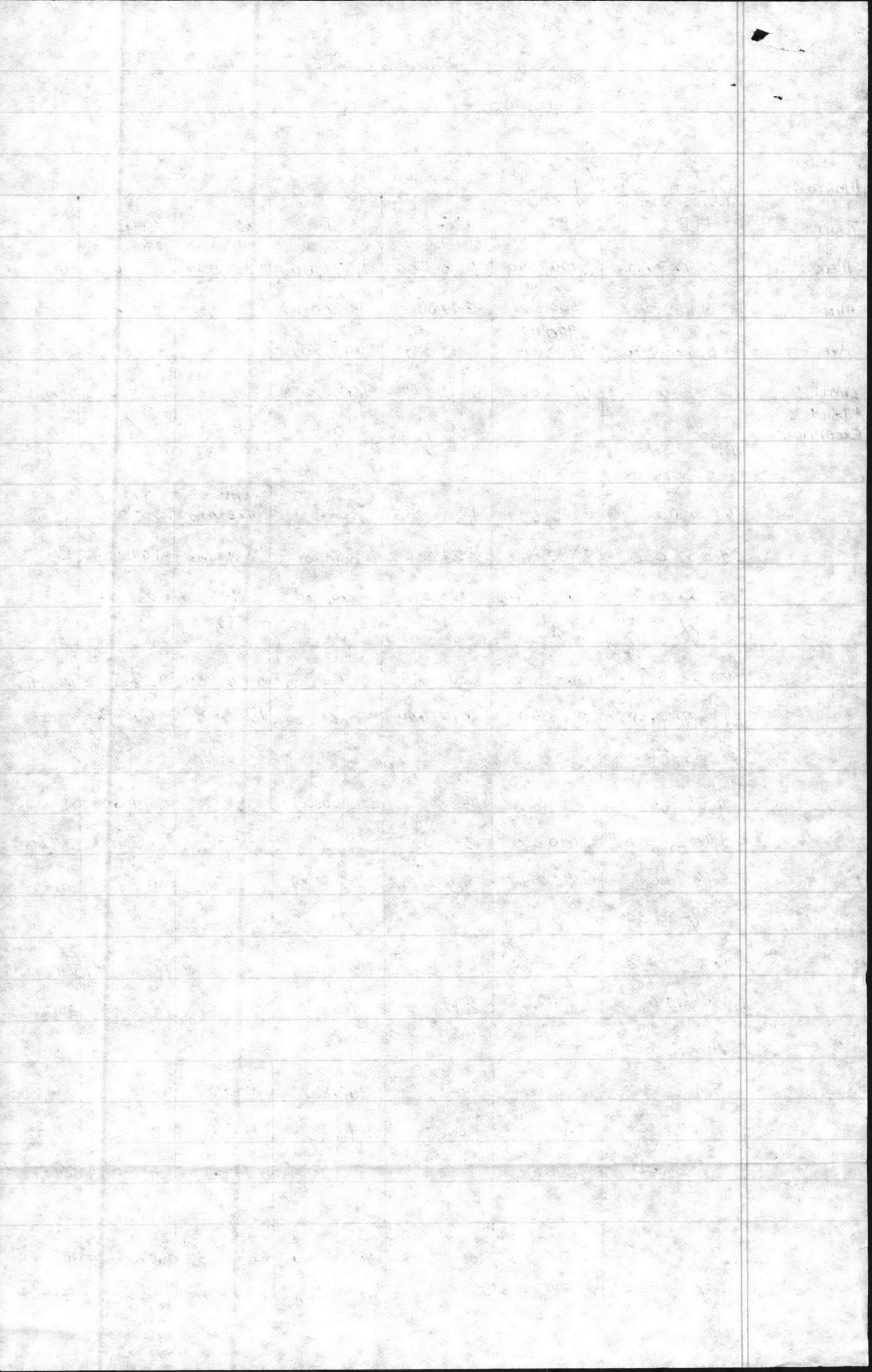
18. Preparation of sodium selenate solution

STP JANUARY - APRIL

YEAR: 1978

Flows

MONTH :	JANUARY		BOD AVE - EFF		BOD AVE		BOD AVE	
PLANT :	HP	TT	CG	CJ	RR	CHB	OB	OB
MAX :	5,789,000	1,150,000	1,583,000	1,371,000	335,500	453,600	125,000	
MIN :	4,450,000	530,000	844,000	307,000	207,000	294,000	34,700	
AVE :	5,362,290	970,484 1,250,000	1,013,384	663,581	246,192	389,806	44,877	
LIMIT :	8,000,000	1,250,000	1,600,000	1,000,000	525,000	525,000	200,000	
# DAILY EXCEPTIONS :	∅	∅	∅	3	∅	∅	∅	∅
	113.9 3.7°	115.5 3.7°	80.1 2.6°	114.1 3.7°	116.1 3.7°	92.2 3.0°	134 4.3°	
	FEBRUARY		BOD AVE		CHB		RR	
	6,023,000	1,195,000	1,291,000	639,000 400,000	472,700	219,500	No Flow	
	4,537,000	880,000	284,000	205,000	331,400	194,200	RESULTS	
	5,135,500	1,022,250	720,271	345,464	399,007	237,500	↓	
	∅	∅	∅	∅	∅	∅	∅	
	108.3 3.9 ^{1.2}	106.5 3.8 ^{1.9}	80.4 2.9 ^{1.9}	109.7 3.9 ^{1.1}	95.6 3.4 ⁰	93.2 3.3 ⁰	124 4.5 ⁰	
	143,794,000	28,623,000	20,167,600	9,673,000	11,173,200	6,650,000	—	
	MARCH		BOD AVE		CHB		RR	
	6,065,000	1,190,000	1,142,300	154,000	258,900	2374,600	118,600	
	4,618,000	840,000	134,800	681,800	195,600	447,700	84,560	
	548,710	986,774	692,719	331,829	230,906	416,810	101,504	
	∅	∅	∅	∅	∅	∅	∅	
	116.8 3.8 ^{1.1}	147.5 4.8 ^{1.4}	112 3.6 ^{1.3}	151.2 4.9 ^{1.5}	105 3.9 ⁰	145.5 4.7 ⁰	136 4.9 ⁰	
	170,119,000	30,590,000	21,474,300	10,472,700	7,158,100	12,921,100	3,146,620	
	APRIL		BOD AVE		OB		RR	
	5,979,000	1,205,000	No	961,000	103,800	446,500	299,300	
	4,773,000	760,000	Flow	114,000	11,200	375,300	211,400	
	5,242,300	950,833	RESULTS	305,100	74,907	419,353	246,747	
	∅	∅	∅	∅	∅	∅	∅	
	119.7 4.8 ^{1.3}	124.7 4.2 ^{1.4}	101 3.4 ^{3.5}	139.2 4.6 ^{2.6}	107.5 3.6 ⁰	165.7 5.5 ^{1.4}	111.3 3.7 ⁰	
	157,269,000	28,525,000		91,530,000	2,247,210	12,580,600	7,402,400	



1981

PERMIT LIMIT (MGD)	8.00 HADNOT POINT	1.25 TARAWA TERRACE	1.60 CAMP GEIGER	1.00 CAMP JOHNSON	.200 ONSLow BEACH	.525 COURTHOUSE BAY	.525 RIFLE RANGE
JAN - AVE FLOW	4,932,613 ^{3.9}	827,603 ^{3.9}	857,258 ^{2.7}	626,649 ^{3.9}	117,668 ^{3.8}	421,839 ^{3.9}	247,984 ^{3.5}
MAX FLOW	5,542,000	982,500	1,045,000	992,000	168,600	533,700	307,600
DATE OF PERMIT LIMITS.	NONE	NONE	NONE	NONE	NONE	23	NONE
FEB	4,872,179 ^{3.8}	848,532 ^{4.0}	1,115,679 ^{2.6}	695,464 ^{3.8}	127,637 ^{3.8}	304,100 ^{3.5}	236,868 ^{3.7}
	5,752,000	1,447,100	1,263,000	1,048,000	157,800	461,900	267,800
	NONE	2, 20	NONE	2	NONE	NONE	NONE
MAR	4,434,806 ^{4.0} 4,287,000						
	5,510,000						
	NONE						

