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PROCESS SURVEY - ENVIRONMENTAL IMPACT ANALYSIS

Page — ...

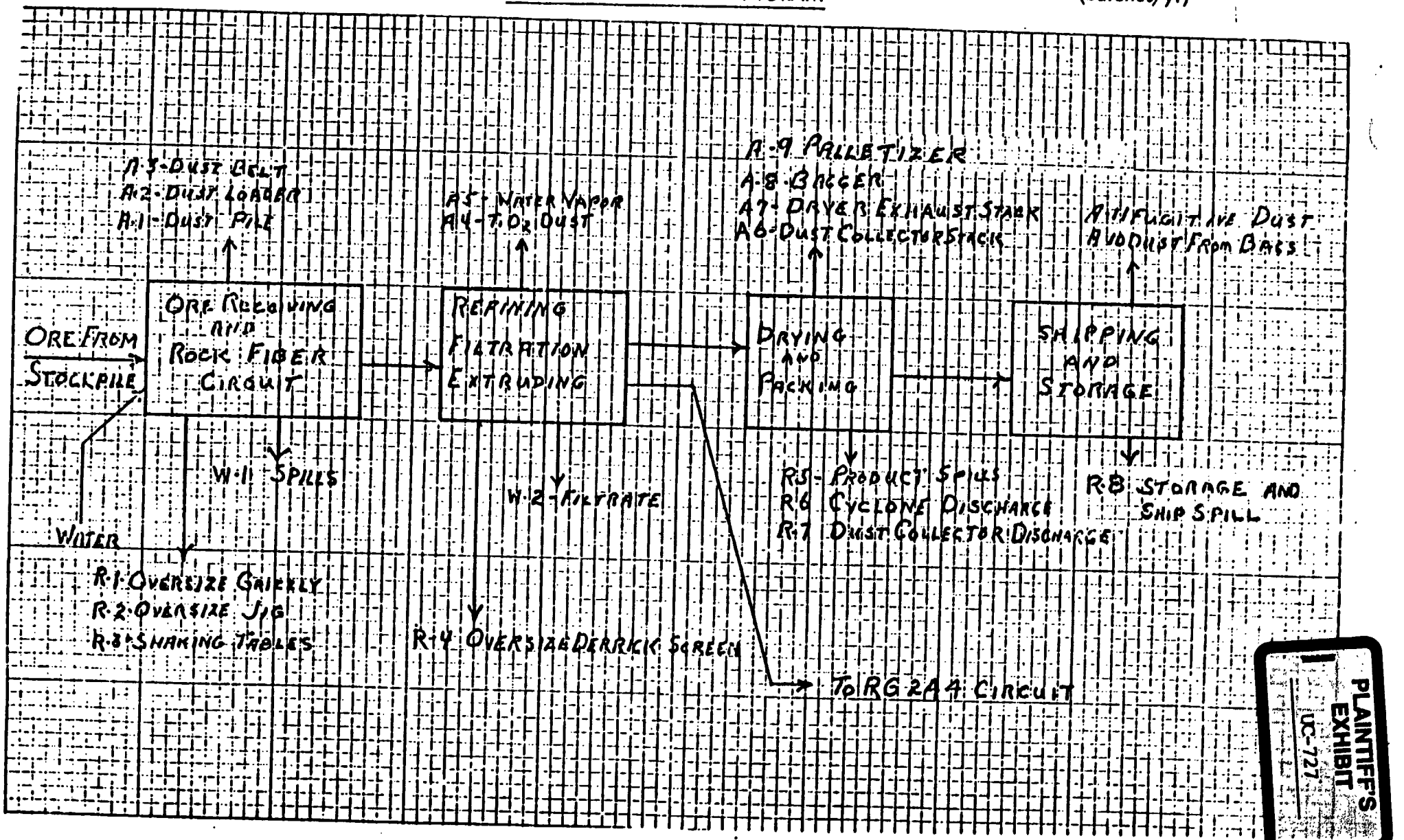
Date 1/73

Plant Name KING CITY Completed by R.O. MARSTEN

Process
~~Facility~~
Mine ASBESTOS
Production Rate
at Capacity 100
~~(lb/day~~ or tons/day)

Production Time 24hr/DAY 5 DAYS/WEEK Batch
(hrs/day or days/year) Rate
(batches/yr)

## I. SIMPLIFIED BLOCK DIAGRAM




PLAINTIFF'S EXHIBIT UC-727

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# PROCESS SURVEY - ENVIRONMENTAL IMPACT ANALYSIS

Date 1/73

Plant Name KING CITY Completed by R.O. MARSTEN

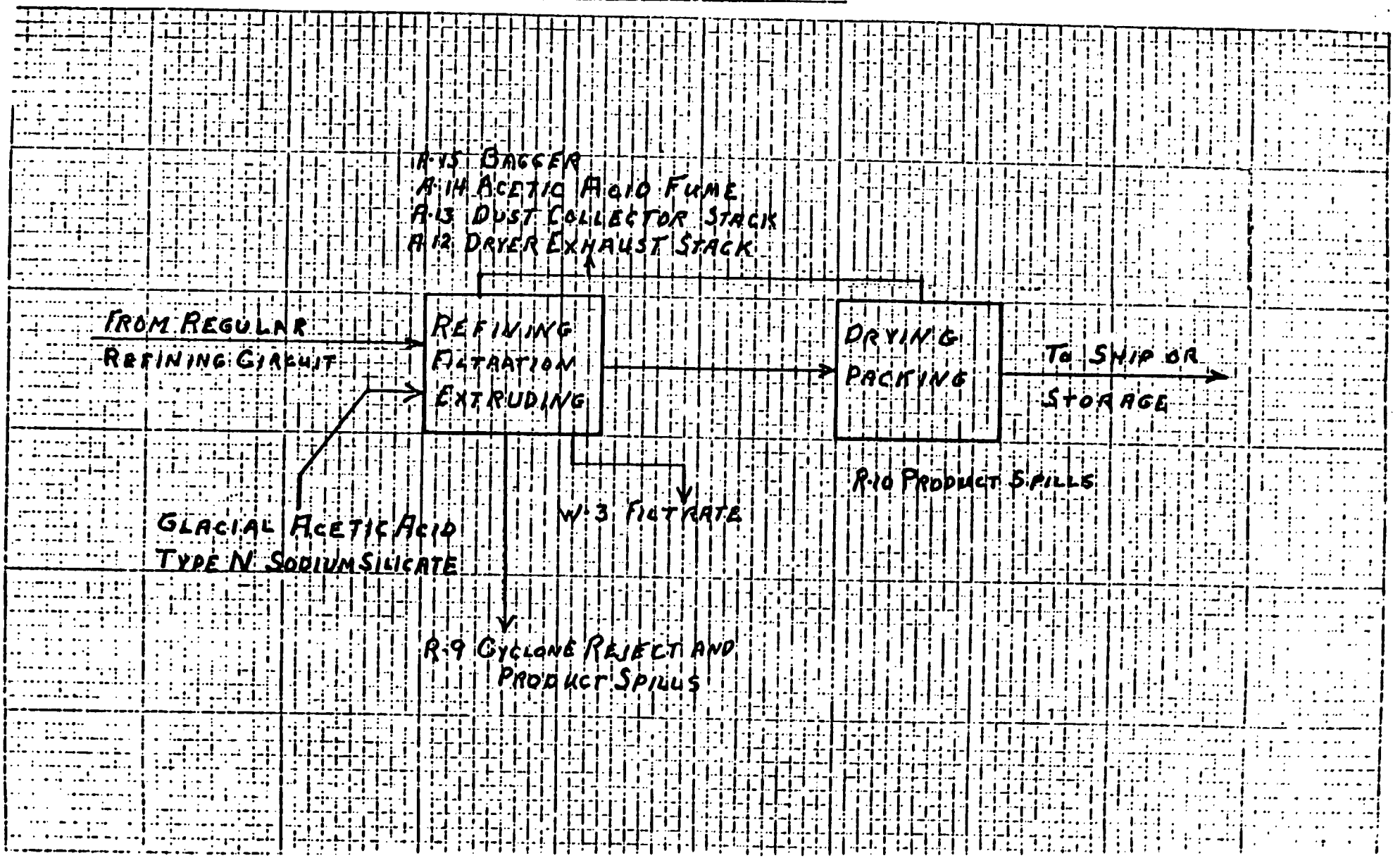
Process
~~Facility~~
~~Mine~~ R.G. 244 ASBESTOS

Production Rate at Capacity 6000 (lb/day ~~or tons/day~~)

Production Time 24 H/DAY 5 DAYS/WK (hrs/day or days/year)

Batch Rate _____ (batches/yr)

## I. SIMPLIFIED BLOCK DIAGRAM




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# ENVIRONMENTAL PROTECTION/PROCESS SURVEY-ENVIRONMENTAL IMPACT ANALYSIS

PROCESS/FACILITY ASBESTOS PLANT KING CITY COMPLETED BY R.O.MARSTEN DATE 1/73 Page ____ of ____

## IV. AIR EMISSIONS

| (1) Stream No. A- 1 | | | |
|---|---|---|---|
| (2) Component | Wt % | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
| ASBESTOS ORE | | ? | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Emissions: Frequency ____ Duration ____

(6) Name DUST FROM ORE PILE 6A SCFM —
(7) Discharge To- Air Flare Incinerator
(8) Frequency- Continuous ___ Hr/D D/Wk Wk/Mo Mo/Yr ___
(9) Outlet: Dimension — in. Pipe, Duct, Stack; Height ___
(10) Temperature AMBIENT °F (11) Visibility-None, Mist, Solids, Steam, Color GRAY
(12) Odor - None, Slight, Moderate, Strong; Quality ___
(13) Emission Reduction Device WATER SPRAYS Installed 197?
(14) Reduces What? WIND BLOWN ORE (15) Efficiency ___
(16) How Abnormal Emissions Detected and Corrected VISUAL
NOT A PROBLEM AS LONG AS PILE KEPT WET
(17) Notes NEW SPRINKLER SYSTEM INSTALLED TO KEEP PILE WET (50 GPM)

| (1) Stream No. A- 2 | | | |
|---|---|---|---|
| (2) Component | Wt % | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
| ASBESTOS ORE | | ? | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Emissions: Frequency ____ Duration ____

(6) Name DUST FROM FRONT END LOADER 6A SCFM
(7) Discharge To- Air Flare Incinerator
(8) Frequency- Continuous ___ Hr/D D/Wk Wk/Mo Mo/Yr ___
(9) Outlet: Dimension — In. Pipe, Duct, Stack; Height ___
(10) Temperature AMBIENT °F (11) Visibility-None, Mist, Solids, Steam, Color GRAY
(12) Odor- None, Slight, Moderate, Strong; Quality ___
(13) Emission Reduction Device WATER SPRAYS Installed ___
(14) Reduces What? WIND BLOWN ORE (15) Efficiency ___
(16) How Abnormal Emissions Detected and Corrected SEE A-1
(17) Notes ___

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# ENVIRONMENTAL PROTECTION/PROCESS SURVEY-ENVIRONMENTAL IMPACT ANALYSIS

PROCESS/FACILITY Asbestos PLANT King City COMPLETED BY R.O.Marsten DATE 1/73 Page ____ of ____

A 10507

## IV. AIR EMISSIONS

| (1) Stream No. A- 3 | | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| (2) Component | Wt % | | |
| Asbestos Ore | | ? | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Emissions: Frequency ____ Duration ____

(6) Name Dust From Hopper and Belt 6A SCFM
(7) Discharge To- Air Flare Incinerator
(8) Frequency- Continuous 5 ~~Hr/D~~ D/Wk ~~Wk/Mo Mo/Yr~~
(9) Outlet: Dimension — in. Pipe, Duct, Stack; Height —
(10) Temperature Ambient °F (11) Visibility-None, Mist, Solids, Steam, Color Gray
(12) Odor - None Slight, Moderate, Strong; Quality
(13) Emission Reduction Device Water Sprays Installed
(14) Reduces What? Wind Blown Dust (15) Efficiency
(16) How Abnormal Emissions Detected and Corrected
(17) Notes Enclosure Being Built Around Unloading Hopper To Prevent Wind Blown Dust

| (1) Stream No. A- 4 | | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| (2) Component | Wt % | | |
| $TiO_2$ | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Emissions: Frequency ____ Duration ____

(6) Name $TiO_2$ Dust 6A SCFM —
(7) Discharge To- Air Flare Incinerator
(8) Frequency-Continuous 1 ~~Hr/D D/Wk Wk/Mo Mo/Yr~~ WK/YR
(9) Outlet: Dimension — in. Pipe, Duct, Stack; Height —
(10) Temperature Ambient °F (11) Visibility-None, Mist, Solids, Steam, Color
(12) Odor- None Slight, Moderate, Strong; Quality
(13) Emission Reduction Device None Installed —
(14) Reduces What? — (15) Efficiency —
(16) How Abnormal Emissions Detected and Corrected
About One Week Per Year Make Special Run Add 35% $TiO_2$ - Bags on Pallets Hoisted To Top Tank Split And Dumped Into Slurry Tank By Hand
(17) Notes Very Dusty Operation - Respirators Worn By Employees.

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# ENVIRONMENTAL PROTECTION/PROCESS SURVEY-ENVIRONMENTAL IMPACT ANALYSIS

PROCESS/FACILITY Asbeston PLANT King City COMPLETED BY R.O. Marsten DATE 1/73 Page ____ of ____

## IV. AIR EMISSIONS

A 10538

| (1) Stream No. A- 5 | | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| (2) Component | Wt % | | |
| $H_2O$ | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Emissions: Frequency ____ Duration ____

(6) Name WATER VAPOR 6A SCFM
(7) Discharge To- Air / Flare Incinerator
(8) Frequency- Continuous ____ Hr/D D/Wk Wk/Mo Mo/Yr
(9) Outlet: Dimension ____ in. Pipe, Duct, Stack; Height ____
(10) Temperature ____ °F (11) Visibility-None, Mist, Solids, Steam, Color ____
(12) Odor - None, Slight, Moderate, Strong; Quality ____
(13) Emission Reduction Device NONE Installed ____
(14) Reduces What? ____ (15) Efficiency ____
(16) How Abnormal Emissions Detected and Corrected ____
(17) Notes PROCESS IS WET - NO PROBLEM

| (1) Stream No. A- 6 | | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| (2) Component | Wt % | | |
| ASBESTOS | | 7 | |
| $H_2O$ VAPOR | | 200000 | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Emissions: Frequency ____ Duration ____

(6) Name DUST COLLECTOR STACK 6A SCFM 7500
(7) Discharge To- Air / Flare Incinerator
(8) Frequency- Continuous 5 ~~Hr/D~~ D/Wk ~~Wk/Mo~~ Mo/Yr ____
(9) Outlet: Dimension ____ in. Pipe, Duct, Stack; Height ____
(10) Temperature AMBIENT °F (11) Visibility- None, Mist, Solids, Steam, Color NONE
(12) Odor- None Slight, Moderate, Strong; Quality ____
(13) Emission Reduction Device ICS MICRO PULS AIR Installed 1963
(14) Reduces What? ASBESTOS DUST (15) Efficiency 99%
(16) How Abnormal Emissions Detected and Corrected VISUAL OBSERVATION STACK - ALARM ON ORDER TO SIGNAL HOLES IN BAG
(17) Notes ALL EQUIPMENT FROM DRYER DISCHARGE TO BAGGER HOODED AND VENTILATED BY THIS COLLECTOR

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# ENVIRONMENTAL PROTECTION/PROCESS SURVEY-ENVIRONMENTAL IMPACT ANALYSIS

PROCESS/FACILITY Asbestos PLANT King City COMPLETED BY R.O. Marsten DATE 1/73 Page ____ of ____

## IV. AIR EMISSIONS

(1) Stream No. A- ~~1~~ 7

| (2) Component | Wt % | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| Asbestos | 100 | | |
| Steam | | 1000 | |
| While Drying Grade T Pellets | | 8 To 13 | |
| " " Std. Grade | | 17 | |
| " " High Purity | | 6 | |
| Total | | | |

(5) Abnormal Emissions: Frequency ____ Duration ____

(6) Name Dryer Discharge 6A SCFM 24,0
(7) Discharge To- Air / Flare / Incinerator
(8) Frequency Continuous / ~~5 Hr/D~~ D/Wk ~~Wk/Mo Mo/Yr~~
(9) Outlet: Dimension ____ in. Pipe, Duct, Stack; Height ____
(10) Temperature 110 °F (11) Visibility-None, Mist, Solids, Steam, Color Slight
(12) Odor - None / Slight, Moderate, Strong; Quality ____
(13) Emission Reduction Device Cyclone Installed ____
(14) Reduces What? Dust (15) Efficiency ____
(16) How Abnormal Emissions Detected and Corrected ____
(17) Notes Bag Collector To Be Installed In 1973

(1) Stream No. A- 8

| (2) Component | Wt % | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| Asbestos | | | |
| Total | | | |

(5) Abnormal Emissions: Frequency ____ Duration ____

(6) Name Bagger 6A SCFM
(7) Discharge To- Air / Flare / Incinerator
(8) Frequency Continuous / 5 Hr/D D/Wk Wk/Mo Mo/Yr
(9) Outlet: Dimension ____ in. Pipe, Duct, Stack; Height ____
(10) Temperature Ambient °F (11) Visibility-None, Mist, Solids, Steam, Color White
(12) Odor- None / Slight, Moderate, Strong; Quality ____
(13) Emission Reduction Device Hood Installed 1972
(14) Reduces What? Dust To Atmosphere (15) Efficiency ____
(16) How Abnormal Emissions Detected and Corrected Bagging Operation Hooded Which Does Good Job Some Dust Escapes New Bagger To Be Installed 1973
(17) Notes ____

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# ENVIRONMENTAL PROTECTION/PROCESS SURVEY-ENVIRONMENTAL IMPACT ANALYSIS

PROCESS/FACILITY ASBESTOS PLANT KING CITY COMPLETED BY R.O. MARSTEN DATE 1/73 Page ____ of ____

A 10500

## IV. AIR EMISSIONS

| (1) Stream No. A- 9 | | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| (2) Component | Wt % | | |
| ASBESTOS | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Emissions: Frequency ____ Duration ____

(6) Name PALLETIZER 6A SCFM —
(7) Discharge To-[Air] Flare Incinerator
(8) Frequency-[Continuous] 5 Hr/D D/Wk Wk/Mo Mo/Yr ____
(9) Outlet: Dimension ____ in. Pipe, Duct, Stack; Height ____
(10) Temperature AMBIENT °F (11) Visibility-None, Mist, [Solids] Steam, Color WHITE
(12) Odor-[None] Slight, Moderate, Strong; Quality ____
(13) Emission Reduction Device HOOD Installed 1972
(14) Reduces What? AIR BORN ASBESTOS (15) Efficiency ?
(16) How Abnormal Emissions Detected and Corrected
LEAKS OCCUR FROM BAG PERFORATIONS, FILLING VALVE, & OCCASIONAL BROKEN BAGS ALSO VACUUM PICK UP ON PALLETIZER
(17) Notes NEW PALLETIZER TO BE INSTALLED THIS YEAR

| (1) Stream No. A- 10 | | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| (2) Component | Wt % | | |
| ASBESTOS | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Emissions: Frequency ____ Duration ____

(6) Name DUST FROM BAGS 6A SCFM —
(7) Discharge To-[Air] Flare Incinerator
(8) Frequency-Continuous 8 Hr/D D/Wk Wk/Mo Mo/Yr ____
(9) Outlet: Dimension ____ in. Pipe, Duct, Stack; Height ____
(10) Temperature AMBIENT °F (11) Visibility-None, Mist, [Solids], Steam, Color WHITE
(12) Odor-[None], Slight, Moderate, Strong; Quality ____
(13) Emission Reduction Device NONE Installed ____
(14) Reduces What? ____ (15) Efficiency ____
(16) How Abnormal Emissions Detected and Corrected
SOME LEAKAGE FROM BAG PERFORATIONS AND FILLING VALVE AS WELL AS OCCASIONAL BROKEN BAG
(17) Notes ____

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# ENVIRONMENTAL PROTECTION/PROCESS SURVEY-ENVIRONMENTAL IMPACT ANALYSIS

PROCESS/FACILITY Asbestos PLANT King City COMPLETED BY R.O Marsten DATE 1/73



## IV. AIR EMISSIONS

A-10501

| (1) Stream No. A-11 | | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| (2) Component | Wt % | | |
| Asbestos | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Emissions: Frequency ____ Duration ____

(6) Name Fugitive Dust 6A SCFM
(7) Discharge To- Air Flare Incinerator
(8) Frequency- Continuous ____ Hr/D D/Wk Wk/Mo Mo/Yr
(9) Outlet: Dimension ____ in. Pipe, Duct, Stack; Height ____
(10) Temperature Ambient °F (11) Visibility-None, Mist, Solids, Steam, Color White
(12) Odor - None Slight, Moderate, Strong; Quality ____
(13) Emission Reduction Device None Installed ____
(14) Reduces What? ____ (15) Efficiency ____
(16) How Abnormal Emissions Detected and Corrected
Normal High Winds Blow Dust From Bags Etc.
(17) Notes ____

| (1) Stream No. A-12 RG244 | | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| (2) Component | Wt % | | |
| Asbestos | | 3.5 | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Emissions: Frequency ____ Duration ____

(6) Name RG 244 Dryer Exhaust 6A SCFM 2750
(7) Discharge To- Air Flare Incinerator
(8) Frequency-Continuous 5 Hr/D D/Wk Wk/Mo Mo/Yr ____
(9) Outlet: Dimension ____ in. Pipe, Duct, Stack; Height ____
(10) Temperature 100 °F (11) Visibility-None, Mist, Solids, Steam, Color White
(12) Odor- None, Slight, Moderate, Strong; Quality ____
(13) Emission Reduction Device Cyclone Installed ____
(14) Reduces What? Asbestos Dust (15) Efficiency ____
(16) How Abnormal Emissions Detected and Corrected ____
(17) Notes New Collector To Be Installed 1973

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# ENVIRONMENTAL PROTECTION/PROCESS SURVEY-ENVIRONMENTAL IMPACT ANALYSIS

PROCESS/FACILITY Asbestos RG-244 PLANT King City COMPLETED BY R.O. Marsten DATE 1/73 Page ___ of ___

A-1052

## IV. AIR EMISSIONS

| (1) Stream No. A- 13 | | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| (2) Component | Wt % | | |
| Asbestos | ? | ? | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Emissions: Frequency ___ Duration ___

(6) Name RG 244 Dust Collector Stack 6A SCFM 14
(7) Discharge To- [Air] Flare Incinerator
(8) Frequency- [Continuous] 5 Hr/D [D/Wk] Wk/Mo Mo/Yr ___
(9) Outlet: Dimension ___ in. Pipe, Duct, Stack; Height ___
(10) Temperature Ambient °F (11) Visibility- [None] Mist, Solids, Steam Color ___
(12) Odor - [None] Slight, Moderate, Strong; Quality ___
(13) Emission Reduction Device Bag Collector Installed 19
(14) Reduces What? Asbestos Dust (15) Efficiency ___
(16) How Abnormal Emissions Detected and Corrected
Visual Observation of Stack
Automatic Device To Be Installed 1973 To Signal Holes In Bag
(17) Notes All Equipment From Dryer Discharg To Bagger Ventilated By This Collector Better Hoods or Enclousers Like Regular System Should Be Installed

| (1) Stream No. A- 14 | | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| (2) Component | Wt % | | |
| Acetic Acid | | ? | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Emissions: Frequency ___ Duration ___

(6) Name Acetic Acid Fume 6A SCFM ___
(7) Discharge To- [Air] Flare Incinerator
(8) Frequency- [Continuous] 5 Hr/D [D/Wk] Wk/Mo Mo/Yr ___
(9) Outlet: Dimension ___ in. Pipe, Duct, Stack; Height ___
(10) Temperature Ambient °F (11) Visibility- [None] Mist, Solids, Steam, Color ___
(12) Odor-None, Slight, [Moderate] Strong; Quality ___
(13) Emission Reduction Device None Installed ___
(14) Reduces What? ___ (15) Efficiency ___
(16) How Abnormal Emissions Detected and Corrected ___
(17) Notes Some Acetic Acid Fume In Area Mixing Tanks

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# ENVIRONMENTAL PROTECTION/PROCESS SURVEY-ENVIRONMENTAL IMPACT ANALYSIS

PROCESS/~~FACILITY~~ ASBESTOS PLANT KING CITY COMPLETED BY R.O. MARSTEN DATE 1/73 Page ____ of ____

A 10503

## VI. RESIDUES/MISCELLANEOUS EMISSIONS

| (1) Stream No. R- 1 | | (3) Usual Lb/Day | (4) Abnormal Lb/hour |
|---|---|---|---|
| (2) Component | Wt% | | |
| +3" ROCK | | | |
| +3" BALLS ORE | | 5000 E | |
| TRASH | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | 5000 E | |

(5) Abnormal Production: Frequency ____
Duration ____

(6) Name OVER SIZE FROM GRIZZLY
(7) Disposal Means-Incinerator, Boiler, Landfill, Underground, Sale, Contract, Tailing Ponds TAILINGS PILE
(8) Frequency-[Continuous] 5 Hr/D [D/Wk] Wk/Mo Mo/Yr ____
(9) Physical Form-Viscous, Liquid, Oil, Chunks, Slurry, Semi, [Solids]
(10) Problems in Disposal (Note Disposal Location) [None] Odor, Toxic, Radiation, Dusting, Others (Describe) ____
(11) Notes ____

| (1) Stream No. R- 2 + 3 | | (3) Usual Lb/Day | (4) Abnormal Lb/hour |
|---|---|---|---|
| (2) Component | Wt% | | |
| ROCK | | 146,000 E | — |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Production: Frequency —
Duration —

(6) Name TAILINGS FROM JIG AND SHAKING TABLES
(7) Disposal Means-Incinerator, Boiler, Landfill, Underground, Sale, Contract, Tailing Ponds TAILINGS PILE
(8) Frequency-[Continuous] 5 Hr/D [D/Wk] Wk/Mo Mo/Yr ____
(9) Physical Form-Viscous, Liquid, Oil, Chunks, Slurry, Semi, [Solids]
(10) Problems in Disposal (Note Disposal Location) [None] Odor, Toxic Radiation, Dusting, Others (Describe) ____
(11) Notes ____

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# ENVIRONMENTAL PROTECTION/PROCESS SURVEY-ENVIRONMENTAL IMPACT ANALYSIS

PROCESS/~~FACILITY~~ ASBESTOS PLANT KING CITY COMPLETED BY R.O. MARSTEN Page ____ of ____ DATE 1/75

A 10504

## VI. RESIDUES/MISCELLANEOUS EMISSIONS

| (1) Stream No. R- 4 | | (3) Usual | (4) Abnormal |
|---|---|---|---|
| (2) Component | Wt% | Lb/Day | Lb/hour |
| OVERSIZE +48M | | 7000 E | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Production: Frequency ____
Duration ____

(6) Name OVERSIZE FROM DERRICK SCREEN
(7) Disposal Means-Incinerator, Boiler, Landfill, Underground, Sale, Contract, Tailing Ponds TAILINGS PILE
(8) Frequency-Continuous SEE NOTE Hr/D D/Wk Wk/Mo Mo/Yr
(9) Physical Form-Viscous, Liquid, Oil, Chunks, Slurry, Semi, [Solid]
(10) Problems in Disposal (Note Disposal Location) [None], Odor, Toxic Radiation, Dusting, Others (Describe) ____
(11) Notes PRODUCED ONLY WHEN MAKING HIGH PURITY GRADE

| (1) Stream No. R- 5 | | (3) Usual | (4) Abnormal |
|---|---|---|---|
| (2) Component | Wt% | Lb/Day | Lb/hour |
| ASBESTOS | | 4000 G | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Production: Frequency ____
Duration ____

(6) Name PRODUCT SPILLS
(7) Disposal Means-Incinerator, Boiler, Landfill, Underground, Sale, Contract, Tailing Ponds TO ROCK FIBER CIRCUIT
(8) Frequency-[Continuous] 5 Hr/D [D/Wk] Wk/Mo Mo/Yr
(9) Physical Form-Viscous, Liquid, Oil, Chunks, [Slurry], Semi, [Solid]
(10) Problems in Disposal (Note Disposal Location) [None] Odor, Toxic Radiation, Dusting, Others (Describe)
MATERIAL SLURRIED WITH WATER AND PUMPED TO ROCK FIBER CIRCUIT
(11) Notes PRODUCT SPILLS AT MOST EQUIPMENT TRANSFER POINTS AFTER DRYER, BAGGER FILL SPOUT. BAG PERFORATIONS AND BROKEN BAGS MOST TRANSFER POINTS ENCLOSED AND VENTILATED

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# ENVIRONMENTAL PROTECTION/PROCESS SURVEY-ENVIRONMENTAL IMPACT ANALYSIS

PROCESS/FACILITY Asbestos PLANT King City COMPLETED BY R.O. Marsten Page ___ of ___ DATE 1/7.3

A10555

## VI. RESIDUES/MISCELLANEOUS EMISSIONS

| (1) Stream No. R- 6 | | (3) Usual | (4) Abnormal |
|---|---|---|---|
| (2) Component | Wt% | Lb/Day | Lb/hour |
| Asbestos | | 2500G | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Production: Frequency ___ Duration ___

(6) Name Dryer Cyclone Discharge

(7) Disposal Means-Incinerator, Boiler, Landfill, Underground, Sale, Contract, Tailing Ponds To Rock Fiber Circuit

(8) Frequency-[Continuous] 5 Hr/D [D/Wk] Wk/Mo Mo/Yr ___

(9) Physical Form-Viscous, Liquid, Oil, Chunks, [Slurry] Semi, [Solids]

(10) Problems in Disposal (Note Disposal Location) [None] Odor, Toxic, Radiation, Dusting, Others (Describe) ___

(11) Notes Material Slurried With Water And Pumped To Rock Fiber Circuit. Cyclone Discharge Enclosed And Ventilated

| (1) Stream No. R- 7 | | (3) Usual | (4) Abnormal |
|---|---|---|---|
| (2) Component | Wt% | Lb/Day | Lb/hour |
| Asbestos | | 3000G | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Production: Frequency ___ Duration ___

(6) Name Dust Collector Discharge

(7) Disposal Means-Incinerator, Boiler, Landfill, Underground, Sale, Contract, Tailing Ponds To Rock Fiber Circuit

(8) Frequency-[Continuous] 5 Hr/D [D/Wk] Wk/Mo Mo/Yr

(9) Physical Form-Viscous, Liquid, Oil, Chunks, [Slurry] Semi, [Solids]

(10) Problems in Disposal (Note Disposal Location) [None] Odor, Toxic Radiation, Dusting, Others (Describe) ___

(11) Notes Material Slurried With Water And Pumped To Rock Fiber Circuit Discharge Enclosed And Ventilated

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# ENVIRONMENTAL PROTECTION/PROCESS SURVEY-ENVIRONMENTAL IMPACT ANALYSIS

PROCESS/FACILITY Asbestos PLANT King City COMPLETED BY R.O. Marsten  DATE 1/73

A 10508

## VI. RESIDUES/MISCELLANEOUS EMISSIONS

| (1) Stream No. R-8 | | (3) Usual | (4) Abnormal |
|---|---|---|---|
| (2) Component | Wt% | Lb/Day | Lb/hour |
| ASBESTOS | | ? | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Production: Frequency ____
Duration ____

(6) Name STORAGE AND SHIPPING SPILL
(7) Disposal Means-Incinerator, Boiler, [Landfill] Underground, Sale, Contract, Tailing Ponds OR TAILINGS PILE
(8) Frequency-Continuous 8 Hr/D D/Wk Wk/Mo Mo/Yr 50/w
(9) Physical Form-Viscous, Liquid, Oil, Chunks, Slurry, Semi, [Solids]
(10) Problems in Disposal (Note Disposal Location) None, Cdor, Toxic, Radiation, [Dusting] Others (Describe) ____

NOTES BEATER BAGS ARE DISOLVED IN OUTSIDE STORAGE BY RAIN, BAGS ARE BROKEN OUTSIDE BY WIND WHIPED TARP
(11) ~~Notes~~ SOME MATERIAL LEAKS FROM FILLING SPOUTS AND BAG VENT HOLES ALSO SOME HANDLING BREAKAGE FROM FORK TRUCKS HIGH WINDS BLOW MATERIAL

| (1) Stream No. R- | | (3) Usual | (4) Abnormal |
|---|---|---|---|
| (2) Component | Wt% | Lb/Day | Lb/hour |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Production: Frequency ____
Duration ____

(6) Name ____
(7) Disposal Means-Incinerator, Boiler, Landfill, Underground, Sale, Contract, Tailing Ponds ____
(8) Frequency-Continuous ____ Hr/D D/Wk Wk/Mo Mo/Yr ____
(9) Physical Form-Viscous, Liquid, Oil, Chunks, Slurry, Semi, Solids
(10) Problems in Disposal (Note Disposal Location) None, Cdor, Toxic Radiation, Dusting, Others (Describe) ____
(11) Notes ____

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PROCESS SURVEY - ENVIRONMENTAL IMPACT ANALYSIS

PROCESS/FACILITY Asbestos PLANT King City

COMPLETED BY R. O. Marsten DATE 2/73

## III-A - INPUT

| Raw Mat'l, Utility, etc. | Units | Amount | Function | Remarks |
|---|---|---|---|---|
| Water, Boiler Feed | GPM | 28 | | While Operating 20% T. |
| Cooling | " | 42 | | |
| Cycle Makeup | | | | |
| | | | | |
| Process | GPM | 460 | | Recycle |
| Steam | | | | |
| | | | | |
| Utilities, Other-Nat Gas | SCFM/HR | 22,000 | Standard Drier | |
| Nat Gas | " " | 3240 | RG244 Drier | |
| Materials, Raw | | | | |
| $TiO_2$ (Rutile or Anatase) | Tons/day | 35 | | Used Special Run Appro 5 Days Per Year |
| | | | | |
| Glacial Acetic Acid | lbs/day | 2100 | RG 244 | |
| Type N Silicate | lbs/day | 2100 | RG 244 | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Materials, Auxiliary | | | | |
| Rock Salt | lbs/Mo | 200 | Boiler Water Treatment | |
| Filter Cloths | Pcs/Mo | 200 | | Standard Grade |
| " " | " " | 17 | | RG 244 |
| | | | | |
| | | | | |

## III-B - USEFUL PRODUCTS

| Stream | Component | Wt% | ~~Tons~~ M Tons/day | How Shipped |
|---|---|---|---|---|
| | Standard Grades | | 100 | Bags |
| | RG-244 | | 3 | Bags |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

A 10507

# ENVIRONMENTAL PROTECTION FACILITIES - ENVIRONMENTAL IMPACT ANALYSIS

PLANT KING CITY COMPLETED BY R.O. MARSTEN DATE 2/73

## X. - METEOROLOGICAL INFORMATION

A. Wind: Average Velocity APRIL TO SEPT 20 (mph) Direction FROM NORTH (attach wind rose if available)

B. Temperature (°F): Low +17°F High 105°F Yearly Avg. — January Range 17-60 July Range 40-105

C. Atmospheric Stability: Stable, Moderately Stable, Unstable — Inversion Frequency — (days/year)

D. Rainfall: Annual 9" AT PLANT 18" AT MINE (Inches) Seasonal YES When OCT TO MAY

## XI. - WATER INFORMATION

A10508

### A. Water Required

| Usage | Flow GPD Avg. | Time |
|---|---|---|
| Process | 674,750 | |
| Cooling | 60,050 | |
| Cycle Makeup | | |
| Boiler Feed | 39,880 | 20% TIME |
| Sanitary | 1800 | |
| Other | | |
| Total | 776,480 | |

### Intake

| No. | Source | Flow GPD Low | Avg. |
|---|---|---|---|
| | RECYCLE | | 662,400 |
| | WELL | | 101,730 |
| | IN ORE | | 12,350 |
| | | | |
| | | | |
| | | | |
| | | | 776,480 |

Storm Water

### Discharge

| No. | Point | Flow Low | Avg. |
|---|---|---|---|
| | BOILER BLOW DOWN | | 3,625 |
| | RG 244 FILTRATE | | 720 |
| | SANITARY | | 1800 |
| | OVERFLOW TO POND | | 64611 |
| | WITH TAILS TO PILE | | 16466 |
| | TO AIR | | 26858 |
| | | | 114,080 |

Examples * Intake - Municipal, Private, River, Lake, Well Discharge - Waste Treatment (Plant, Other) River, Evaporation + PERCOLATION

### B. Distance of Plant Intake from Nearby Upstream Plants

| | | | | |
|---|---|---|---|---|
| Plant | — | | | |
| Miles | | | | |

C. Distance of Plant Discharge Points to Nearby Water Users — miles

D. Distance of Plant Discharge to Closest Downstream Public Water Intake — miles

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# PROCESS SURVEY - ENVIRONMENTAL IMPACT ANALYSIS

Date 2 · 73

Plant Name KING CITY Completed by R.O. MARSTEN

~~Process~~ Facility

Mine KING CITY

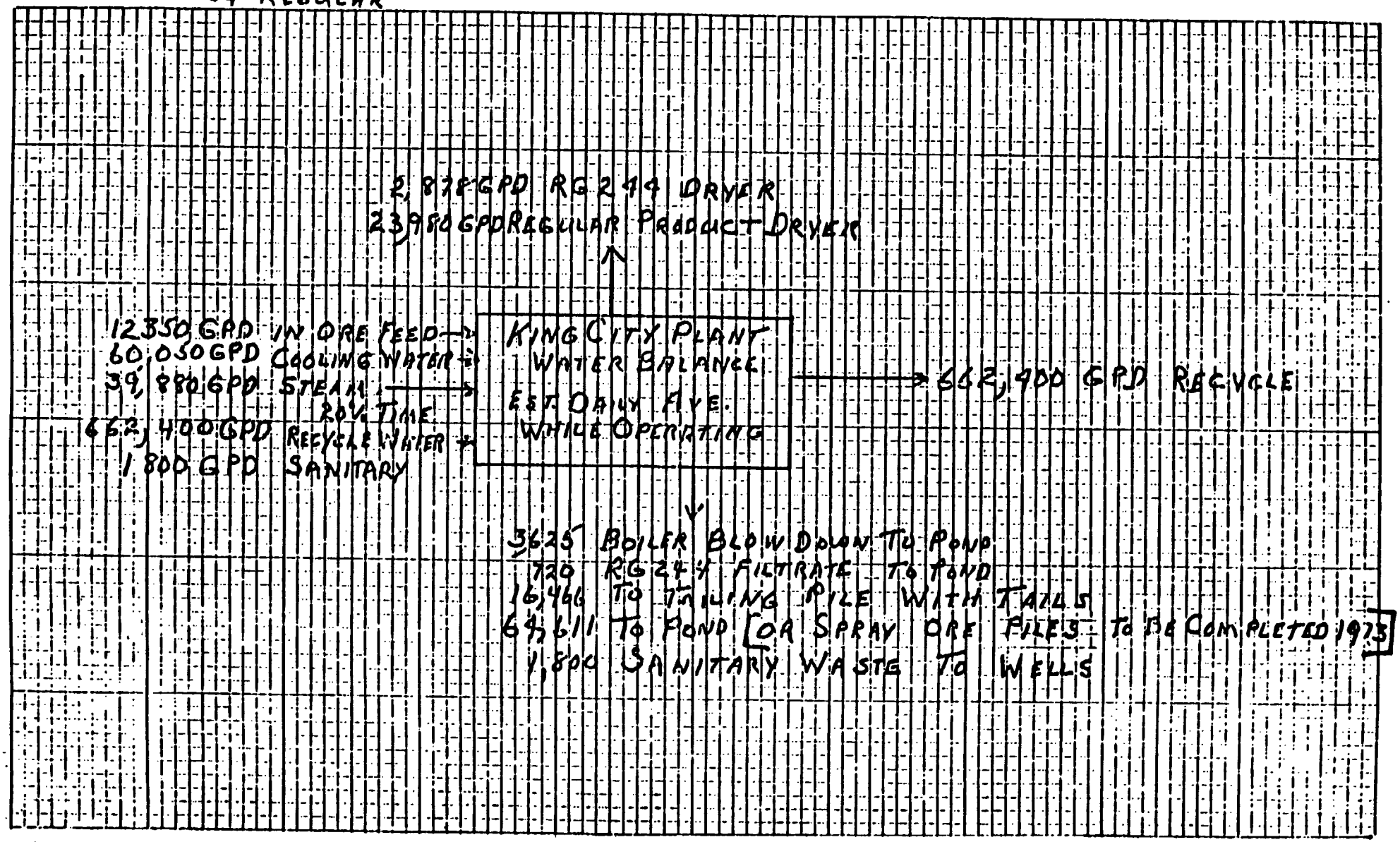
Production Rate 3 RG 244 at Capacity 46 HI PURITY (lbs/hr or tons/day) 54 REGULAR

Production Time 24 Hr/D 5 D/WK (hrs/day or days/year)

Batch Rate (batches/yr)

A 10509

X 1. SIMPLIFIED BLOCK DIAGRAM WATER BALANCE




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# ENVIRONMENTAL PROTECTION/PROCESS SURVEY-ENVIRONMENTAL IMPACT ANALYSIS



OCESS/~~FACILITY~~ ASBESTOS RG 244 PLANT KING CITY COMPLETED BY R.O. MARSTEN DATE 2/73

A 1057C

## VI. RESIDUES/MISCELLANEOUS EMISSIONS

| (1) Stream No. R- 9 (2) Component | Wt% | (3) Usual Lb/Day | (4) Abnormal Lb/hour |
|---|---|---|---|
| ASBESTOS | | | |
| ROCK | | | |
| WATER | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Production: Frequency ____ Duration ____

(6) Name CYCLONE RECEPT AND PRODUCT SPILLS

(7) Disposal Means-Incinerator, Boiler, Landfill, Underground, Sale, Contract, Tailing Ponds RECYCLE

(8) Frequency-Continuous 24 [Hr/D] D/Wk Wk/Mo Mo/Yr ____

(9) Physical Form-Viscous, Liquid, Oil, Chunks, [Slurry] Semi, Solids

(10) Problems in Disposal (Note Disposal Location) [None] Odor, Toxic, Radiation, Dusting, Others (Describe) ____

(11) Notes ____

| (1) Stream No. R- 10 (2) Component | Wt% | (3) Usual Lb/Day | (4) Abnormal Lb/hour |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Production: Frequency ____ Duration ____

(6) Name PRODUCT SPILLS

(7) Disposal Means-Incinerator, Boiler, [Landfill] Underground, Sale, Contract, Tailing Ponds

(8) Frequency-[Continuous] 24 Hr/D D/Wk Wk/Mo Mo/Yr 50/WK

(9) Physical Form-Viscous, Liquid, Oil, Chunks, Slurry, Semi, [Solids]

(10) Problems in Disposal (Note Disposal Location) None, Odor, [Toxic] Radiation, Dusting, Others (Describe) ____

(11) Notes MOST PRODUCT HANDLING EQUIPT AFTER DRYER WELL VENTILATED AND HOODED EXCEPT BAGGER. MATERIAL VACUUMED UP AND DISPOSED IN LANDFILL

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# ENVIRONMENTAL PROTECTION/PROCESS SURVEY - ENVIRONMENTAL IMPACT ANALYSIS

Page ____ of ____

PROCESS/~~FACILITY~~ ASBESTOS PLANT KING CITY COMPLETED BY R.O. MARSTEN DATE 2/73

## V. WATER DISCHARGES

A10571

| (1) Stream No. W- 1 (2) Component | Wt% | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Discharge: Frequency ____
Duration ____

(6) Name SPILLS 6A GPM
(7) Discharged to - Sewer, stream, drainage ditch, pond TRENC
(8) Frequency-Continuous 24 Hr/D D/Wk Wk/Mo Mo/Yr 50/u
(9) Temperature AMBIENT °F (10) Problems: In Treating or From Dir
Discharge-None, Odor, Visibility, Toxicity, Metals, Non-Degrade
Oxygen Demand, Inorganics
(11) Waste Reduction Equipment WATER RECYCLED
(12) Reduces What? —
(13) Efficiency or Amount Recovered —
(14) How Abnormal Discharge Detected and Corrected —
(15) Range of flow of receiving stream CFS —
(16) Notes WATER AND PRODUCT SPILLS AT VARIOUS LOCATIONS COLLECTED IN SUMP AN PUMPED TO 24 FT. THICKNER FOR RECYCLE

| (1) Stream No. W- 2 (2) Component | Wt% | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Discharge: Frequency ____
Duration ____

(6) Name FILTRATE 6A GPM 475
(7) Discharged to- Sewer, stream, drainage ditch, pond RECYCLE
(8) Frequency - Continuous 24 Hr/D D/Wk Wk/Mo Mo/Yr 50/u
(9) Temperature ____ °F (10) Problems: In Treating or From Direct
Discharge-None, Odor, Visibility, Toxicity, Metals, Non-Degradeabl
Oxygen Demand, Inorganics
(11) Waste Reduction Equipment RECYCLE
(12) Reduces What? ____
(13) Efficiency or Amount Recovered ____
(14) How Abnormal Discharge Detected and Corrected ____
(15) Range of flow of receiving stream CFS ____
(16) Notes ____

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PROCESS/~~FACILITY~~ ASBESTOS RG-244 PLANT KING CITY COMPLETED BY R.O. MARSTEN DATE 2/73

## V. WATER DISCHARGES

A10572

| (1) Stream No. W- 3 (2) Component | Wt% | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Discharge: Frequency ____
Duration ____

(6) Name RG-244 FILTRATE 6A GPM 0.5
(7) Discharged to - Sewer, stream, drainage ditch, pond ~~i.f.~~
(8) Frequency-Continuous 24 Hr/D D/Wk Wk/Mo Mo/Yr ____
(9) Temperature 70 °F (10) Problems: In Treating or From Direc
Discharge-None Odor, Visibility, Toxicity, Metals, Non-Degradeal
Oxygen Demand, Inorganics ____
(11) Waste Reduction Equipment POND
(12) Reduces What? ____
(13) Efficiency or Amount Recovered ____
(14) How Abnormal Discharge Detected and Corrected ____
(15) Range of flow of receiving stream CFS ____
(16) Notes FILTRATE DISCHARGED TO POND EVAPORATES AND PERCOLATES. NO DISCHARGE FROM POND

| (1) Stream No. W- (2) Component | Wt% | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Discharge: Frequency ____
Duration ____

(6) Name ____ 6A GPM
(7) Discharged to- Sewer, stream, drainage ditch, pond
(8) Frequency - Continuous ____ Hr/D D/Wk Wk/Mo Mo/Yr ____
(9) Temperature ____ °F (10) Problems: In Treating or From Direct
Discharge-None, Odor, Visibility, Toxicity, Metals, Non-Degradeabl
Oxygen Demand, Inorganics ____
(11) Waste Reduction Equipment ____
(12) Reduces What? ____
(13) Efficiency or Amount Recovered ____
(14) How Abnormal Discharge Detected and Corrected ____
(15) Range of flow of receiving stream CFS ____
(16) Notes ____

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# ENVIRONMENTAL PROTECTION/PROCESS SURVEY-ENVIRONMENTAL IMPACT ANALYSIS



PROCESS/FACILITY RG 244 ASBESTOS PLANT KING CITY COMPLETED BY R.O. MARSTEN DATE 2/73

A 1C5/3

## IV. AIR EMISSIONS

| (1) Stream No. A- 15 | | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| (2) Component | Wt % | | |
| ASBESTOS | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Emissions: Frequency ____ Duration ____

(6) Name BAGGER 6A SCFM

(7) Discharge To- [Air] Flare Incinerator AND VENT PIPE

(8) Frequency- [Continuous] 24 Hr/D D/Wk Wk/Mo Mo/Yr ____

(9) Outlet: Dimension ____ in. Pipe, Duct, Stack; Height ____

(10) Temperature AMBIENT °F (11) Visibility-None, Mist, Solids, Steam, Color SLIGHT

(12) Odor - [None] Slight, Moderate, Strong; Quality ____

(13) Emission Reduction Device SMALL VENT Installed ____

(14) Reduces What? ____ (15) Efficiency Po

(16) How Abnormal Emissions Detected and Corrected ____

(17) Notes BAGGER NOT ENCLOSED AND CAUSES CONSIDERABLE DUST

| (1) Stream No. A- | | (3) Usual Lb/Day | (4) Abnormal Lb/Hour |
|---|---|---|---|
| (2) Component | Wt % | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total | | | |

(5) Abnormal Emissions: Frequency ____ Duration ____

(6) Name ____ 6A SCFM

(7) Discharge To- Air Flare Incinerator ____

(8) Frequency-Continuous ____ Hr/D D/Wk Wk/Mo Mo/Yr ____

(9) Outlet: Dimension ____ In. Pipe, Duct, Stack; Height ____

(10) Temperature ____ °F (11) Visibility-None, Mist, Solids, Steam, Color ____

(12) Odor-None, Slight, Moderate, Strong; Quality ____

(13) Emission Reduction Device ____ Installed ____

(14) Reduces What? ____ (15) Efficiency ____

(16) How Abnormal Emissions Detected and Corrected ____

(17) Notes ____

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