F54

CHLORINE PLANT WATER PERMIT

SAMPLING PROCEDURES

All samples must be obtained per the specfic sampling procedure. Each sample tag must be filled out with your name, date, type of sample (grab or composite), sample site (like outfall #321), analysis to be done (TSS, TRC, TPH, Ph, etc), and the ditch flow. All samples to be picked up by Enviromental must be placed in the small enviromental mailbox by 7 AM ach morning. If samples are caught late, it is the Shifts responsibility to get the samples to the Enviromental lab, Bldg 3502 E. (Ph. 1619)

I. TOTAL RESIDUAL CHLORINE (TRC)

TRC is monitored daily. Grab samples are to be caught each morning between 0630 and 0700 from the main ditch (outfall 321). Fill a clear 250 ml glass bottle (black cap) with the sample and complete the label. This sample can be stored for only a short period of time (1 hour). Therefore it is important to catch the sample as close to 0700 as possible. (Be accurate in labeling the time of the sample.) Put the sample in the small mailbox by the front office. Enviromental will pick up the samples between 0700 and 0730 each morning (7 days a week). Record the flow on the label (MGD).

II. TOTAL METALS : TOTAL COPPER, TOTAL LEAD, TOTAL NICKEL

Total metals is monitored weekly. The sample will be picked up on TUESDAY AT MIDNIGHT The sample is a 24 hour flow-proportioned composite from the main ditch (outfall 321). A composite sampler is set up on the main ditch. the sample should be representative of the discharge from outfall 321 between 2400 TUESDAY and 2400 WEDNESDAY Fill a 250 ml clear bottle with the sample and th n pty the composite jug. Fill out the label completely and record the flow in million gallons per day on the label. If the composite sampler breaks, see the "Alternate Sampling Procedure" for the procedure to follow. Contact Murphy Torres or the Engineer on call if the sampler breaks and document any maintenance performed.

III. TOTAL PURGEABLE HALOCARBONS (TPH)

TPH is monitored weekly. The sample will be picked up on WEDNESDAY AT 2AM 8AM,2PM,AND 8PM.THIS sample is a 24 hour composite, not flow proportioned, from (outfall 321). Four grab samples will be caught EVERY 6 hours (between 0200 WEDNESDAY and 2000 WEDNESDAY from the main ditch. There is to be no air in the sample. Overfill the sample bottle, cap and check for air bubbles. If the sample air fill and cap again. Completely fill out the label and put the sample in the refirgerator in the brine treating shack. When all four samples have been caught pour all into a 500 ml glass beaker and stir. Pour a sample of the composite into a 125 ml brown bottle and complete the label. There is to be no air in the composite. Staple the labels from the four grab samples to the composite label and record the flow (in MGD) on the composite label. (The grab samples are to be caught in the 70 ml clear bottles with green lids.)

IV. BIOMONITORING

Biomonitoring is once a quarter. The sample is to be a 24 hour flow-proportioned composite from the main ditch (outfall 321). There is a composite sampler on the main ditch. This sample will be caught during the rst month of the quarter. ll a gallon jar with the sample and complete the label. Include the flow on the label in MGD. If the compositor breaks contact Murphy Torres or the Engineer on call and see the "Alternate Sampling Procedure". Document any maintenance performed.

V. TOTAL SUSPENDED SOLIDS (TSS)

For TSS the discharge limitations applies to the sum of the TSS discharged at the cell sewer sump and the treatment facility T13. TSS is monitored daily. The samples are to be 24 hour flow-proportioned composites. Compositors are setup at both locations. Fill a 250 ml clear glass bottle with a sampl from each location AT MIDNIGHT. Completely fill out the labels on the two bottl s. For the treatment facility T13 label the sample location as 321-TSS-T13 and for the cell sewer sump as 321-TSS-CSS. The daily flow for T13 is on the PDP-11 Mass Flow Report and the cell sewer sump is on the PDP-8 Mass Flow Report (SEWER TO SATURATOR). Record the flow on the appropriate label with units (MGD) If the compositor breaks see "Alternate Sampling Procedure" and contact Murphy Torres or the Engineer on call. Document ant maintenance performed on the samplers or the flowmeters.

ALTERNATE SAMPLING PROCEDURE FOR TSS SAMPLES ONLY

In the event that the compositor sampler for the main ditch (outfall 321), the cell sewer sump (outfall 321-TSS-CSS), or the treatment facility T13 (321-TSS-T13) is not working, the following procedure will be used for catching samples. Eight (8) grab samples will be caught from the appropriate location at three (3) hour intervals. The labels are to be filled to be filled out completely for each sample. The samples are to be stores in the refrigerator in the brine treating shack. When all eight samples have been caught, the samples will be composited as follows.

Fn(n=1,2,3,4,5,6,7,8) = instantaneous flow for each sample.

FT= F1+F2+F3+F4+F5+F6+F7+F8

Vn = volume of each sample to be used for the composite

$$Vn = \frac{Fn}{FT} * 500 = ml$$

add Vn ml of the appropriate grab sample to a 500 ml beaker. When the appropriate amount of each grab sample has been added to the 500 ml beaker, stir the composite and fill a 250 ml glass bottle with the composite sample. Complete the label for the caomposite and staple the labels from the eight grab samples to the composite label. record the daily flow on the composite label.

ALTERNATE PROCEDURE FOR MAIN, NORTH DITCH, CELL EFFLUENT AND TRENCH LIQUOR

In the event that the composite sampler for Main Ditch, North Ditch, Cell Effluent or Trench Liquor is not working, the following procedure will be used for catching samples: At 2 hour intervals a 500 ml. sample will be caught and poured into the 5 gallon composite bottle.

ALTERNATE PROCEDURE WHEN T-13 IS OUT OF SERVICE

1) Take FR-0056 (Total flow to the Ditch) TDC Group 500, off computer control and put on manual with a zero flow. Record the time when taken off computer and when put back on.

2) Start filling into one of the T-15 tanks.

3) The following controllers and recorders are being history logged on the PDP-11/44 computer.

Sludge to T-13	FIC-0028
HCl to T-13	FIC-0052
Total flow to ditch	FR-0056
T-15 A level	LR-0105
T-15 B level	LR-0102

RE: CHLORINE PLANT "TSS" SAMPLING

1. Under normal conditions, (sewer flow 100,000#/hr. or less and nothing unusual going on in cell building), Operations will collect a sample from the cell sewer composite twice a shift at 7am and 12noon on days and 7pm and 12 midnight on nights.

2. Abornormal conditions- cell washing, increased flow above 100,000# per hr. or non-routine work in cell area. This could include sand-blasting, heavy rain fall, non-compliance alarm on, etc. Operations will run samples at two hour intervals from the pump discharge. The results from these samples will be entered in the computer. These samples will be in addition to the regular composit samples that are collected twice a shift.

3. There is a high flow alarm set at 200,000#/hr. and a high-high alarm set at 400,000#/hr.

4. During washes, no other activity will be allowed in the cell area that would increase the flow to the sewer or put extra solids in the sewer. This will include sandblasting, washing down, etc.

CALCULATIONS:

$$\frac{\text{composite sample results (in ppm) x cumulative flow(lbs./day)}}{\text{divided buy 1,000,000}} = \text{lbs. tss as of this time}$$

NOTE: SAMPLES ARE TO BE RUN AND INPUTTED INTO THE COMPUTER ASAP AFTER BEING COLLECTED SO THAT THE DATA WILL BETTER REPRESENT THE ACTUAL AMOUNT OF TSS THAT HAS BEEN PRODUCED.

NOTE: THE MAX. LIMIT ON TSS IS 4000# PER DAY FROM THE CELL AREA WHEN THE CALCULATIONS INDICATE THAT THIS NUMBER IS BEING APPROACHED BEGIN TAKING ACTION TO AVOID GOING OVER THE LIMIT.

CSS SAMPLE:

COLLECTION TIME: DAILY AT MIDNIGHT
COLLECTION PROCEDURE:

1. VIGOROUSLY SHAKE THE COMPOSITE BOTTLE FOR APPROX. 30 SEC.
2. IMMEDIATLY POUR SAMPLES INTO THE TWO 250 ML SAMPLE BOTTLES AND THE SAMPLE BOTTLE TO BE RUN IN THE CELL OPERATOR LAB
3. LABEL ONE OF THE BOTTLES FOR ENV. THE OTHER SAMPLE BOTTLE WILL BE THE REDUNDANT SAMPLE. DO NOT EMPTY THE COMPOSITE BOTTLE AT THIS TIME.
4. COLLECT A SAMPLE FOR THE LAB IN THE PLASTIC BOTTLE AND LEAVE AT THE SUMP.
5. RUN A SAMPLE AT THIS TIME FROM THE BOTTLE THAT WAS COLLECTED TO BE RUN IN THE CELL OPERATOR LAB.
   - 5A. IF THE RESULT IS ABOVE 4000# USING THE MANUAL CALCULATION, EMPTY THE SAMPLE BOTTLES AND REPEAT STEPS 1 & 2.
   - 5B. IF THE RESULT IS LESS THAN 4000# EMPTY THE COMPOSITE BOTTLE. PLACE BOTH ENV. AND REDUNDANT SAMPLES IN THE REFRIGERATOR IN BRINE TREATING.
6. IF AFTER REUNNING THE SAMPLE AND THE RESULT IS STILL ABOVE 4000# DO THE FOLLOWING:
   - 6A. CHECK THE FLOW METER FOR PROPER OPERATION
   - 6B. CALL M.TORRES, S. SERPAS, C. COOKE
7. PLACE ENV. SAMPLES IN THE REFRIGERATOR IN BRINE TREATING.
8. EMPTY COMPOSITE SAMPLE BOTTLE.

T-13 SAMPLE

COLLECTION TIME: DAILY AT MIDNIGHT
COLLECTION PROCEDURE:

1. VIGOROUSLY SHAKE THE COMPOSITE BOTTLE FOR APPROX. 30 SEC.
2. IMMEDIATLY POUR SAMPLES INTO THE TWO 250 ML. SAMPLE BOTTLES.
3. LABEL ONE OF THE BOTTLES FOR ENV. THE OTHER BOTTLE WILL BE USED FOR THE REDUNDANT SAMPLE FOR ENV.
4. PLACE BOTH SAMPLE BOTTLES IN THE REFRIGERATOR IN BRINE TREATING.

NOTE: IF EXTRA SAMPLE BOTTLES ARE NEEDED THEY WILL IN THE LAB LOCATED IN CABINET ON SOUTH WALL ABOVE EAST SINK.

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RL000256.DOC 52-01-09-05
RL003335.DOC 10-13-03-05