Publication No. 71-e25

M E M O R A N D U M

MEMO TO: DAN NEAL

FROM: RON PINE

SUBJECT: Industrial Survey - **Utah and Idaho Sugar Co., Toppenish, Washington**

DATE: November 15, 1971

At your request (memo dated Nov. 4, 1971) an industrial waste survey was conducted at the subject Industry on the above date. Composite samples were collected from the process water and condenser water effluents. The composite samples were initiated at 1700 on November 15, 1971 and terminated 1600 on November 16, 1971. Grab samples were collected on November 16 from the raw water supply (pH-7.6, temperature 13.0 C) and from a seepage area at the edge of the process water-holding lagoon.

Sample results and loading estimates are presented in Table 1. Estimated flows for the composite period were 4.46 MGD of condenser water and 2.60 MGD of process water.

Please note the high ammonia values in the condenser water. I note in Mike Palko's memo dated January 20, 1971, that ammonia was not detected in the sample he collected. They must be using something as a slag inhibitor in their boilers that yields a lot of ammonia. At any rate, these values cannot be tolerated.

RP:mh
61/5

cc: Tom Haggarty
Dick Cunningham

Table 1. Analysis of composite and grab samples collected November 15-16, 1971, Utah and Idaho Sugar Company, Toppenish. All values are in mg/l unless otherwise noted.

Parameter	Process Water		Condenser Water		Seepage* Water Lagoon	Raw Water Supply
	Concentration	lbs/day	Concentration	lbs/day		
BOD_5	1080	23,419	25	930	900	Nil
COD	1900	41,199	60	2,232	1500	8
Turbidity-J.T.U.	100	-	2	-	45	1
Total Coliform Colonies/100 ml's	-	-	<100	-	-	-
Fecal Coliform Colonies/100 ml's	-	-	<20	-	-	-
NH_3-N	10.4	226	28.2	1,049	11.4	-
KJEL-N	17.3	375	1.30	48	14.8	-
NO_3-N (Filt.)	0.50	11	0.70	26	0.30	-
NO_2-N (Filt.)	<0.01	-	0.22	8	<0.01	-
T-PO_4	1.88	41	0.33	12	133	-
T.S.	1602	34,738	233	8,667	1272	180
T.N.V.S.	410	8,890	141	5,245	511	114
T.S.S.	456	9,888	3	112	181	-
T.S.N.V.S.	213	4,619	0	0	25	-
T.S.V.S.	243	5,269	3	112	256	-
T.V.S.	1192	25,847	92	3,422	761	66
pH	6.0	-	9.2	-	6.6	7.7

* Grab Samples

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY — OFFICE OF TECHNICAL SERVICES

ANALYTICAL REPORT SHEET

Routing

Original to LABORATO
Copies to:
Ron Pine
Merley McCall

To: _____

The following are the analytical results from survey conducted at:

U and I Sugar @ Toppenish — 03-02.23

Collected 11/15,16/71

LAB. NO.	STATION NO.	colonies/100ml Total Coliform	colonies/100ml Fecal Coliform	pH	J.T.U. Turbidity	ppm BOD	ppm COD	
71-3703	Process Water			6.0	100.	1080.	1900.	
3704	Seepage			6.6	45.	900.	1500.	
3705	condenser Water	< 100.	< 20.	9.2	2.	25.	60.	
3717	Well Water			7.7	1.	1.	8.	
		ppm T.S.	ppm T.N.V.S.	ppm T.S.S.	ppm T.S.N.V.S.	ppm T.S.V.S.	ppm T.V.S.	
71-3703	Process	1602.	410.	456.	213.	243.	1192	
04	SEEP	1272.	511.	181.	25.	256.		
05	COND.	233.	141.	3.	0.	3.		
17	WELL	180.	114.				66.	
		ppm NH_3-N	ppm organic kjeldahl-N	ppm NO_3-N Filtered	ppm NO_2-N Filtered	ppm T-PO_4-P		
71-37 03	Process	10.4	17.3	.50	< .01	1.88		
04	SEEP	11.4	14.8	.30	< .01	~~1.33~~		
05	COND.	28.2	1.30	.70	.22	.12		
17	WELL							

Notes:

Summarized by Pat Lee

Date 11/29/71

MEMORANDUM

Department of Ecology
P. O. Box 829
OLYMPIA, WASHINGTON
98504

	Check
Information	✓
For Action	
Permit	
Other	

TO: Ron Pine, John Raymond, and files

DATE: November 4, 1971

FROM: Daniel V. Neal

SUBJECT: U & I Sugar - Toppenish

Attached is a copy of the survey results from the work that was done on U & I Sugar last February.

We want to run the same analysis as last year on lagoon influent and condensor water. In addition, run a background sample on their well water, which is being run through their condensors. Thirdly, let's check the water quality above and below the outfall; this would include a temperature profile. This would include how high the water temperature increases below the outfall, and distance out into the river as the water proceeds down the River.

DVN:kb
11-5-71

POWER HOW CLOSE? - WE HAVE 300 FT
PART OF PROCESS H2O?
HOW MANY PLANTS IN TOWN? ARE THEY FLOWING?

MEMORANDUM

Department of Ecology
P. O. Box 829
OLYMPIA, WASHINGTON
98501

NOV. 15

TO: Dan Neal

DATE: February 8, 1971

FROM: Mike Palko MP

SUBJECT: U & I Sugar, Toppenish

U & I Sugar has three waste water systems which we inspected and sampled on January 19, 1971 in the company of Mr. William Eduards.

Their flume water sedimentation and recycling facility was in operation and the quantity of mud and anaerobic sediment it has removed, is amazing. We sampled this for bacteria analysis also. This sample was sent to the EPA for a Klebsiella analysis.

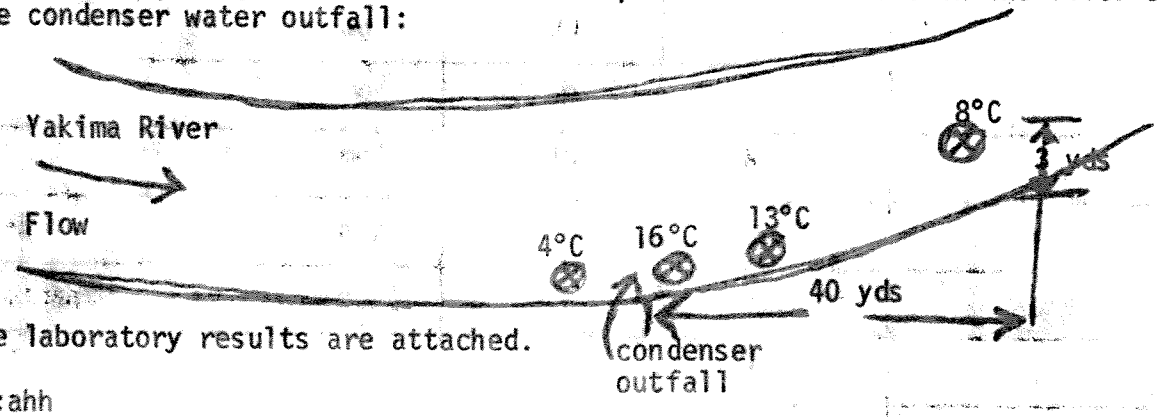
We also obtained a sample of the process water which goes to the other settling ponds and a sample of their condenser water which goes directly to the river.

We inspected their lagoon area and found their channel for distributing the waste to the lagoons needed dredging or better yet they should have a piping system to distribute the waste to each lagoon.

It is obvious that not all this waste ends up in the lagoons, but it was not possible to tell if it gets to the river. We also inspected the river bank and found what appeared to be seepage from the last lagoon. This was only noticeable by turning over the rocks and noting the black sediment and light oils characteristic of septic conditions.

Their condenser water is piped all the way to the river in an old badly leaking line. This water had a temperature of 51°C (124°F) and effected the river temperature as far down the bank as we measured it. The river was very high during this time, therefore our findings should be considered as minimum condition.

The following diagram illustrates the temperature conditions in the river around the condenser water outfall:



MR. OLSON
Feb RUN

The laboratory results are attached.

MP:ahh

Data Report Form

Date: January 20, 1971

Source: U & I Sugar

Location:
Toppenish

Laboratory Results		Lagoon Influent	Condenser	Flume
BOD_5	ppm	500	27	
COD	ppm	780	50	
Total Solids	mg/l	890	162	
Total Nonvolatile Solids	mg/l	420	72	
Total Suspended Solids	mg/l	250	5	
Total Suspended Nonvolatile Solids	mg/l	140	1	
Turbidity	JTU	70	5	
Conductivity	µmhos/cm	665	275	
Total Coliform	per 100/ml	>800,000	35	>8,000,000
pH		6.2	9.2	
SCS	mg/l	120	4	
NO_3-N	mg/l	3.00	N.D.	
NO_2-N	mg/l	0.10	N.D.	
Kjeldahl-N	mg/l	6.66	N.D.	
Total Phosphate	mg/l	3.00	N.D.	
NH_3-N	mg/l	11.85	N.D.	
Temperature				