CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ORDER NO. 91-043

WASTE DISCHARGE REQUIREMENTS
FOR
ARMTEC DEFENSE PRODUCTS COMPANY
South of Coachella - Riverside County

The California Regional Water Quality Control Board, Colorado River Basin Region, finds that:

1. Armtec Defense Products Company (hereinafter also referred to as the discharger), 85-901 Avenue 53, P. O. Box 848, Coachella, CA 92236, verified, as accurate, the updated information given below on July 8, 1991.

2. The Armtec facility is located on the southeastern side of the City of Coachella, California. The discharger manufactures highly flammable combustible cartridge casings for the U. S. Department of Defense.

3. The attached Figure No.1 illustrates the essential sequence of unit processes in the product manufacture that results in the generation and disposal of wastewater. As indicated in this Figure, Kraft cellulose fiber (wood paper), nitrocellulose solids and water are added to pulping tanks. The resulting pulp is sent to mixing tanks where small quantities of additives like catalyst, resins and stabilizers are added. More water is added to produce a slurry that contains less than 1% total solids.

   This slurry is passed to felting tanks where the slurry is injected into preformed molds. The solids are deposited on the molds under vacuum, and the products are given their size and shape. The water in the slurry is pulled through screens and then passed on to solids removal equipment (hydroscreen or rotosheer). The wastewater separated at the hydroscreen/rotosheer is discharged to the seven earthen ponds for disposal via percolation and evaporation. The separated solids are burned in the on-site incinerator that is operated under permit from the South Coast Air Quality Management District. The ash from the incinerator is sent to a Class II municipal landfill (Coachella landfill, Riverside County).

   Further processing of the unfinished products does not generate any additional wastewater. However, this further processing involves the use of solvents like methylene chloride, acetone, hexane-silicone dip solutions, components A and B and xylene dip solutions. The waste liquid xylene dip solutions is shipped to Kansas for recycling. The waste methylene chloride and associated wastewaters are sent to Inglewood, California for recycling. All organic chemical wastes generated at the on-site laboratory are put in a collection barrel and sent to Los Angeles for recycling.

4. The discharger has a permit for the generation, storage and handling of hazardous wastes from the Department of Health, Riverside County.

RESCINDED BY
BOARD ORDER NO. R7-2002-0139
Sept. 4, 2002

5. The chemical additives utilized by the discharger are shown in Attachment No. 1. Title 22, Chapter 30, Article 9 of the California Code of Regulations (CCR) lists the chemical name and the potential hazardous property of a listed material as follows: T (toxic), C (corrosive), F (ignitable), and R (reactive). The following chemical additives (or constituents of additives) used by the discharger have been listed in said Title 22: Diphenylamine (T), Ethanol (T, F), Ammonium Hydroxide (T, C), and Epichlorohydrin (T, F).

6. The quantities of Diphenylamine (DPA), ethanol and aqueous ammonia solution and Epichlorohydrin (constituent in additive) use are reportedly so small that only DPA is detected at low concentrations in the wastewater.

7. The wastewater being discharged to the ponds is defined as a nonhazardous waste in accordance with the criteria of Article 11, Chapter 30, Title 22 of the California Code of Regulations.

8. The discharged wastewater to the ponds is not a designated waste and therefore not subject to the regulations of Chapter 15, Title 23 of the California Code of Regulations.

9. The wastewater being discharged to the ponds has the following characteristics:

   a. Flow: 40,000 to 250,000 (maximum) gallons-per-day
   b. Total Dissolved Solids content (TDS): 150-191 mg/L
   c. Settleable Matter: 4 to 10 mg/L
   d. Suspended Solids: 12 to 150 mg/L
   e. pH: 6.6 to 7.4
   f. Chemical Oxygen Demand (COD): 130 to 350 mg/L
   g. Trivalent Chromium (Cr^{+3}): 0.01 to 0.2 mg/L
   h. Hexavalent Chromium (Cr^{+6}): 0.02 to 0.06 mg/L
   i. Diphenylamine (DPA): 0.07 to 2.2 mg/L
   j. 4-methyl-2-pentanone: 0.015 to 2.1 mg/L
   k. Acute Toxicity: None
   1. Chronic Toxicity: Less than 1 chronic toxicity unit

10. Said industrial wastewater is discharged alternately to seven unlined earthen ponds for final disposal by percolation and evaporation. These ponds cover an area of about 4.5 acres and are located in the NE¼ of the SE¼ of Section 8, T6S, R8E, SBB&M, as indicated on the attached site map.

11. The discharger's site overlies the Indio Hydrologic Subarea of the Coachella Hydrologic Area. Beneath the ponds is a semi-perched unconfined aquifer which is separated from the lower confined aquifer by a clay aquitard. The shallow aquifer is of poor quality (TDS: about 3000 mg/L) and unsuitable for municipal or agricultural supply. The deeper confined aquifer is of good usable quality (TDS: 160 mg/L).

    Depth of shallow aquifer from ground surface is about 8 to 9 feet. Depth to confined aquifer is about 200 feet below ground surface. The depth of an on-site completed well into the deep aquifer is 660 feet.

12. A tile drainage system has been constructed in the region to drain the rising semi-perched ground water. The tile drain system was installed to maintain the shallow water levels at depths below the root zone in order to help leach salts from the soil and prevent detrimental impacts on agriculture. At the Armtec

site, each of the seven ponds is underlain by one tile line at a depth of about 5 feet beneath the bottom surface of the ponds. These tile lines capture both the rising ground water and the percolating pond effluent and keep the ground water level at about 5 feet beneath the bottom surface of the ponds. The waters in the tile lines flow into a main baseline (underground) which then discharges to the Salton Sea.

13. This discharge has been subject to waste discharge requirements adopted in Board Order No. 86-029 that permits discharge to the ponds.

14. The purpose of this Board Order is to update waste discharge requirements adopted in Board Order No. 86-029.

15. The Water Quality Control Plan for the Colorado River Basin Region of California was adopted May 15, 1991 and designates the beneficial uses of ground and surface waters in this Region.

16. The beneficial uses of ground waters in the Coachella Hydrologic Subunit are:

    a. Municipal supply (MUN)
    b. Industrial supply (IND)
    c. Agricultural supply (AGR)

17. There are no domestic wells within 500 feet of the discharge facilities described in Finding No. 9, above.

18. On-site sanitary wastewater is disposed separately to the City of Coachella's sewerage system that discharges to the City's wastewater treatment plant.

19. The Board has notified the discharger, and all known interested agencies and persons of its intent to update waste discharge requirements for said discharge and has provided them with an opportunity for a public meeting and an opportunity to submit comments.

20. The Board in a public meeting heard and considered all comments pertaining to this discharge.

21. In accordance with Section 15301, Chapter 3, Title 14 of the California Code of Regulations, the issuance of these waste discharge requirements, which govern the operation of an existing facility involving negligible or no expansion of use beyond that previously existing, is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000 et seq.).

IT IS HEREBY ORDERED, that the discharger shall comply with the following:

A. Discharge Specifications

1. The treatment or disposal of wastes at this facility shall not cause pollution or nuisance as defined in Sections 13050(l) and 13050(m) of Division 7 of the California Water Code.

2. A minimum depth of freeboard of two (2) feet shall be maintained at all times in the ponds.

3. Adequate measures shall be taken to assure that flood or surface drainage waters do not erode or otherwise render portions of the discharge facilities inoperable.

4. Wastewater discharged to the ponds shall be substantially free of settleable and floatable materials.

5. There shall be no acute toxicity[1] in the influent wastewater to the ponds.

B. Prohibitions

1. There shall be no direct discharge of wastewater to agricultural tile drains or drainage channels.

2. There shall be no discharge of hazardous substances in the wastewater influent to the ponds that could adversely impact the existing quality of ground waters or waters in nearby drainage channels. The discharge of organic solvents methylene chloride, acetone, hexane and xylenes is prohibited.

C. Provision

1. Prior to any modifications in this facility which would result in material change in the quality or quantity of wastewater treated or discharged, or any material change in the location of discharge, the discharger shall report all pertinent information in writing to the Regional Board; and obtain revised requirements before any modifications are implemented.

2. The discharger shall ensure that all site operating personnel are familiar with the content of this Board Order.

3. The discharger shall comply with "Monitoring and Reporting Program No. 91-043", and future revisions thereto, as specified by the Regional Board's Executive Officer.

4. This Board Order does not authorize violation of any federal, state, or local laws or regulations.

IT IS FURTHER ORDERED that Board Order No. 86-029 be superseded by this Board Order.

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[1]Acute Toxicity is less than ninety percent survival, fifty percent of the time, and less than seventy percent survival, ten percent of the time, of standard test organisms in undiluted effluent in a 96-hour static or continuous-flow test.

I, Philip A. Gruenberg, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Colorado River Basin Region, on September 18, 1991.

Philip A. Gruenberg
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. 91-043
FOR
ARMTEC DEFENSE PRODUCTS COMPANY
South of Coachella - Riverside County

Location of Discharge: NE¼ of the SE¼ of Section 8, T67S, R8E, SBB&M (near intersection of Tyler Street and Avenue 53)

MONITORING

A. Effluent Monitoring

1. Wastewater discharged to the seven ponds shall be monitored for constituents indicated below. A single composited sample shall be collected for analysis as follows:

   a. Fifty percent by volume of the composited sample shall be composed of grab samples collected from the ponds. These grab samples shall be collected in equal volumes at a minimum of two different locations in each pond, preferably at the corners of the pond opposite the effluent discharge pipe.

   b. The remaining fifty percent by volume of the composited sample shall be composed of an 8-hour composite of effluent from the discharge pipe feeding the ponds. The 8-hour composite shall consist of grab samples collected at least every two hours from the discharge pipe feeding the ponds.

2. Individual samples collected for volatile organic compounds analyses shall be properly chilled immediately following collection, and should be composited into an approved sample container at the end of the 8-hour sampling.

3. The composited sample shall be analyzed for the following:

Constituent	Unit	Type of Sample	Sampling Frequency
a. Inorganic			
1. Total Dissolved Solids	mg/L	8-hour Composite	Monthly
2. Settleable Matter	ml/L	8-hour Composite	Monthly
3. Suspended Solids	mg/L	8-hour Composite	Monthly
4. pH	--	8-hour Composite	Monthly
5. Chemical Oxygen Demand (COD)	mg/L	8-hour Composite	Monthly
6. Trivalent Chromium	mg/L	8-hour Composite	Monthly
7. Hexavalent Chromium	mg/L	8-Hour Composite	Monthly

Constituent	Unit	Type of Sample	Sampling Frequency
b. Organic			
1. Total xylenes	µg/L	8-hour Composite	Quarterly
2. Methylene Chloride	µg/L	8-hour Composite	Quarterly
3. Acetone	µg/L	8-hour Composite	Quarterly
4. N-Hexane	µg/L	8-hour Composite	Quarterly
5. Benzene	µg/L	8-hour Composite	Quarterly
6. Ethyl Benzene	µg/L	8-hour Composite	Quarterly
7. 4-Methyl-2-Pentanone	µg/L	8-hour Composite	Quarterly
8. Other Volatile Organic Compounds[1]	(VOC)	8-hour Composite	Annually
9. Diphenylamine(DPA)	µg/L	8-hour Composite	Monthly
c. Other Parameters			
1. Average Daily Discharge	GPD	--	--
2. Bioassays	--	--	Quarterly

Bioassays shall be conducted on a sensitive fish species and an invertebrate species as approved by the Regional Board's Executive Officer. Pimephales promelas (Fathead Minnow) and Ceriodaphnia are suggested test species which may be utilized. The bioassays shall be conducted in accordance with the protocol given in EPA/4-85/013 Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms.

B. Tile Line Discharge Monitoring

1. Wastewater infiltrating beneath the ponds shall be sampled as indicated below at the tile line inspection well, located about 200 feet south of the southeast corner of the ponds.

Constituent	Unit	Type of Sample	Sampling Frequency
a. Inorganic			
1. Total Dissolved Solids	mg/L	Grab	Quarterly
4. pH	--	Grab	Quarterly
5. Chemical Oxygen Demand (COD)	mg/L	Grab	Quarterly
6. Trivalent Chromium	mg/L	Grab	Quarterly
7. Hexavalent Chromium	mg/L	Grab	Quarterly

[1]Use EPA Method 624.

Constituent	Unit	Type of Sample	Sampling Frequency
b. Organic			
1. Total xylenes	µg/L	Grab	Quarterly
2. Methylene Chloride	µg/L	Grab	Quarterly
3. Acetone	µg/L	Grab	Quarterly
4. N-Hexane	µg/L	Grab	Quarterly
5. Benzene	µg/L	Grab	Quarterly
6. Ethyl Benzene	µg/L	Grab	Quarterly
7. 4-Methyl-2-Pentanone	µg/L	Grab	Quarterly
8. Diphenylamine(DPA)	µg/L	Grab	Monthly

The collection, preservation and holding times of all samples shall be in accordance with the EPA recommended methods for the aforementioned constituents. The laboratory performing the analyses shall be certified by the State of California, Department of Health Services.

REPORTING

Monthly monitoring reports shall be submitted to the Regional Board by the 15th day of the following month. Quarterly monitoring reports shall be submitted to the Regional Board by January 15, April 15, July 15, and October 15 of each year. Annual monitoring reports shall be submitted by January 15 of each year.

Submit monitoring reports to:

California Regional Water Quality Control Board
Colorado River Basin Region
73-271 Highway 111, Suite 21
Palm Desert, CA 92260

ORDERED BY: Philip A Gruenberg
Executive Officer

September 18, 1991
Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ATTACHMENT NO. 1
TO
ORDER NO. 91-043
ARMTEC DEFENSE PRODUCTS COMPANY

The following are the chemical/material additives used in the product manufacture at the Armtec Defense Products Company. Only additives that are involved in the unit processes generating the discharged wastewater are listed below.

1. Diphenylamine
2. Ethanol
3. Nalcon (contains methylene-bis-thiocyanate)
4. Aluminum sulfate
5. Marbon (natural rubber latex)
6. Talc (inert powder)
7. Kymene (contains epichlorohydrin)
8. Aqua Ammonia
9. Liufat 305 (cationic surfactant)
10. Polyester
11. Cyanamid acrylic fiber
12. Trivalent chromium nitrate

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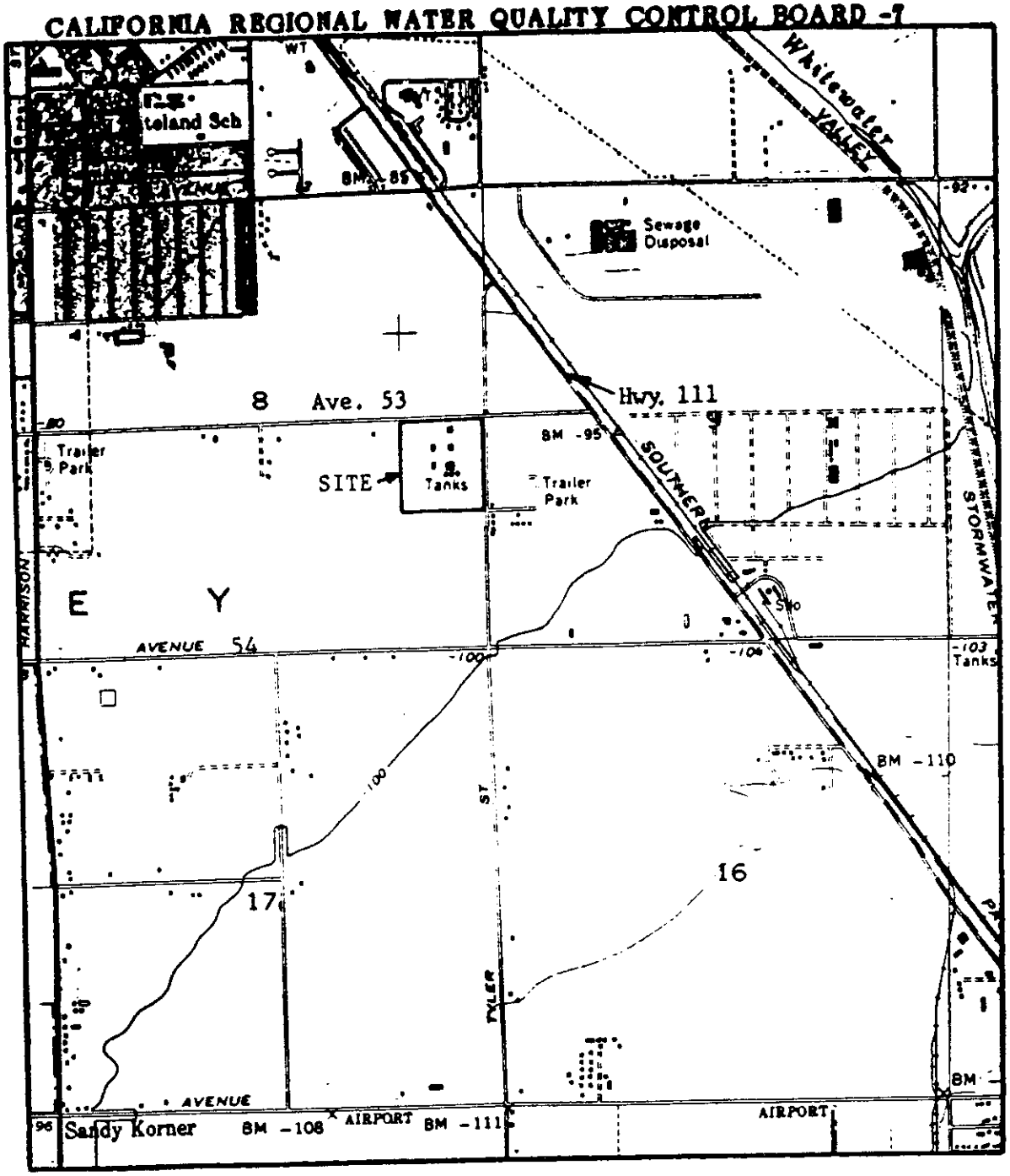
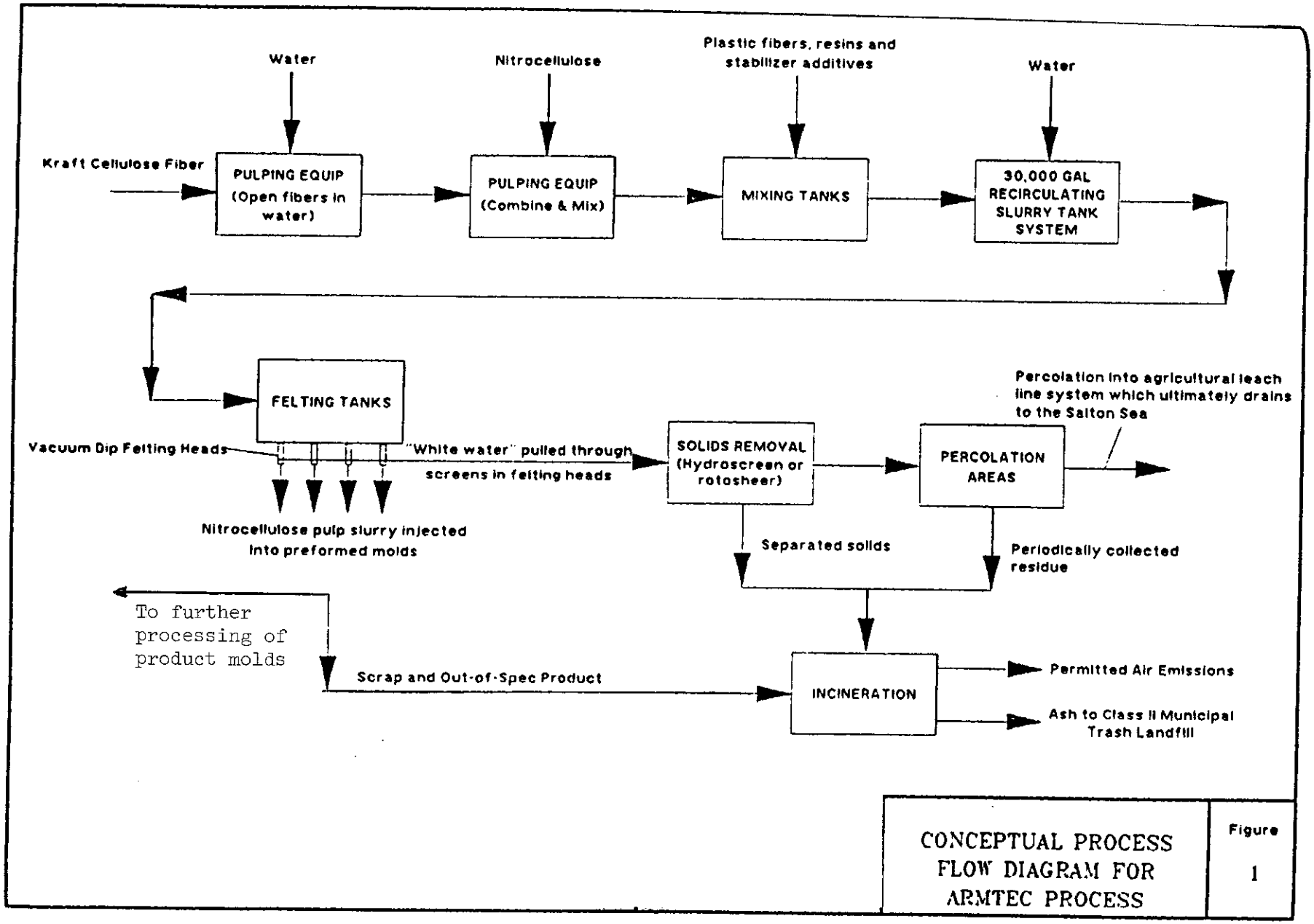


N.

Scale: 1"=2,000'

SITE MAP
ARMTEC DEFENSE PRODUCTS COMPANY
South of Coachella - Riverside County
NE¼ of the SE¼ of Section 8, T6S, R8E, SBB&M
USGS Indio 7.5 min. Topographic Map

Order No. 91-043



CONCEPTUAL PROCESS FLOW DIAGRAM FOR ARMTEC PROCESS

Figure 1

ARMTEC DEFENSE PRODUCTS COMPANY

ATTACHMENT NO. 2

Order No. 91-043