PROCESS SURVEY - ENVIRONMENTAL IMPACT ANALYSIS

PLAINTIFF'S EXHIBIT
UC01248

PROCESS/FACILITY Mine PLANT King City

COMPLETED BY R.D. Marsten - R.D. Hopper DATE 3/73

III-A - INPUT

Raw Mat'l, Utility, etc.	Units	Amount	Function	Remarks
Water, Boiler Feed				
~~Cooling~~ Creek Water	Gal/Hr	2500	Keep Ore Wet	Rainbird Sprinklers
Cycle Makeup				Spray Ore Piles - Screening
				During Daylight in Summer
~~Process~~ Water Truck	Gal/Load	6000	Supress Dust	2 Loads on Road per Day
Steam				2 Loads on Pit Area Prn.
Utilities, Other				
Materials, Raw				
Diesel Fuel	GPD	25		Quantities Used
Gasoline	"	30		By UCC Equipment
Lubricating Oils	"	1		8 Hrs Per Day
Grease	Lbs/D	2		6 Months Per Year
Diesel Fuel	GPD	500	Estimated	Used By Contractor
Lubricating Oil	"	10	" "	To Haul Ore
Grease	Lbs/D	10	" "	16 Hrs/Day 4 Mo/Year
Diesel Fuel	GPD	300	Estimated	Used By Contractor
Lubricating Oil	"	10	" "	Stripping and
Grease	Lbs/D	5	" "	Mining
Gasoline	GPD	5	" "	10 Hrs/Day 1 Month
				Per Year
Materials, Auxiliary				

III-B - USEFUL PRODUCTS

Stream	Component	Wt. - Tons/day	How Shipped
	Ore	1500	While Mining Ave
	Overburden	1500	" " " "
	Ore	600	While Hauling, Tandem Bottom
			Dump From Mine To Plant
			55 Miles

PLANT KING CITY
COMPLETED BY R.O. MARSTEN DATE 3/73

XII. - WATER QUALITY

DISCHARGE NO. DISCHARGE IMPOUND NAME EVAPORATES AND PERCOLATES

PARAMETERS OF INTAKE WATER AND DISCHARGE

PARAMETER	UNTREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCENTRATION
	UNITS milligrams/liter = ppm	
ALKALINITY(as $CaCO_3$)	172	716
B.O.D. 5-DAY		
CHEMICAL OXYGEN DEMAND (C.O.D.)	<2	854
TOTAL SOLIDS	355	1764
TOTAL DISSOLVED SOLIDS	355	1750
TOTAL SUSPENDED SOLIDS	<.1	14
TOTAL VOLATILE SOLIDS	80	347
AMMONIA (as N)	<.10	<.10
KIELDAHL NITROGEN	<.10	<.10
NITRATE (as N)	<.02	<.02
PHOSPHORUS TOTAL (as P)	0.5	0.3
ACIDITY (as $CaCO_3$)	-	-
TOTAL ORGANIC CARBON (T.O.C.)		
TOTAL HARDNESS		
NITRITE (as N)	<.01	0.01
ORGANIC NITROGEN	<.10	<.10
PHOSPHORUS-ORTHO (as P)	0.3	0.2
SULFATE	20	20
SULFIDE	<.1	<.1
SULFITE	<1	<1
BROMIDE	<.1	<.1
CHLORIDE	34	182
CYANIDE	<.05	<.05
FLUORIDE	<1	<1
CALCIUM - TOTAL	86	44
MAGNESIUM - TOTAL	19	74

PARAMETER	UNTREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCENTRATION
	UNITS milligrams/liter = ppm	
POTASSIUM - TOTAL		
SODIUM - TOTAL		
OIL AND GREASE		
KEROSENE	<.01	0.02
SURFACTANTS		
ALGICIDES		
CHLORINATED HYDRO-CARBONS (EXCEPT PESTICIDES)		
PESTICIDES		

RADIOACTIVE PARAMETERS	UNITS picocurie/liter	
DISSOLVED ALPHA - TOTAL	9	1
ALPHA COUNTING ERROR	.27	.24
DISSOLVED BETA - TOTAL	128	99
BETA COUNTING ERROR	1.60	1.53
DISSOLVED RA 226		
RA 226 COUNTING ERROR		
DISSOLVED Th 230		
Th 230 COUNTING ERROR		

COMMENTS:
MONTHLY AGGREGATE SAMPLES
MARCH 1971

ENVIRONMENTAL PROTECTION SURVEY - ENVIRONMENTAL IMPACT ANALYSIS

PLANT KING CITY
COMPLETED BY R. O. MARSTEN
DATE 3/73
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XII. - WATER QUALITY

DISCHARGE NO. —
NAME —

PARAMETERS OF INTAKE WATER AND DISCHARGE

PARAMETER	UNTREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCENTRATION
	UNITS micrograms/liter = ppb	
ALUMINUM - TOTAL	8500	< 1000
ANTIMONY - TOTAL	< 50	< 50
ARSENIC - TOTAL	20	10
BARIUM - TOTAL	4110	1180
BERYLLIUM - TOTAL	< 100	2270
BORON - TOTAL	120	120
CADMIUM - TOTAL	< 10	< 10
CHROMIUM - TOTAL	< 10	< 10
COBALT - TOTAL	< 100	< 100
COPPER - TOTAL	130	< 10
IRON - TOTAL	< 100	< 100
LEAD - TOTAL	< 10	< 10
MANGANESE - TOTAL	< 10	< 10
MERCURY - TOTAL	< .1	< .1
MOLYBDENUM-TOTAL	< 100	< 100
NICKEL - TOTAL	< 100	1300
SELENIUM - TOTAL	< 10	< 10
SILVER - TOTAL	< 10	< 10
THALLIUM - TOTAL		
TIN - TOTAL	< 1000	1400
TITANIUM - TOTAL		
TUNGSTEN - TOTAL		
URANIUM - TOTAL		
VANADIUM - TOTAL	< 2	< 2
ZINC - TOTAL	< 10	< 10
PHENOLS	< 1	< 1

PARAMETER	UNTREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCENTRATION
	UNITS as specified	
COLOR (Pt-Co units)	0	0
SPECIFIC CONDUCTANCE (mhos at 25° C.)	540	1760
TURBIDITY (Jackson units)		
FECAL STREPTOCOCCI BACTERIA number/100 mi		
COLIFORM BACTERIA FECAL number/100 mi		
COLIFORM BACTERIA TOTAL number/100 mi		
FLOW GPD ( ) MGPD ( ) GPM ( )		
pH	8.15	8.10
Temperature (Winter) (°F)		
Temperature (Summer) (°F)		

ppb - means Parts Per Billion
ppm - means Parts Per Million
GPD- means Gallons Per Day
MGPD-means Million Gallons Per Day
GPM- means Gallons Per Minute

A10506

PROCESS SURVEY - ENVIRONMENTAL IMPACT ANALYSIS

PROCESS/~~FACILITY~~ ASBESTOS PLANT KING CITY

COMPLETED BY R.O. MARSTEN DATE 3/73

VII. - STORAGE TANKS

Tank No.	Size (Gal)	* Type	Contents	Sp Gr	MW	Odor	Mat'l of Const.	Dia. (ft)	Ht. (ft)	Press (psig)
	8000	A	GLACIAL ACETIC ACID			YES	ALUMIUM	9'-3"	16'-0	A
	22000	A	SODIUM SILICATE			-	STEEL	16'	16'	A
	500	A	GASOLINE							
	1000	A	DIESEL FUEL							
	10,000	PV	LP GAS							

* Type A - Atmospheric, PV - Pressure Vented, PNV - Pressure Non Vented, FR - Floating Roof, B - Bin, S - Silo

Pollution Abatement Devices

ACETIC ACID AND SODIUM SILICATE TANKS DYKED WITH DRAIN TO POND

Handling and Cleaning (Emissions)

SLIGHT ACETIC ACID ODOR AT MIXING TANK

A10567

PROCESS SURVEY -- ENVIRONMENTAL IMPACT ANALYSIS

PROCESS ASBESTOS PLANT KING CITY
COMPLETED BY R. O. MARSTEN DATE 3/73

IX - NOISE EMISSIONS

A. Abnormal Noise Emissions (above 85 Decibels, dBA)

Source	Location (In/Out Doors)	Sound Pressure (dBA)	At Distance (ft)	Exposure (Hrs/Shift)
	SEE ATTACHED SHEET			

B. Sound Pressure and Range in Usual Work Areas (Provide data if available)

Location	Sound Pressure (dBA)	Range (dBA)	Remarks
RG 244 BAGGER	88	88-90	EAR PLUGS WORN
REFINER CONTROL STATION	88	87-92	" " "
GEN. MILL AREA		81-96	" " "

C. Noise Emissions to Public

Source	Location Measured	Sound Pressure (dBA)	Distance from Plant Boundary	Hrs/day
NONE				

D. Abnormal Noise Abatement Plans or Protective Measures

EAR PLUGS REQUIRED IN MILL - NOISE ELIMINATION ENGINEERING TO BE DONE BY PLANT ENGINEER AS TIME AVALIABLE

A 10508

PROCESS SURVEY - ENVIRONMENTAL IMPACT ANALYSIS

PLANT KING CITY COMPLETED BY R.O. MARSTEN DATE 3/73

FACILITY ASBESTOS

IV-A. ENERGY SYSTEMS INFORMATION

A. Boiler and Fuel Data

Boiler No.	Input (MM Btu/hr)	Fuel * Type	Feed Rate (~~Tons/hr~~) (scfh)	Heat Cont. (Btu/~~Lb~~)	Composition (%) Ash	Sulfur	Others	Stac N
1*	2.8	NAT GAS	2800	1000	-		-	1

* USED FOR PROCESS STEAM ONLY DURING PART OF HI PURITY RUNS. OPERATES 20% TIME

B. Stack and Abatement Data

Stream No.	Stack ** No.	Ht. (ft)	Dia. (ft)	Exit Gas Flow (ft^3/min)	Vel. (ft/sec)	Temp (°F)	Moisture (%)	Pollution Abatement Equip. Type	Eff. (%)	Install. (year)	Particles Conc. (gr/ft^3)	Size (micr

NOTES * Provide source of fuel here ** Provide stack outlet height above grade; diameter at outlet

PROCESS SURVEY - ENVIRONMENTAL IMPACT ANALYSIS

PROCESS ~~SAFETY~~ ASBESTOS PLANT KING CITY

COMPLETED BY R.O. MARSTEN DATE 3/73

VIII. - LOADING AND PACKAGING

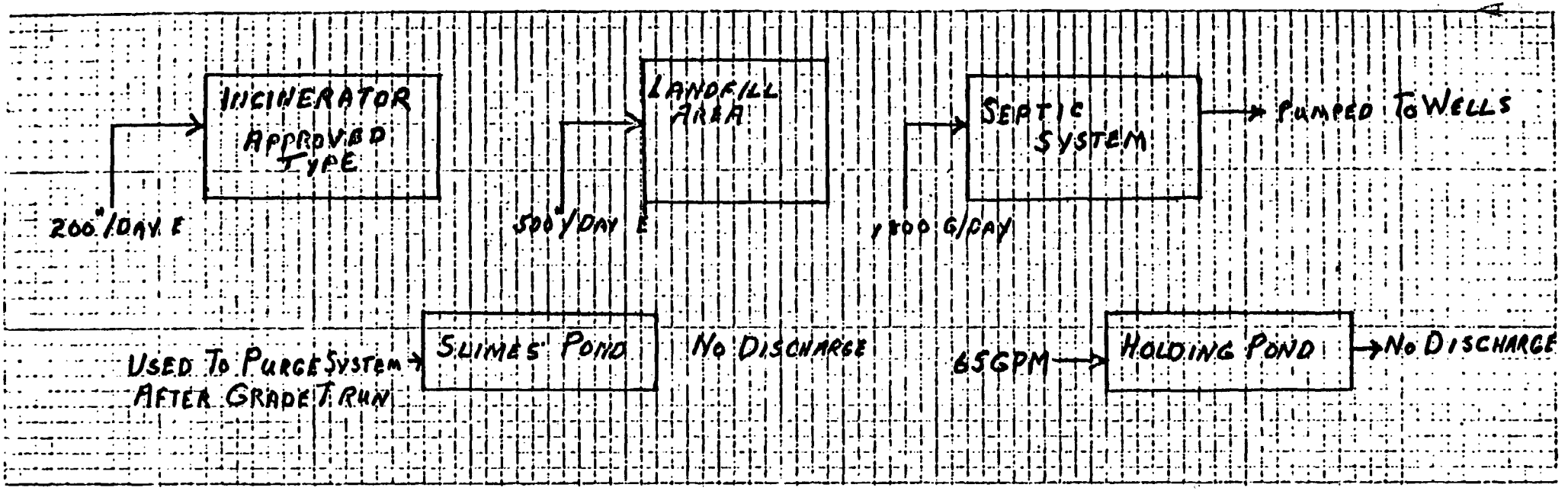
Material	Package Description	Shipped To	
		UCC Plant	Customer
RG 244	10# BAG 3 PLY + 5MIL POLYETHLENE BAG COVER		X
REG PELLETS	50# OR 100# 3 PLY BAG		X
REGULAR AND HI PURITY OPEN	30# OR 40# 3 PLY BAGS SOME 5MIL POLY. OVERWRAP		X
T MIXTURE			
OPEN	40# 3 PLY BAGS		X
PELLETS	50# 3 PLY BAGS		X
ALL BAGS ARE PRESSURE PACKED AND HAVE VENT HOLES. PRODUCT LEAKES THROUGH VENT HOLES AND FILLING SPOUT. NEW PACKER BEING DESIGNED TO ELIMINATE PROBLEM IN SO FAR AS POSSIBLE			

ENVIRONMENTAL PROTECTION FACILITIES - ENVIRONMENTAL IMPACT ANALYSIS

Plant KING CITY Completed By R. D. MARSTEN Date 3/73

XIII. - WASTE TREATMENT FACILITIES

A. Simplified Block Diagram



B. Brief Description (Refer to above block diagram)

C. Description of Composite Intake and Discharge Streams

Parameter	Intake		Discharge No. M-	
	Normal	Maximum	Normal	Maximum
Flow (Mlb/day)				
pH				
Temperature (°F) Winter				
Temperature (°F) Summer				
BOD_5 (Mlb/day)				
COD (Mlb/day)				
Total Solids (Mlb/day)				