California Environmental Protection Agency
Department of Toxic Substances Control

HAZARDOUS WASTE FACILITY POST-CLOSURE PERMIT

Facility Name and Location:

DuPont Oakley Site
6000 Bridgehead Road
Oakley, California 94561

Facility Owner:

E.I. du Pont de Nemours and Company
1007 Market Street
Wilmington, Delaware 19898

Facility Operator

E.I. du Pont de Nemours and Company
6000 Bridgehead Road
Oakley, California

Facility EPA ID # CAD 009151671

Effective Date: October XX, 2011

Expiration Date: October XX, 2021

Pursuant to Section 25200 of the California Health and Safety Code, this Resource Conservation and Recovery Act (RCRA) equivalent Hazardous Waste Facility Post-Closure Permit is hereby issued to E.I. du Pont de Nemours and Company (DuPont). The issuance of this Permit is subject to the conditions set forth in Attachment A and the Post-Closure Permit Application. The Permit consists of 18 pages including the cover page and Attachment A.

_____

Mohinder S. Sandhu, P.E.
Branch Chief

_____

Date

ATTACHMENT A

HAZARDOUS WASTE FACILITY POST-CLOSURE PERMIT
FOR
DUPONT OAKLEY SITE
6000 BRIDGEHEAD ROAD
OAKLEY, CALIFORNIA

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PART I. DEFINITIONS

All terms used in this Permit shall have the same meaning as those terms have in the California Health and Safety Code, division 20, chapter 6.5 and California Code of Regulations, title 22, division 4.5, unless expressly provided otherwise by this Permit.

1. "Part" refers to a part (section) of this permit.

2. “DTSC” as used in this Permit refers to the California Environmental Protection Agency, Department of Toxic Substances Control.

3. “DHS” as used in this Permit refers to the California Department of Health Services, predecessor to DTSC.

4. "Permittee" as used in this Permit refers to the Owner and/or Operator.

5. “RCRA” as used in this Permit refers to the Resource Conservation and Recovery Act.

6. “Facility” as used in this Permit means all contiguous land and structures, other appurtenances, and improvements on the land used for the treatment, transfer, storage resource recovery, disposal or recycling of hazardous waste. A hazardous waste facility may consist of one or more treatment, transfer, storage, resource recovery, disposal or recycling operational units or combinations of these units.

7. “CRWQCB” refers to the California Regional Water Quality Control Board, Central Valley Region.

8. Unless explicitly stated otherwise, all references to items in this Permit shall refer only to items occurring within the same Part.

PART II. DESCRIPTION OF THE FACILITY AND OWNERSHIP

1. OWNER

The Owner of the Facility is the E.I. du Pont de Nemours and Company (DuPont), located at 1007 Market Street, Wilmington, Delaware (hereafter "Owner").

2. OPERATOR

The Operator is DuPont.

3. LOCATION

The Facility is located on 6000 Bridgehead Road, just southeast of the Antioch Bridge in Oakley. The Facility encompasses approximately 378 acres in Contra Costa County (Figure 1 - Site Location Map).

4. DESCRIPTION

The Facility is a former chemical manufacturing plant that produced chlorofluorocarbons (CFCs), fuel-additive anti-knock compounds (AKCs), and titanium dioxide (TiO_2). Production of CFCs began in 1956; AKC production was added in 1957; and TiO_2 production was added in 1963. Production of all three product lines has been eliminated, beginning with AKC manufacturing in 1981, CFC manufacturing in 1995, and TiO_2 manufacturing in November 1997, followed by a general shutdown of all TiO_2 and CFC blending operations on November 30, 1998.

Wastes generated in CFC production included hydrochloric acid, unreacted hydrofluoric acid, unreacted carbon tetrachloride (CT) tetrachloroethene (PCE), CFC-12, CFC-112, and blended products of CFC-113. AKC production included a wastewater stream containing sodium, chloride, sodium hydroxide, unrecovered organolead, dissolved lead species, and inorganic lead. TiO_2 manufacturing produced two primary waste streams; one composed of ferric chloride (FeCl3) solids and other metal chloride compounds. Other waste streams associated with the TiO_2 manufacturing area were CT and PCE which were pumped through the process lines to clean the system. The wastewater from these manufacturing areas flowed to one or more of the six hazardous waste storage and treatment units (surface impoundments or units) that are subject to this Permit.

The six hazardous waste storage and treatment units subject to this Post-Closure Permit are identified as East Basin, West Basin, and Emergency Basin, and Pond A, Pond B, and Pond C. These units were removed from service in accordance with a Closure Plan dated June 20, 1983, which was approved by

CRWQCB and DHS. The Closure Plan required removal of contaminated soil and/or bottom sludge. Because groundwater beneath the units is contaminated and exceeds beneficial use, protective water quality limits, and maximum contaminant levels, the units are subject to post-closure permitting requirements.

5. FACILITY SIZE AND TYPE FOR FEES .

The Facility is categorized as a large land disposal facility for purposes of Health and Safety Code, section 25205.7(d)(5).

PART III. GENERAL CONDITIONS

1. PERMIT APPLICATION DOCUMENTS

The Post-Closure Permit Application dated July 14, 2011, including the Part A and Part B applications, is hereby approved, herein after referred to as "Approved Application" and made a part of this Permit by reference.

2. EFFECT OF PERMIT

(a) The Permittee shall comply with the provisions of the California Health and Safety Code, and division 4.5 of the California Code of Regulations, title 22. The issuance of this Permit by DTSC does not release the Permittee from any liability or duty imposed by federal or state statutes or regulations or local ordinances, except the obligation to obtain this Permit. The Permittee shall obtain the permits required by other governmental agencies, including but not limited to, the applicable land use planning, zoning, hazardous waste, air quality, water quality, and solid waste management laws for the construction and/or operation of the post-closure facility.

(b) The Permittee shall monitor and maintain the Facility in accordance with the conditions of this Permit and the Approved Application. Any treatment, storage and/or disposal of hazardous wastes not specifically authorized in this Permit or described in the Approved Application is strictly prohibited.

(c) Compliance with the terms of this Permit does not constitute a defense to any action brought under any other law governing protection of public health or the environment, including, but not limited to, one brought for any imminent and substantial endangerment to human health or the environment.

(d) DTSC's issuance of this Permit does not prevent DTSC from adopting or amending regulations that impose additional or more stringent requirements than those in existence at the time this Permit is issued and does not prevent the enforcement of these requirements against the Permittee. Failure to comply with any term or condition set forth in the Permit in the time or manner specified herein will subject the Permittee to possible enforcement action including but not limited to penalties pursuant to Health and Safety Code section 25187.

(e) In addition, failure to submit any information required in connection with the Permit, or falsification and/or misrepresentation of any submitted information, is grounds for revocation of this Permit (California Code of Regulations, title 22, section 66270.43).

(f) In case of conflicts between the Approved Application and the Permit, the

Permit conditions shall take precedence.

(g) This Permit includes and incorporates by reference any conditions of waste discharge requirements issued to the Facility by the State Water Resources Control Board or the CRWQCB and any conditions imposed pursuant to section 13227 of the Water Code.

3. COMPLIANCE WITH CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

A Negative Declaration for this project has been prepared in accordance with the requirements of Public Resources Code section 21000 et seq. and the CEQA Guidelines, California Code of Regulations, title 14, section 15070 et seq.

4. ENVIRONMENTAL MONITORING

(a) California Code of Regulations, title 22, section 66264.90 allows replacing all or part of the requirements of sections 66264.91 through 66264.100 with alternative requirements for a water quality monitoring and response program where a regulated unit is situated among solid waste management units (or areas of concern), a release has occurred, and both the regulated unit and one or more solid waste management unit(s) (or areas of concern) are likely to have contributed to the release. Groundwater plumes attributed to the regulated units subject to this Permit and nearby solid waste management units associated with past site manufacturing activities are indistinguishable. For the purpose of this Permit and pursuant to section 66264.90, the Permittee shall comply with the groundwater monitoring program developed pursuant to the Corrective Action Consent Agreement between DTSC and DuPont (Docket HWCA: P2-02/03-005, dated June 17, 2003), which fulfills the requirements of section 66264.90.

(b) For the purpose of California Code of Regulations, title 22, section 66264.144, the cost estimate for post-closure care is described in both Section E and Appendix E of the Approved Application.

(c) For the purpose of California Code of Regulations, title 22, section 66264.145, the Financial Assurance for post-closure care is described in both Section E and Appendix E of the Approved Application.

(d) The Permittee reports that hazardous wastes and waste residues were removed from the units in 1985 in accordance with a Closure Plan dated June 20, 1983, which was approved by CRWQCB and DHS. However, because the groundwater at the site is currently contaminated due to past releases from the surface impoundments, the units are subject to post-closure care requirements. Therefore, post-closure care for the units by maintenance of a cover must be performed in accordance with applicable

portions of California Code of Regulations, title 22, section 66264.228 as described in the Approved Application. The backfilling of the West Basin also must be completed in accordance with section 66264.228, with the exception of certain inapplicable subsections as noted in Appendix C of the Approved Application.

5. ANNUAL HAZARDOUS WASTE REDUCTION AND MINIMIZATION CERTIFICATION

The Permittee shall certify annually that it has a hazardous waste reduction and minimization program and method in place and shall keep the annual certification as part of its Operating Record in accordance with Health and Safety Code section 25202.9 and California Code of Regulations, title 22, section 66264.73(b)(9).

6. ACCESS

(a) DTSC, its contractors, employees, agents, and/or any United States Environmental Protection Agency representatives are authorized to enter and freely move about the Facility for the purposes of interviewing Facility personnel and contractors; inspecting records, operating logs, and contracts relating to the Facility; reviewing progress of the Permittee in carrying out the terms of Part VI of the Permit; conducting such testing, sampling, or monitoring as DTSC deems necessary; using a camera, sound recording, or other documentary-type equipment; verifying the reports and data submitted to DTSC by the Permittee; or confirming any other aspect of compliance with this Permit, Health and Safety Code, division 20, chapter 6.5, and California Code of Regulations, title 22, division 4.5. The Permittee shall provide DTSC and its representatives access at all reasonable times to the Facility and any other property to which access is required for implementation of any provision of this Permit, Health and Safety Code, division 20, chapter 6.5, and California Code of Regulations, title 22, division 4.5, and shall allow such persons to inspect and copy all records, files, photographs, documents, including all sampling and monitoring data, that pertain to work undertaken pursuant to the entire Permit or undertake any other activity necessary to determine compliance with applicable requirements.

(b) Nothing in this Permit shall limit or otherwise affect DTSC's right to access and entry pursuant to any applicable State or federal laws and regulations.

7. MODIFICATIONS

a) The Permittee must request and obtain a permit modification to revise any portion of this Permit. To request such a revision, the Permittee must comply with the procedures for permit modifications set forth in California Code of Regulations, title 22, section 66270.42.

b) If at any time DTSC determines that modification of any part of this Permit is necessary, DTSC may initiate a modification in accordance with the procedures found in California Code of Regulations, title 22, section 66270.41.

PART IV - PERMITTED UNITS AND ACTIVITIES

This Permit requires and governs post-closure care of the units listed below. The Permittee shall not treat, store or otherwise manage hazardous waste in any of these units unless otherwise specified in this Part IV.

1. EAST BASIN – FORMER SURFACE IMPOUNDMENT

(a) Unit Location:

The East Basin is located at the north-northwest portion of the Facility, easterly of the West Basin, and westerly of the Emergency Basin (see Figure 2).

(b) Unit Activity Type:

The East Basin is closed. Hazardous waste is not managed at this unit. The activities required under this Post-Closure Permit will include cover maintenance, groundwater and surface water monitoring, inspections and surveys, security, and other activities associated with the post closure care of the unit as presented in the Approved Application.

(c) Unit Description:

The East Basin was built in the early 1960s as an unlined earthen basin and was used as part of the Facility's wastewater treatment process. This unit was used as a retention/settling basin for treated wastewater from the tetraethyl lead manufacturing operation at the Facility. Flows entered the northeast corner of the East Basin and were discharged from the southwest corner to the West Basin. The unit was removed from service according to the Closure Plan dated June 20, 1983 and approved by the CRWQCB and DHS. The Closure Plan for this unit required excavating sludge and contaminated soils from the basin and backfilling with clean soil to meet closure standards. DuPont completed closure activities for this unit on April 30, 1985. The CRWQCB and the DHS considered implementation of the approved Closure Plan for this unit to be complete in letters dated July 8, 1985 and November 7, 1985, respectively. These documents are included in the Approved Application.

(d) Unit Physical Description:

The clay-lined basin with existing earth bottom had a 1.87 million gallon capacity. The sides of the basin were lined with six inches of compacted clay with an estimated permeability between 10^{-4} and 10^{-6} cm/sec. The clay sides were lined with rip rap rock to prevent erosion. Surface soils overlying this unit currently support vegetation for erosion control.

(e) Unit Specific Conditions:

The Permittee shall perform cover maintenance, groundwater and surface water monitoring, inspections and surveys, security, and other activities associated with the post closure care in accordance with the Approved Application.

2. WEST BASIN – FORMER SURFACE IMPOUNDMENT

(a) Unit Location:

The West Basin is located at the north-northwest portion of the Facility, westerly of the East Basin (see Figure 2).

(b) Unit Activity Type:

The West Basin is currently an open basin but is no longer utilized for storage or treatment of hazardous waste. The activities authorized and required under this permit shall include backfilling this unit with clean soil, cover maintenance, groundwater and surface water monitoring, inspections and surveys, security, and other activities associated with the post closure care of this unit as presented in the Approved Application.

(c) Unit Activity Description:

The West Basin was built in the early 1960s as an unlined earthen basin and used as part of the Facility's wastewater treatment process. The unit received wastewater from all three manufacturing processes, which contained contaminants of potential concern (COPCs) from each of the manufacturing areas. Sludge and contaminated soils from the unit were removed according to a closure plan dated June 20, 1983 and approved by the CRWQCB and the DHS. DuPont completed the sludge and contaminated soil removal activities for this unit on April 30, 1985. The CRWQCB and DHS considered implementation of the approved Closure Plan for this unit to be complete in letters dated July 8, 1985 and November 7, 1985, respectively. These documents are included in the Approved Application. The original riprap covering the sides of the West Basin was removed during closure operations in 1983 and was replaced

with new riprap. After the West Basin was approved closed for the purpose of treatment and storage of hazardous waste in 1985, it was renamed as the Holding Basin and was put back into service as a part of the wastewater management system under the site's National Pollutant Discharge Elimination System (NPDES) Permit. To facilitate management of non-hazardous waste water, the West Basin was divided into two separate ponds that held treated process wastewater and stormwater prior to pH adjustment and discharge to the San Joaquin River. Use of the West Basin for storage of treated process wastewater and stormwater ceased in 2000, and water inlets and discharge outlets were plugged. The NPDES permit was rescinded on June 14, 2001 by Order #5-01-137.

(d) Unit Physical Description:

The West Basin is similar to the East Basin in design. During operation of the West Basin in the 1960s to mid-1980s the total capacity of this unit was 1.87 million gallons. The sides were lined with six inches of compacted clay with an estimated permeability of between 10^{-4} and 10^{-6} cm/sec. The clay sides were covered with rip rap rock to prevent erosion. Since the NPDES permit was rescinded in 2001, the discharge of wastewater and on-site stormwater into and from the West Basin has been discontinued. This unit is currently an open basin accumulating rainwater and shall be backfilled in accordance with Appendix C of the Approved Application.

(e) Unit Specific Conditions:

The Permittee shall perform West Basin backfilling activities in accordance with Appendix C of the Approved Application, cover maintenance, groundwater and surface water monitoring, inspections and surveys, security, and other activities associated with the post closure care in accordance with the Approved Application.

2. EMERGENCY BASIN – FORMER SURFACE IMPOUNDMENT

(a) Unit Location:

The Emergency Basin is located immediately east of the East Basin and westerly of Pond A (see Figure 2).

(b) Unit Activity Type:

The Emergency Basin is closed. Hazardous waste is not managed at this unit. The activities required under this Permit include cover maintenance, groundwater and surface water monitoring, inspections and surveys, security, and other activities associated with the post closure care of the unit as presented in the Approved Application.

(c) Unit Activity Description:

The Emergency Basin was built in the early 1960s as an unlined earthen basin and was used as part of the Facility's hazardous wastewater treatment process. This unit received wastewater from all three manufacturing processes, which contained COPCs from each of the manufacturing areas. The unit was closed according to a closure plan dated June 20, 1983 and approved by the CRWQCB and the DHS. Closure included excavating sludge and contaminated soils from the unit, treating the excavation bottom with 50 tons of agricultural lime, and backfilling with clean soil. DuPont completed closure activities for this unit on April 30, 1985. The CRWQCB and the DHS considered implementation of the approved Closure Plan for this unit to be complete in letters dated July 8, 1985 and November 7, 1985, respectively. These documents are included in the Approved Application.

(d) Unit Physical Description:

The capacity of the Emergency Basin was 5.5 million gallons. The sides and bottom were of existing earth material and the sides were covered with rip-rap rock to prevent erosion. Surface soils overlying this unit currently support vegetation for erosion control.

(e) Unit Specific Conditions:

The Permittee shall perform cover maintenance, groundwater and surface water monitoring, inspections and surveys, security, and other activities associated with the post closure care in accordance with the Approved Application.

4. PONDS A, B AND C – FORMER SURFACE IMPOUNDMENTS

(a) Unit Location:

Ponds A, B and C are located in the northeasterly portion of the Facility and just southeasterly of the Emergency Basin (see Figure 2).

(b) Unit Activity Type:

Ponds A, B, and C are closed. Hazardous waste is not managed at these units. The activities required under this Permit include cover maintenance, groundwater and surface water monitoring, inspections and surveys, security, and other activities associated with the post closure care of the unit as presented in the Approved Application.

(c) Unit Activity Description:

These units were used for the storage of the waste solids from the tetraethyl lead manufacturing process. The solids were kept under a water surface because of their volatility. The sludge in the units, prior to closure, contained tetraethyl lead and inorganic lead compounds. Tetraethyl lead emits toxic vapors; therefore, the sludge was stored under water. The ponds were closed according to a closure plan dated June 20, 1983 and approved by the CRWQCB and DHS. Closure activities included removing contaminated sludge for off-site disposal at a Class I landfill, and then backfilling the ponds with clean-soils. DuPont completed closure activities for these units on April 30, 1985. The CRWQCB and the DHS considered implementation of the approved closure plan for these units to be complete in letters dated July 8, 1985 and November 7, 1985, respectively. These documents are included in the Approved Application.

(d) Unit Physical Description:

The units were originally excavated into the native soil in the 1970s, then the bottom of the excavations were covered with a six-millimeter-thick polyethylene liner, which, in turn, was covered with a six-inch layer of crushed granite and another polyethylene liner on top. Four-inch thick reinforced concrete slabs connected by neoprene expansion joints and coated with a layer of gunite, completed construction of the bottom liner system. Surface soils overlying these units currently support vegetation for erosion control.

(e) Unit Specific Conditions:

The Permittee shall perform cover maintenance, groundwater and surface water monitoring, inspections and surveys, security, and other activities associated with the post closure care in accordance with the Approved Application.

PART V – SPECIAL CONDITIONS

1. Pursuant to Civil Code section 1471, DTSC has determined that a covenant restricting groundwater extraction and building construction and/or occupancy is necessary to protect present or future human health, safety or the environment as a result of the presence in groundwater of hazardous materials as defined in Health and Safety Code section 25260. The Permittee shall fully cooperate with DTSC in preparing and recording the covenant to restrict use of the property. Permittee shall sign and record the covenant within thirty (30) days after receiving written approval from DTSC of the form and content of the covenant.

2. No hazardous wastes may be disposed within the area subject to this Permit (see Figures 1 and 2).

3. The Permittee shall complete the activities associated with the backfilling of the West Basin in accordance with Appendix C of the Approved Application within eighteen (18) months of the Effective Date of this permit.

PART VI - CORRECTIVE ACTION

1. BACKGROUND

On March 28, 2002, pursuant to California Environmental Protection Agency Site Designation Committee Resolution No. 02-03, DTSC was designated as the appropriate agency to act as the Administrating Agency for the Facility. Pursuant to Resolution No. 02-03 and Health and Safety Code section 25260 and 25264, subdivision (a), among other requirements, DTSC must consult, on an ongoing basis, with appropriate agencies. Corrective action for the Facility is being performed under Corrective Action Consent Agreement (Consent Agreement), Docket HWCA: P2-02/03-005 entered into by DTSC and the Permittee. The Permittee shall comply with the terms of the Consent Agreement. Any violations of the Consent Agreement shall constitute violation of this Permit and shall be subject to appropriate regulatory enforcement actions under the law.

2. CORRECTIVE ACTION

(a) In the event the Permittee identifies an immediate or potential threat to human health and/or the environment, discovers new releases of hazardous waste and/or hazardous constituents, or discovers new SWMUs not previously identified, the Permittee shall notify DTSC orally within 24 hours of discovery and notify DTSC in writing within ten (10) days of such discovery, summarizing the findings including the immediacy and magnitude of any potential threat to human health and/or the environment.

(b) DTSC may require the Permittee to investigate, mitigate and/or take other applicable action to address any immediate or potential threats to human health and/or the environment and newly identified SWMUs or releases of hazardous waste and/or hazardous constituents. If and when corrective action is required at the Facility, the Permittee shall conduct corrective action under either a new or amended Corrective Action Consent Agreement or an Enforcement Order for Corrective Action issued by DTSC pursuant to Health and Safety Code sections 25187 and 25200.10.

(c) To the extent that work being performed pursuant to Part VI of this Permit must be done on property not owned or controlled by the Permittee, the Permittee shall use its best efforts to obtain access agreements necessary to complete work required by this Part of the Permit from the present owner(s) of such property within 30 days of approval of any workplan for which access is required "Best efforts" as used in this paragraph shall include, at a minimum, a certified letter from the Permittee to the present owner(s) of such property requesting access agreement(s) to allow the Permittee and DTSC and its authorized representatives access to such property and the payment of reasonable sums of money in consideration of granting access. The Permittee shall provide DTSC with a copy of any

access agreement(s). In the event that agreements for the access are not obtained within 30 days of approval of any workplan for which access is required, or of the date that the need for access becomes known to the Permittee, the Permittee shall notify DTSC in writing within 14 days thereafter regarding both efforts undertaken to obtain access and its failure to obtain such agreements. In the event DTSC obtains access, the Permittee shall undertake approved work on such property. If there is any conflict between this Permit condition on access and the access requirements in any agreement entered into between DTSC and the Permittee, this Permit condition on access shall govern.

(d) Nothing in Part VI of this Permit shall be construed to limit or otherwise affect the Permittee's liability and continued obligation to perform corrective action including corrective action beyond the Facility boundary, notwithstanding the lack of access. DTSC may determine that additional on-site measures must be taken to address releases beyond the Facility boundary if access to off-site areas cannot be obtained.

Figure 1 - Site Location Map

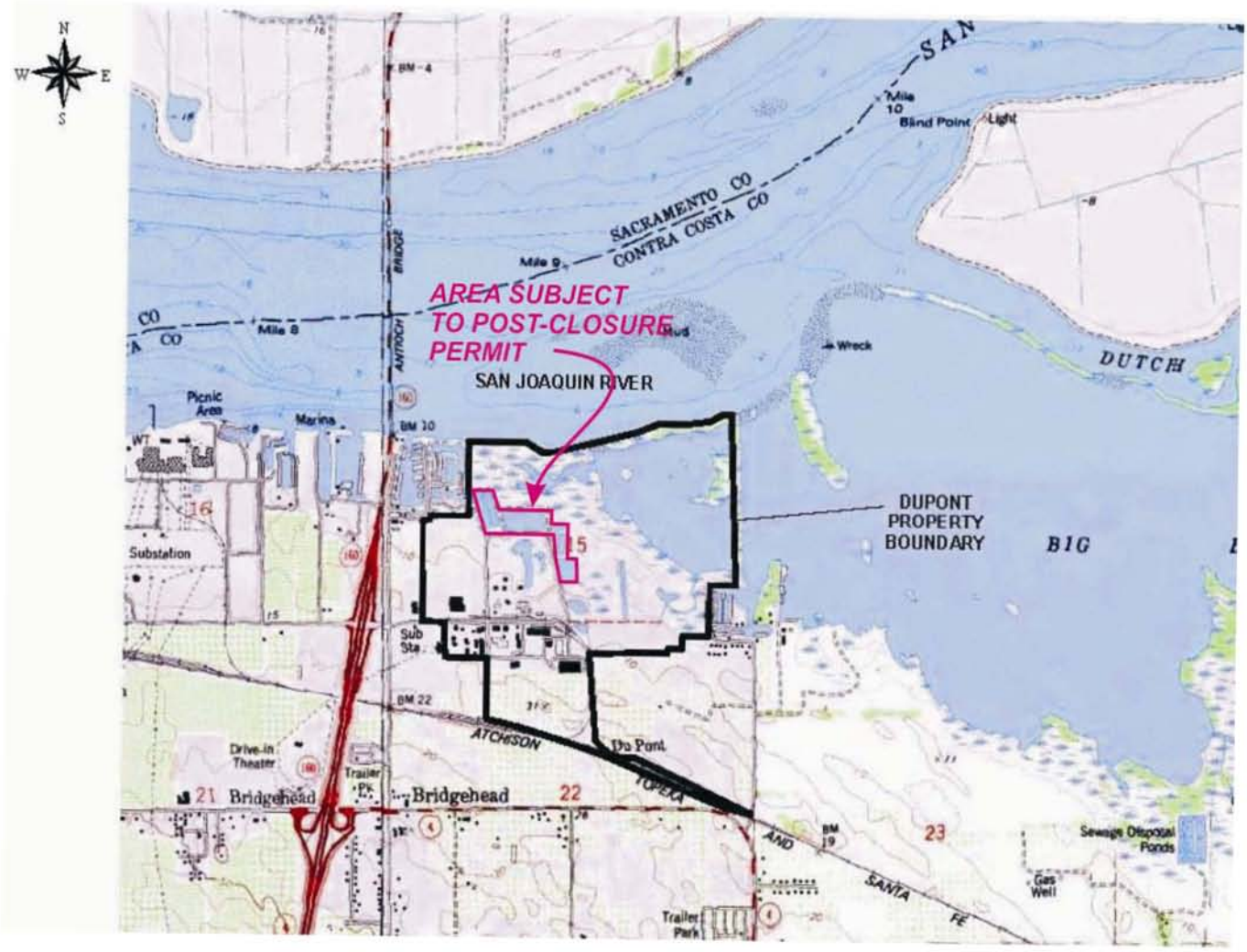

Figure 2 - Location Map