

MINUTE ITEM  
This Calendar Item No. 45  
was approved as Minute Item  
No. 45 by the State Lands  
Commission by a vote of 2  
to 0 at its 12/13/88  
meeting.

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CALENDAR ITEM

- 45

12/13/88 /  
W 6005.12 PRC 7267  
Livenick

APPROVAL OF A GEOPHYSICAL SURVEY PERMIT FOR STATE-OWNED  
TIDE AND SUBMERGED LANDS IN THE SACRAMENTO DELTA  
AREA OF SACRAMENTO, CONTRA COSTA AND  
SOLANO COUNTIES

APPLICANT: CGG American Services, Inc.  
Attn.: Mr. Jim Prossick  
P. O. Box 488  
Thornton, California 95686

PROPOSED AUTHORIZATION:

Approval of a Geophysical Survey Permit to  
conduct geophysical seismic studies along 11  
lines, totalling 142.5 miles, crossing private  
uplands and State-owned waterways in the  
Sacramento Delta Area of Solano, Contra Costa,  
and Sacramento counties.

TYPE OF LAND: The State lands subject to this permit are  
those tide and submerged lands in the waterways  
crossed by all 11 seismic survey lines.

TERM: The term of the Geophysical Survey Permit shall  
be from November 1, 1988 through May 31, 1990.

PROJECT: CGG American Services, Inc. has proposed to  
conduct a geophysical seismic survey in the  
Sacramento Delta Area of Solano, Contra Costa,  
and Sacramento counties. The survey will be  
performed in 11 lines totalling approximately  
142.5 miles, as shown in the accompanying map  
of Exhibit "A". The survey line will cross  
privately owned uplands and portions of  
State-owned waters. Approximately 3,376  
four-inch diameter holes will be drilled on  
165-foot centers to a depth of 50-100 feet.  
Approximately 592 shallower holes will be  
drilled where environmental conditions  
warrant. The holes may be loaded with a

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five-pound explosive charge and/or geophone instrumentation. The holes will be backfilled with bentonite to seal them.

CGG is coordinating this project with all the affected land owners, trustee agencies, such as the Department of Fish and Game and Reclamation Districts, and other permitting and responsible local agencies listed in Attachment D of the Negative Declaration, Exhibit "B".

Special operating conditions have been developed by the Reclamation Districts and the Department of Fish and Game to eliminate any hazard to the levees, wildlife and habitat crossed by the survey line. The conditions are reflected in the survey as proposed. Special permits and monitoring of the operations by Department of Fish and Game (DFG) personnel will be required for sensitive areas as determined by DFG.

The applicant has submitted evidence that all responsible agencies are expected to issue necessary permits. This evidence is attached as Exhibit "C". The geophysical information to be acquired is for the use of the oil and gas industry and possibly may benefit the State as an aid in development of the State's resources from adjacent private lands.

BOND: Applicant will submit a faithful performance bond of \$25,000 in favor of the State.

STATUTORY REFERENCES:

- A. P.R.C. 6826.
- B. 14 Cal. Code Regs., Title II, Article 2.9, Section 15250 et. seq.
- C. P.R.C. 21080.5 and CEQA Guidelines, Section 15250 et. seq.

AB 884:

01/14/89.

CALENDAR ITEM NO. 45 (CONT'D)

OTHER PERTINENT INFORMATION:

1. Pursuant to the Commission's delegation of authority and the State CEQA Guidelines (14 Cal. Code Regs. 15025), the staff has prepared a Negative Declaration EIR ND 447, State Clearinghouse #88092603. The Negative Declaration was prepared and circulated for public review pursuant to the provision of the CEQA. A copy of this environmental document is attached as Exhibit "B".

Based upon the initial study, the Negative Declaration, and the comments received in response thereto, there is no substantial evidence that the project will have a significant effect on the environment (14 Cal. Code Regs. 15074(b)).

2. This activity involves lands identified as possessing significant environmental values pursuant to P.R.C. 6370 et. seq. Based upon the staff's consultation with the Department of Fish and Game and through the CEQA review process, it is the staff's opinion that the project, as proposed, is consistent with the use classification.

EXHIBITS:

- A. Survey Location Map.
- B. Negative Declaration.
- C. Evidence of Local Permits.

IT IS RECOMMENDED THAT THE COMMISSION:

1. CERTIFY THAT A NEGATIVE DECLARATION EIR ND 447 STATE CLEARINGHOUSE #88092603, WAS PREPARED FOR THIS PROJECT PURSUANT TO THE PROVISIONS OF THE CEQA AND THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THEREIN.
2. DETERMINE THAT THE PROJECT, AS PROPOSED, WILL NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT.
3. FIND THAT THIS ACTIVITY IS CONSISTENT WITH THE USE CLASSIFICATION DESIGNATED FOR THE LAND PURSUANT TO P.R.C. 6383 ET. SEQ.

CALENDAR ITEM NO. 45 (CONT'D)

4. AUTHORIZE THE ISSUANCE TO CGG AMERICAN SERVICES, INC. OF A PERMIT TO CONDUCT A GEOPHYSICAL SEISMIC SURVEYS ON STATE-OWNED TIDE AND SUBMERGED LANDS IN THE SACRAMENTO DELTA AREA OF SACRAMENTO, CONTRA COSTA AND SOLONA COUNTIES FOR THE PERIOD OF NOVEMBER 1, 1988 THROUGH MAY 31, 1990.

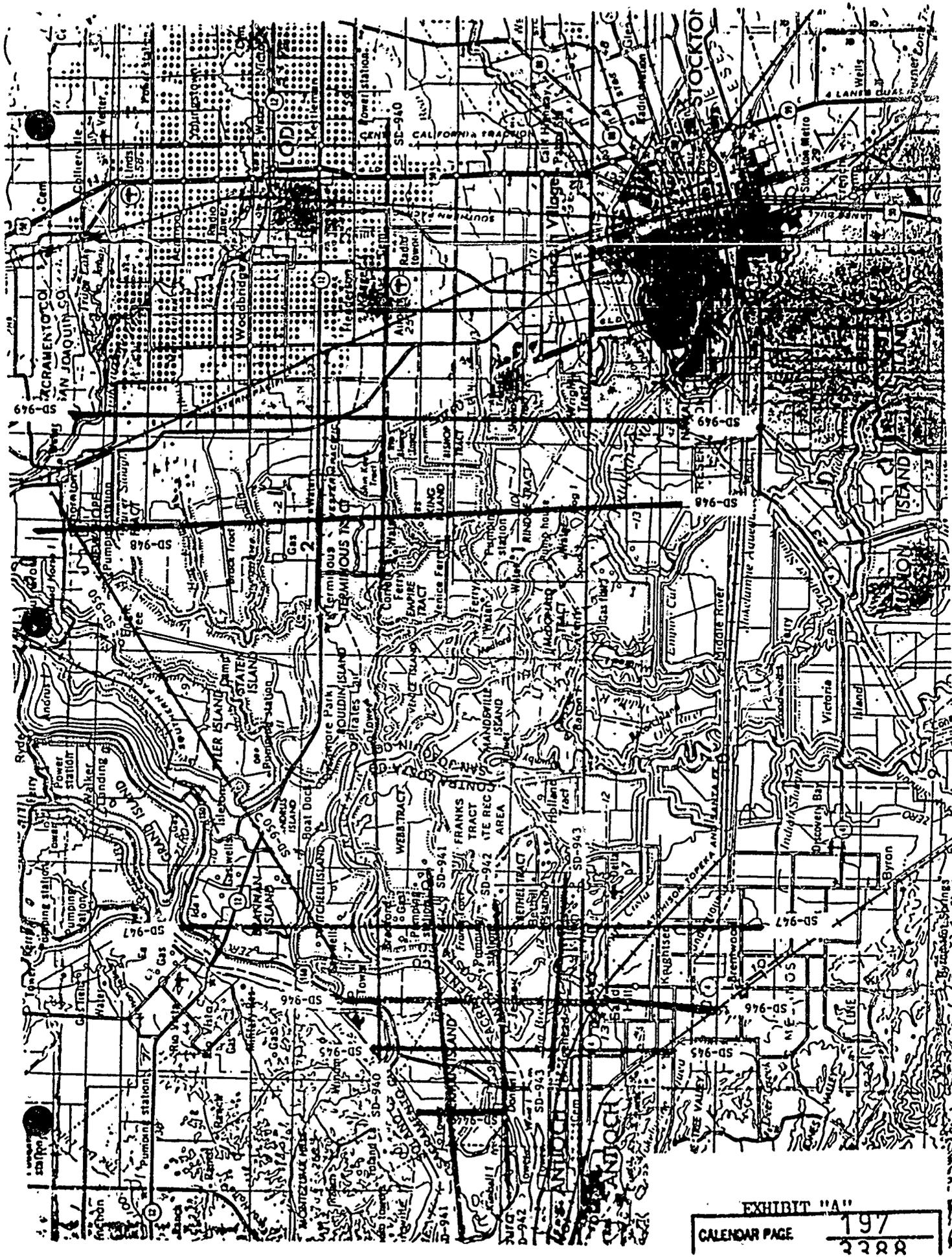


EXHIBIT "A"

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2288

STATE LANDS COMMISSION  
1807 13TH STREET  
SACRAMENTO, CALIFORNIA 95814

EXHIBIT "B"



PROPOSED NEGATIVE DECLARATION

EIR ND 447

File Ref.: W 6005.12

SCH#:

Project Title: CGG Saé Delta Phase 4 Geophysical Survey

Project Proponent: CGG Land Seismic

Project Location: Sacramento - San Joaquin Delta, Solano, Contra Costa, Sacramento and San Joaquin Counties.

Project Description: CGG proposes eleven seismic lines totaling 142.5 miles to determine location of natural gas deposits. The "down-hole" and "mini-hole" methods will be employed with explosive charges and phonyx phones or geophones.

Contact Person: Dan Cohen, Environmental Specialist

Telephone: (916) 324-8497

This document is prepared pursuant to the requirements of the California Environmental Quality Act (Section 21000 et seq., Public Resources Code), the State CEQA Guidelines (Section 15000 et seq., Title 14, California Administrative Code), and the State Lands Commission regulations (Section 2901 et seq., Title 2, California Administrative Code).

Based upon the attached Initial Study, it has been found that:

the project will not have a significant effect on the environment.

mitigation measures included in the project will avoid potentially significant effects.

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**ENVIRONMENTAL IMPACT ASSESSMENT CHECKLIST - PART II**  
Form 13.20 (7/82)

File Ref.: W 6005.12

**I. BACKGROUND INFORMATION**

A. Applicant: CGG American Services, Inc.  
P.O. Box 488  
Thornton, CA 95686

B. Checklist Date: 08 / 18 / 88

C. Contact Person: Dan Cohen  
Telephone: ( 916 ) 324-8497

D. Purpose: GEOPHYSICAL SURVEY

E. Location: San Joaquin Sacramento Delta Region See Exhibit 1 & 2 for more detail.

F. Description: See Exhibit 3 - CGG is proposing a continuation of its geophysical survey for natural gas deposits in the Sacramento-San Joaquin Delta. The proposal consists of eleven seismic lines, totaling 142.5 miles in Sacramento, San Joaquin, Solano and Contra Costa counties. Two different energy sources would be employed to acquire data: the down-hole method would be used on approximately 105.5 miles, and the mini-hole method used on approximately 37 miles. The total number of drill points will be approximately 3,376 deep holes, and 592 mini-hole patterns. The project is scheduled between October, 1988 and May, 1989.

**II. ENVIRONMENTAL IMPACTS. (Explain all "yes" and "maybe" answers)**

A. *Earth.* Will the proposal result in:

- |  | Yes                                 | Maybe                    | No                                  |
|--|-------------------------------------|--------------------------|-------------------------------------|
| 1. Unstable earth conditions or changes in geologic substructures? .....   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Disruptions, displacements, compaction, or overcovering of the soil? See Exhibit 3. (Drilling)  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| 3. Change in topography or ground surface relief features? .....   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. The destruction, covering, or modification of any unique geologic or physical features? .....   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Any increase in wind or water erosion of soils, either on or off the site? .....  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet, or lake? ..... | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. Exposure of all people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards? .....  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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- 1. Substantial air emissions or deterioration of ambient air quality?   [X]
- 2. The creation of objectionable odors?   [X]
- 3. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?   [X]
- C. *Water.* Will the proposal result in:
  - 1. Changes in the currents, or the course or direction of water movements, in either marine or fresh waters?   [X]
  - 2. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff?   [X]
  - 3. Alterations to the course or flow of flood waters?   [X]
  - 4. Change in the amount of surface water in any water body?   [X]
  - 5. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?  [X]
  - 6. Alteration of the direction or rate of flow of ground waters?   [X]
  - 7. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?   [X]
  - 8. Substantial reduction in the amount of water otherwise available for public water supplies?   [X]
  - 9. Exposure of people or property to water-related hazards such as flooding or tidal waves?   [X]
  - 10. Significant changes in the temperature, flow or chemical content of surface thermal springs?   [X]
- D. *Plant Life.* Will the proposal result in:
  - 1. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)?   [X]
  - 2. Reduction of the numbers of any unique, rare or endangered species of plants?   [X]
  - 3. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?   [X]
  - 4. Reduction in acreage of any agricultural crop?   See Exhibits 2 & 3.  [X]
- E. *Animal Life.* Will the proposal result in:
  - 1. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, or insects)?   [X]
  - 2. Reduction of the numbers of any unique, rare or endangered species of animals?   [X]
  - 3. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?   [X]
  - 4. Deterioration to existing fish or wildlife habitat?   [X]
- F. *Noise.* Will the proposal result in:
  - 1. Increase in existing noise levels?  See Exhibit 3 (Drilling)
  - 2. Exposure of people to severe noise levels?   [X]
- G. *Light and Glare.* Will the proposal result in:
  - 1. The production of new light or glare?   [X]
- H. *Land Use.* Will the proposal result in:
  - 1. A substantial alteration of the present or planned land use of an area?   [X]
- I. *Natural Resources.* Will the proposal result in:
  - 1. Increase in the rate of use of any natural resources?   [X]
  - 2. Substantial depletion of any nonrenewable resources?   [X]

- J. Risk of Upset.** Does the proposal result in
1. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals, or radiation) in the event of an accident or upset conditions? Yes- Maybr
  2. Possible interference with emergency response plan or an emergency evacuation plan?
- K. Population.** Will the proposal result in:
1. The alteration, distribution, density, or growth rate of the human population of the area?
- L. Housing.** Will the proposal result in:
1. Affecting existing housing, or create a demand for additional housing?
- M. Transportation/Circulation.** Will the proposal result in:
1. Generation of substantial additional vehicular movement?
  2. Affecting existing parking facilities, or create a demand for new parking?
  3. Substantial impact upon existing transportation systems?
  4. Alterations to present patterns of circulation or movement of people and/or goods?
  5. Alterations to waterborne, rail, or air traffic?
  6. Increase in traffic hazards to motor vehicles, bicyclists, or pedestrians?
- N. Public Services.** Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:
1. Fire protection?
  2. Police protection?
  3. Schools?
  4. Parks and other recreational facilities?
  5. Maintenance of public facilities, including roads?
  6. Other governmental services?
- O. Energy.** Will the proposal result in:
1. Use of substantial amounts of fuel or energy?
  2. Substantial increase in demand upon existing sources of energy, or require the development of new sources?
- P. Utilities.** Will the proposal result in a need for new systems, or substantial alterations to the following utilities:
1. Power or natural gas?
  2. Communication systems?
  3. Water?
  4. Sewer or septic tanks?
  5. Storm water drainage?
  6. Solid waste and disposal?
- Q. Human Health.** Will the proposal result in:
1. Creation of any health hazard or potential health hazard (excluding mental health)?
  2. Exposure of people to potential health hazards?
- R. Aesthetics.** Will the proposal result in:
1. The obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view?
- S. Recreation.** Will the proposal result in:
1. An impact upon the quality or quantity of existing recreational opportunities?

T. Cultural Resources.

- 1. Will the proposal result in the alteration of or the destruction of a prehistoric or historic archeological site?
- 2. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object?
- 3. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?
- 4. Will the proposal restrict existing religious or sacred uses within the potential impact area?

U. Mandatory Findings of Significance.

- 1. Does the project have the potential to degrade the quality of the environment, reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?
- 2. Does the project have the potential to achieve short term, to the disadvantage of long-term, environmental goals?
- 3. Does the project have impacts which are individually limited, but cumulatively considerable?
- 4. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

III. DISCUSSION OF ENVIRONMENTAL EVALUATION (See Comments Attached)

See Exhibits 1-3 for description.

IV. PRELIMINARY DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION will be prepared.
- I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

X TO BE DETERMINED AT CONCLUSION OF INITIAL STUDY REVIEW PERIOD.

Date: 08 / 18 / 88

*D. Cohen*  
Dan Cohen  
For the State Lands Commission

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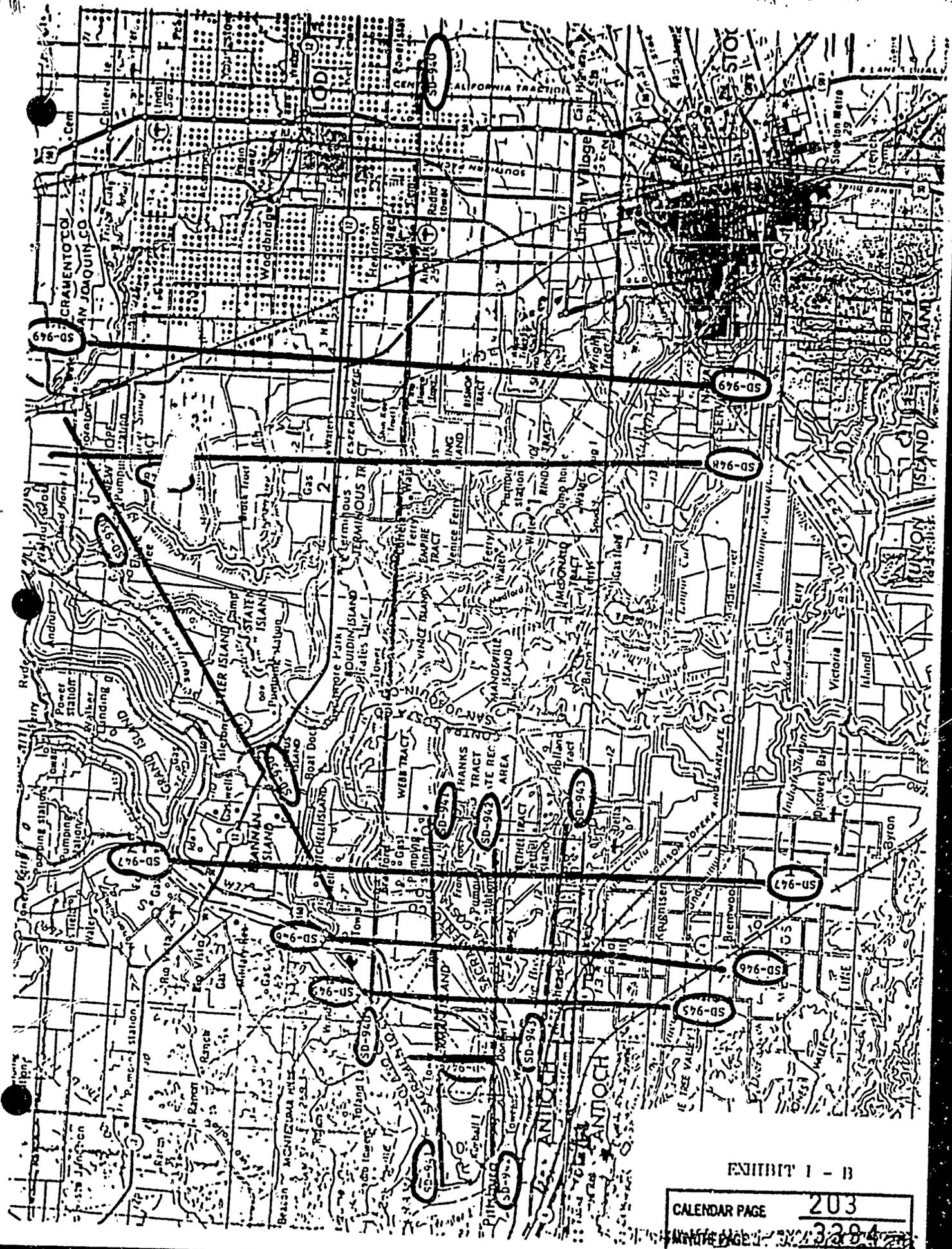


EXHIBIT I - B

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 MAP PAGE 3284



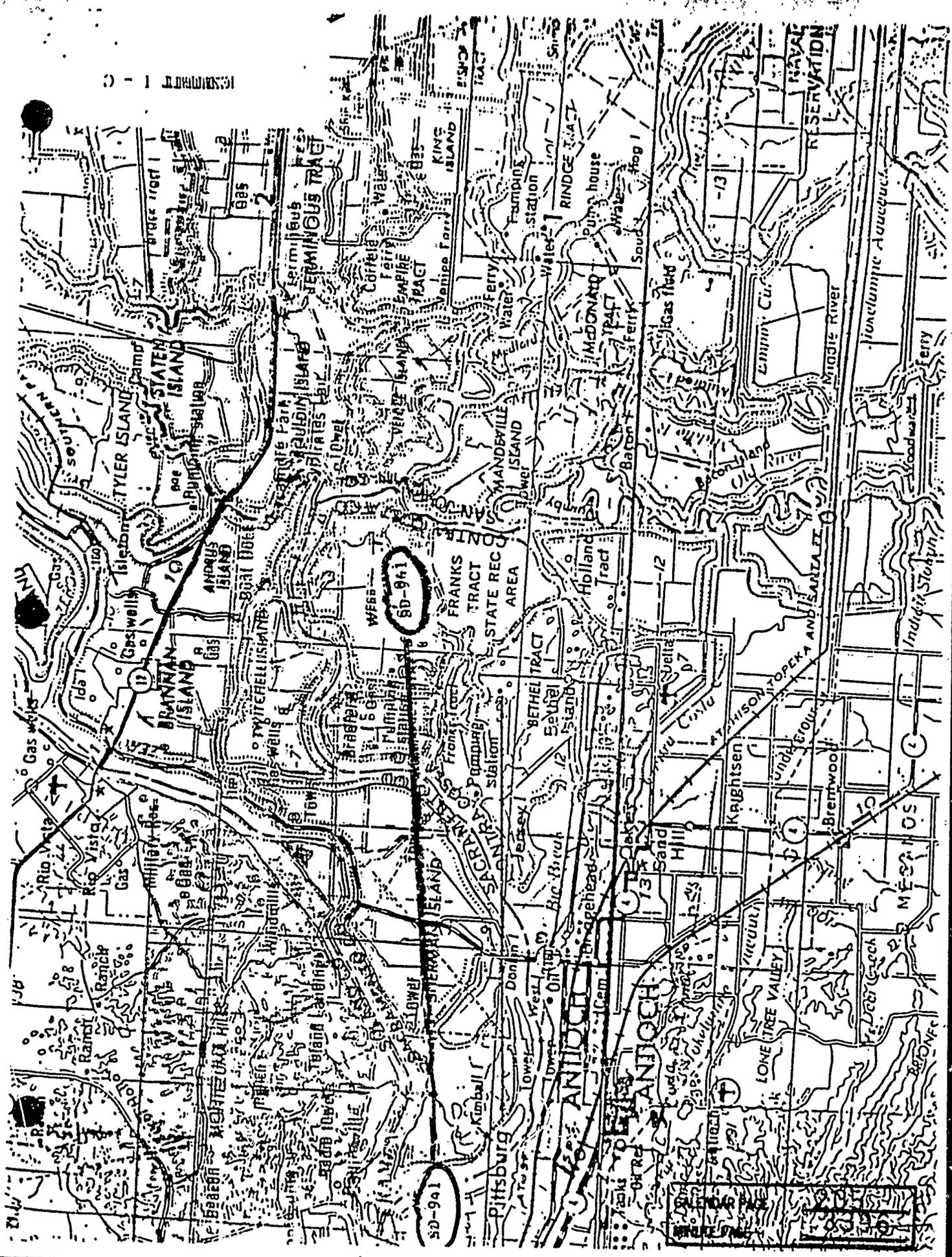




EXHIBIT I - C

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EXHIBIT I - C



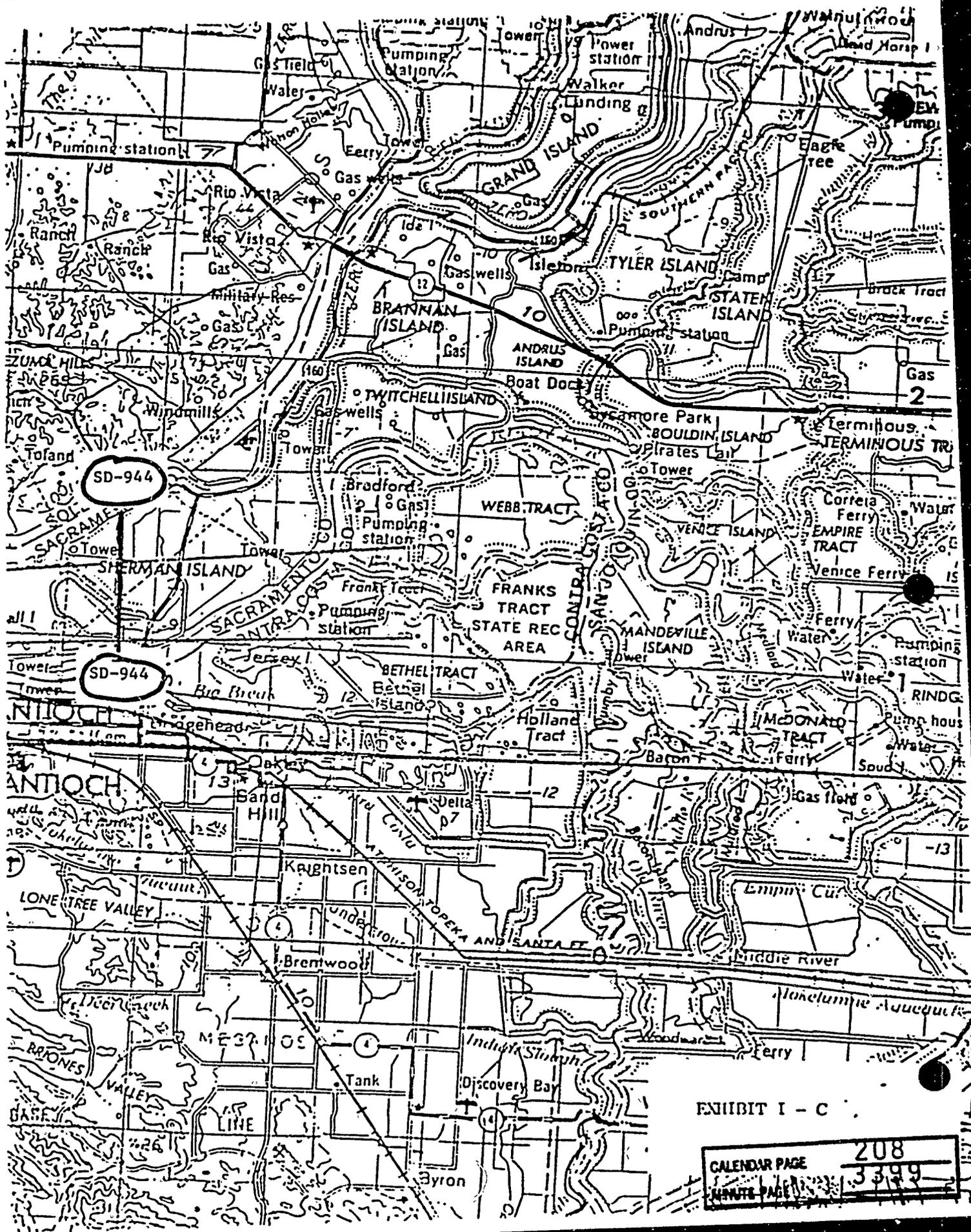


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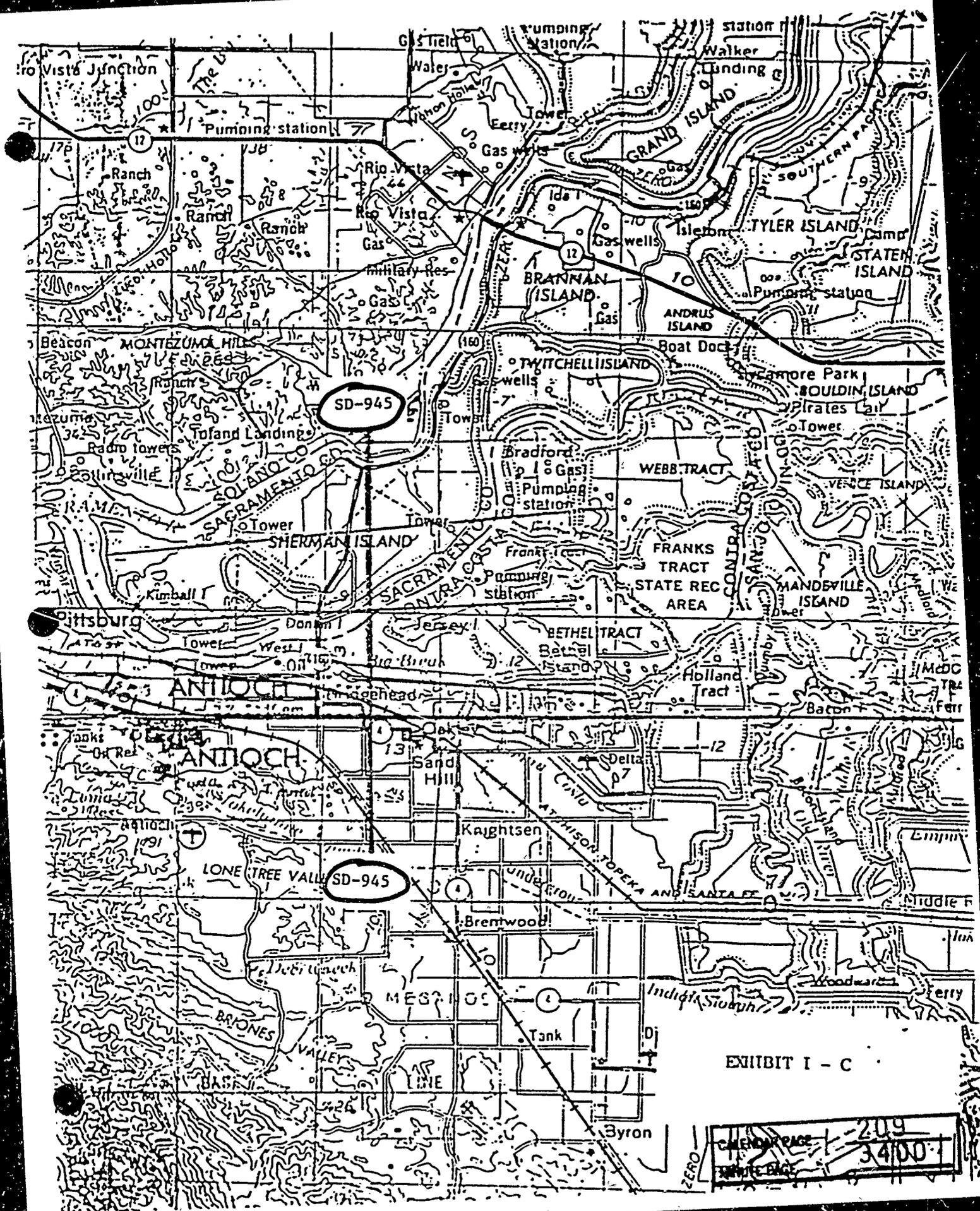


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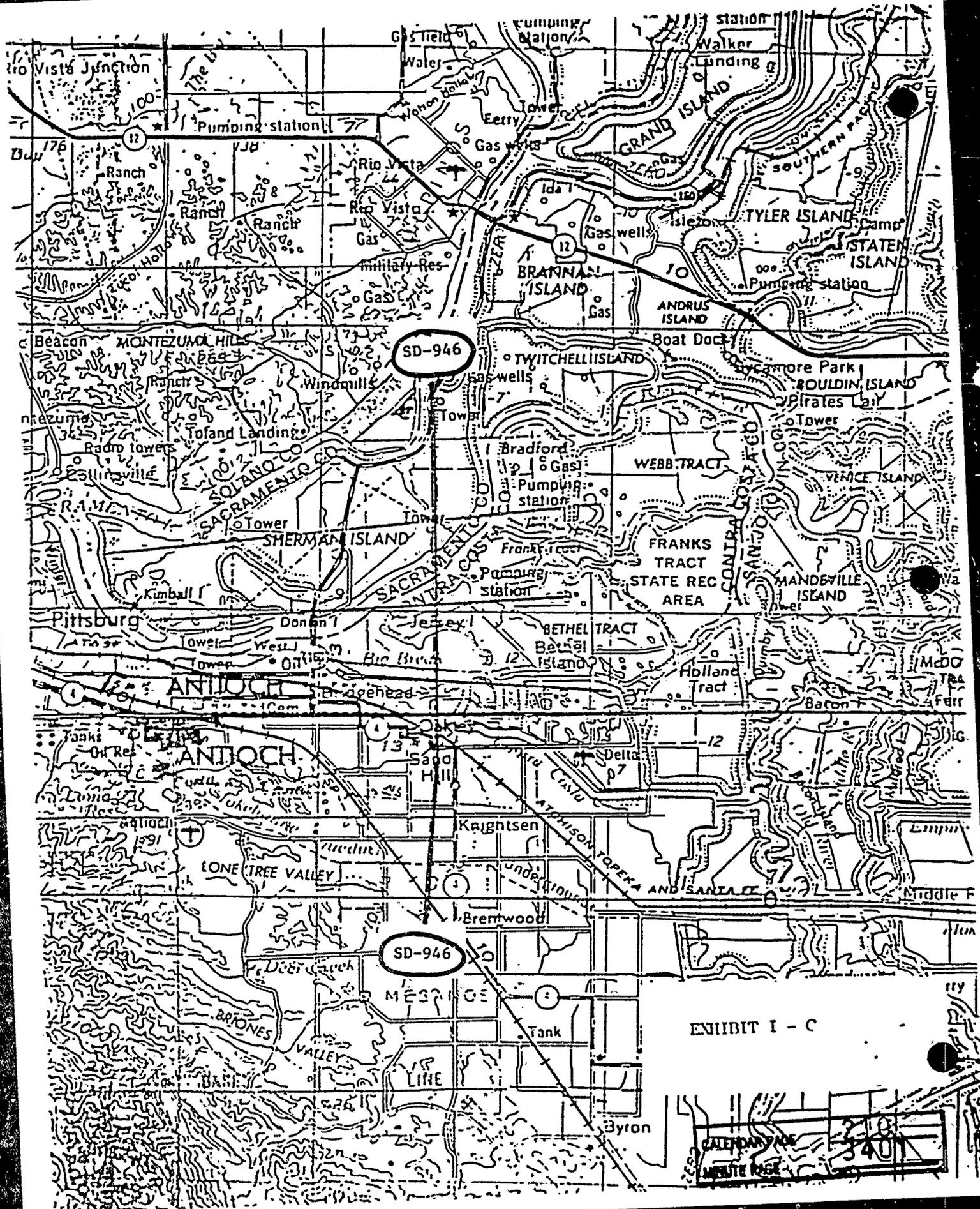


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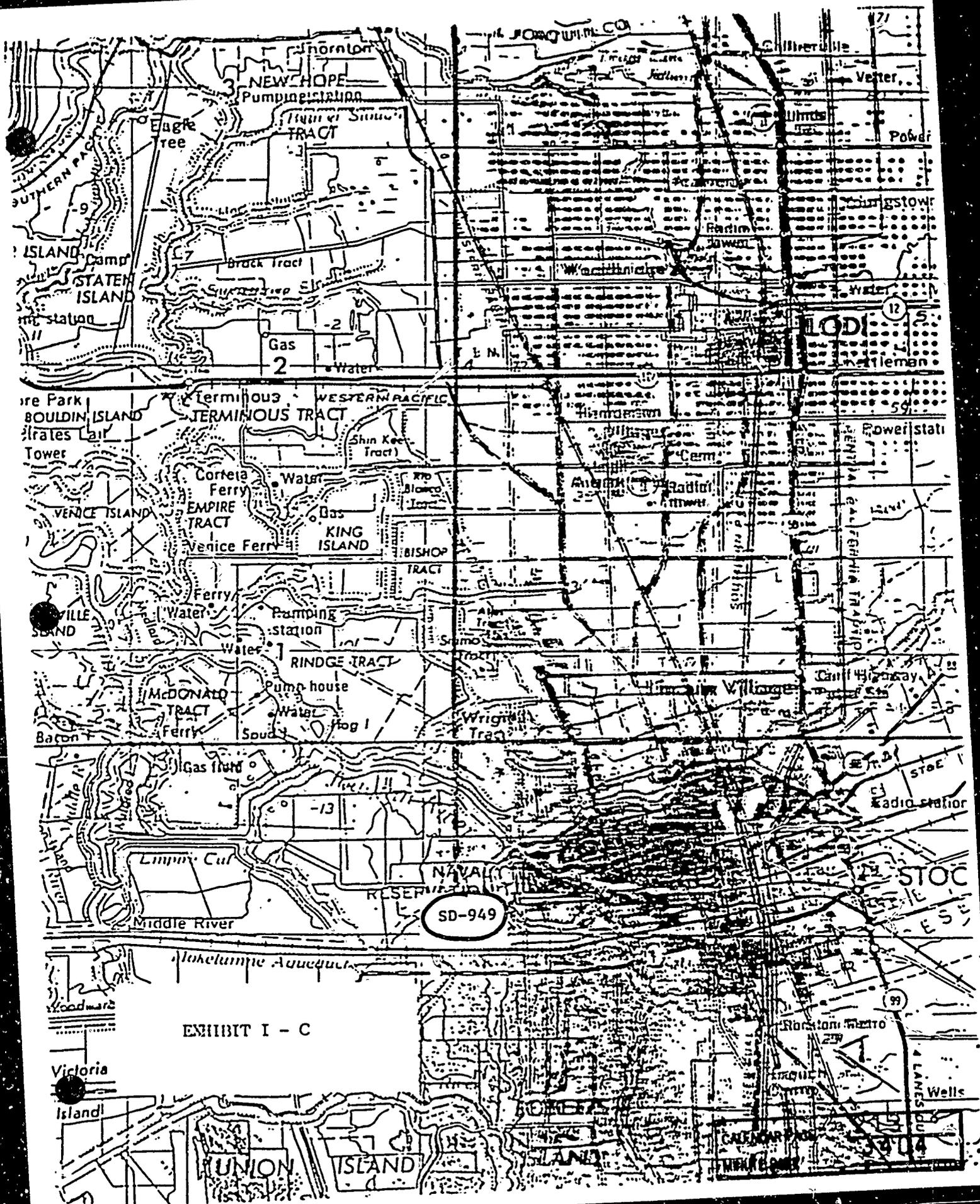


EXHIBIT I - C

## EXHIBIT II - DETAILED LINE LOCATIONS

LINE SD 940: The orientation of this seismic line is east to west, spanning Solano, Sacramento and San Joaquin County. The line is approximately 28 miles in length. Beginning in the West the line starts at the SW corner of Decker Island. From that point the line extends to the East 6200' over grazing land, leaving the island and making a water crossing over Horseshoe Bend for 1400' and then entering Sherman Island. The first water crossing is over unimproved levees on Decker Island, across open water with a minimum of tule vegetation on either side and over the improved rip rap levee of Sherman Island. The line then extends across the varied agriculture of Sherman Island for 6200', making a 2600' water crossing over Three Mile Slough and the San Joaquin River just south of their intersection. It then extends to the East onto Bradford Island. The second water crossing is over improved levee banks on both sides and across open water. The line then extends for 7300' across the North end of Bradford Island's semi dormant agriculture, crossing the San Joaquin River and then entering Webb Tract. The third water crossing is 7100' in length, over improved levee banks with a minimum of tule vegetation on either bank.

Across Webb Tract the line extends to the East for 13200' over dormant and active agricultural concerns, making a 2600' water crossing on the San Joaquin River and extending onto Bouldin Island. The fourth crossing is of the open water variety, over improved levees with no substantial aquatic vegetation present. The line continues East over the agriculture of Bouldin Island, skirting it's southern boundary for 9500'. It then makes a 4300' open water crossing over Potato Slough. This fifth water crossing is over improved levees crossing some narrow tule islands. The line then enters Bouldin Island extending to the East for an additional 5200' before crossing Little Potato Slough and entering Empire Tract. The sixth crossing is for 700' in mainly open water across improved levee banks. Some tule growth will be encountered in the center of the river and at either bank. Extending across the agriculture of the North end of Empire Tract for 5500' the line then crosses White Slough and enters Terminous Tract. The water crossing is for 700' over improved levees, through small tule banks and open water. Once on Terminous Tract the line extends to the East for 12,500', crossing the Upland Canal and entering Shima Tract. The seventh water crossing is 200' over improved levees and open water. For 9300' the line extends along the South edge of Shin Kee Tract, crossing man made canals as it leaves the tract and crossing for 1000' over the proposed site of the peripheral canal. The line then extends inland for 9.5 miles staying just North of Armstrong road for the majority of that distance. The lines ending point comes approximately 2 miles East of the intersection of State Hwy 99 and Armstrong Road.

LINE SD 941: This seismic line is 10.5 miles in length with an East to West orientation. The line is located in both Sacramento and Contra Costa County. It begins on the West edge of Sherman Lake approximately 4700' South of Point Sacramento. The line then extends 9000' across the marsh lands of Sherman Island continuing through open water for 5600' and then crosses Mayberry Slough leaving the lake and entering Sherman Island proper. The line extends to the East across the agriculture of Sherman Island for 27,900' entering the San Joaquin River just North of its intersection with the False River and extending onto Bradford Island. The water crossing over the San Joaquin River is over improved levees and open water for 2800'. The line continues over the active and dormant agriculture of Bradford Island for 7800', making a 400' open water crossing over Fishermans Cut. Continuing into Webb Tract the line ends 2600' East of Fishermans Cut.

LINE SD 942: This line is oriented in an East to West direction and is approximately 8.5 miles in length. It is located in Sacramento and Contra Costa County. The line begins on the West side of Sherman Lake just East of Kimball Island. It extends across Sherman Lake for 8500' through mainly marsh lands and some open water. The line then crosses Mayberry Slough and extends across the submerged Danton Island. It then crosses Mayberry Slough skirting the North edge of a narrow tule island and continues onto Sherman Island over improved levee banks. The total distance from the East edge of Sherman Lake to the West edge of Sherman Island is approximately 6600'. The line continues across the agricultural landscape of Sherman Island for 7600' entering the San Joaquin River and extending onto Jersey Island. This water crossing is across open water and over improved levee banks. Once on Jersey Island the line continues across mainly pasture land for 7900' extending across Taylor Slough into Bethel Island. The Taylor Slough water crossing is a short one, 200' in length over open water and improved levees. The line enters Bethel Island approximately 1000' North of the intersection of Canal and Taylor roads, with the line ending on the island 5700' East of Taylor Slough.

LINE SD 943: The length of this line is approximately 5.5 miles and it is oriented in an East to West direction. This line is located entirely in Contra Costa County and begins approximately at the center of section 15 T2N R2E. The line begins on land in a moderate marsh area. It extends 2400' entering Big Break just North of a marina. The line continues Eastward for 11,600' staying mainly in open water except for crossing 2 small marsh like peninsulas. Entering land at the intersection of Marsh Creek and Big Break the line continues East for 15,700', crossing Emerson Slough, Dutch Slough and a man made canal. The line ends in the Dutch Slough Gas Field 1500' East of the intersection of Sandmound Road and Bethel Island Road.

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LINE SD 944: This line is located solely in Sacramento County. It is 3 miles in length and has a South to North orientation. The line begins on the South side of Sherman Island just East of the intersection of Mayberry Slough and the San Joaquin river. From that point the line continues North for .3 miles, making an open water crossing of 500' on Mayberry Slough before ending on the North side of the island.

LINE SD 945: This seismic line is located in Sacramento, Solano and Contra Costa County. It is 8.5 miles in length with a South to North orientation. It begins in the South on Lone Tree Way 500' East of the intersection of Empire Avenue and Lone Tree Way. The line extends Northward mainly through Orchards for 18,200'. It leaves land and enters Big Break just East of a marina. The line continues North for 8600' across the open waters of Big Break and the San Joaquin River. Entering over the improved levee banks of Sherman Island the line continue North over a variety of agriculture for 16,000'. Leaving Sherman Island's improved levees it makes a 1000' water crossing over Horseshoe Bend and enters Decker Island. The water crossing is over open water with a minimum of contact with aquatic vegetation. The line enters Decker Island over unimproved levees and terminates on it's North side.

LINE SD 946: The line is 11 miles in length crossing parts of Contra Costa and Sacramento county in a South to North direction. Starting in the South the line begins at the intersection of Marsh Creek and the Southern Pacific Railroad. The line extends North for 23,700' crossing mainly orchards and through a marsh area for a 1000' in the North. The line then enters Big Break extending in open water for 6300' and crossing a narrow tule island before entering Jersey Island over it's improved levee banks. The line then extends across the pasture lands of Jersey Island for 3500' leaving over improved levees, crossing the San Joaquin River and entering Sherman Island. This water crossing is 5000' in length and mainly in open water, except for a 800' crossing over a tule berm just south of Sherman Island. After entering over the improved levees of Sherman Island the line extends 20,000' across the island's varied agriculture. The line ends on the North side of Sherman Island just South of the intersection of the Sacramento River and Three Mile Slough.

SD 947: This line is 16.5 miles in length. It runs in a North to South direction and is located in Sacramento and Contra Costa county. The line begins on Hwy 160 6500' North of it's intersection with Hwy 12. The line continues South across the varied agriculture of Brannan Island for 17,100', making several narrow open water crossings of Tomato Slough. The line the exits Brannan Island over improved levees making a 150' open water crossing on Seven Mile slough before entering Twitchell Island.

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The line enters over improved levees and extends across the horticulture of Twitchell Island for 9200'. The line then makes a 200' water crossing on the San Joaquin River. The entry and exit from the water is over improved levees and with the exception of a small tule berm encountered on the North side of Bradford Island the water crossing is of an open water nature. Upon entering Bradford Island the line extends Southward for 12,700' across active and inactive agricultural concerns. The line enters and exits over improved levees making an 800' open water crossing on the False River before entering Jersey Island.

Extending across the pasture lands of Jersey Island for 4100' the line enters Taylor Slough making a 300' open water crossing over improved levees. Upon entering Bethel Island the line extends to the South over range land for 4300'. It then reenters Jersey Island after making a 700' open water crossing on Taylor Slough over improved levees on either side. Continuing over the pasture land of Jersey Island for 5200' the line makes a 500' open water crossing on Dutch Slough. The line continues South for an additional 31000' crossing the Contra Costa Canal and reaching it's end point on Balfour Road 4000' East of it's intersection with Sellers Avenue.

SD 948: This line is 18 miles in length with a North to South orientation. It is located entirely in San Joaquin County. The line begins in the North on New Hope Tract 3600 North of Walnut Grove Road. It continues South from that point crossing Walnut Grove Road 6000' East of it's intersection with Interstate Hwy 5. The line continues South across a variety of agriculture, traversing New Hope Tract for a total of 11,400'. Leaving across and entering over improved levees the line makes a 300' open water crossing on Beaver Slough before entering Brack Tract. Once on Brack Tract the line continues South across different types of tillage for 10,300', until making an open water crossing of 750' on Sycamore Slough. The line exits and enters the water over improved levees. Maintaining it's Southerly direction the line transects the agrarian concerns of Terminus Tract for 20,500' before entering White Slough. The White Slough crossing is 1400' in length, over improved levees on either side and across open water except for a narrow tule island encountered in the center of the slough. On land again the line continues for 13,000' across the agriculture of King Island, making a 1700' water crossing over Disappointment Slough and entering Rindge Tract. This water crossing is over improved levees on either side and through a series of tule islands and berms. The line then continues across the agriculture of Rindge Tract for an additional 15,400', before making a 800' open water crossing over the San Joaquin River and entering Roberts Island. The line continues South over the horticulture of Roberts Island for 10,000' before ending as designated on the map.

SD 949: This line has a North to South orientation. It is 17.5 miles in length and located entirely in San Joaquin County. The line begins in the North on the West section line of section 12 T4N R6E, just South of the Mokelumne River. It continues to the South across vineyards and other agricultural concerns for 39,000', crossing Interstate Hwy 5 6000' South of the intersection of Hwy 5 and Hwy 12. It continues Southward over a variety of agriculture, crossing Bishop Tract and making a 400' water crossing on Disappointment Slough before entering Shilma Tract. The crossing is over improved levees and through open water and over a small tule island located in the center of the slough. Continuing for 7700' across the tillage of Shilma Tract the line makes a 400' open water crossing over Fourteen Mile Slough prior to entering Rindge Tract. The line then extends across Rindge Tract's agriculture for 4000' before again crossing Fourteenmile Slough and continuing onto the Wright Tract. The second Fourteenmile slough crossing is over improved levees, across open water and a tule island located in the center of the slough. Still heading South the line crosses the agriculture of Wright and Elmwood Tract for 8200'. It then makes a 700' open water crossing over the San Joaquin River before entering Roberts Island. The line extends 7100' across a variety of agriculture, crossing House Road 3300' East of it's intersection with Inland Drive. The line ends on Roberts Island 2200' South of House Road.

SD 950: This line has a Northeast to Southwest designation. It is 15.5 miles in length and located in San Joaquin and Sacramento counties. Beginning in the Northeast the line starts on the West side of Interstate Hwy 5 1400' North of it's intersection with Walnut Grove Road. The line heads to the Southwest across the agriculture of New Hope Tract for 15,700' making a 300' open water crossing over the South Mokelumne River and entering Staten Island. Transsecting the tillage of Staten Island for 18,200', the line then crosses the open water of the North Mokelumne River for 500' and enters Tyler Island. The line continues for 21,800' across a variety of Agriculture located on Tyler Island. The line then makes a 300' and 600' open water crossing of the Georgiana Slough, crossing 600' of land on Andrus Island in between. At this point the line continues Southwest for 1300' over the agriculture located on Tyler Island making a 600' open water crossing of the Georgiana Slough and entering Andrus Island. Once on Andrus Island the line extends across the various tillage for 7400', making a 400' crossing of Jackson Slough and extending an additional 11,400' across Brannan Island. The line leaves Brannan Island making a 1500' open water crossing on Sevenmile Slough and enters Twitchell Island. The line extends 8600' across the agriculture of Twitchell Island, ending on the East side of Threemile Slough 3600' South of it's intersection with Sevenmile Slough.

SD 949: This line has a North to South orientation. It is 17.5 miles in length and located entirely in San Joaquin County. The line begins in the North on the West section line of section 12 T4N R6E, just South of the Mokelumne River. It continues to the South across vineyards and other agricultural concerns for 39,000', crossing Interstate Hwy 5 6000' South of the intersection of Hwy 5 and Hwy 12. It continues Southward over a variety of agriculture, crossing Bishop Tract and making a 400' water crossing on Disappointment Slough before entering Shima Tract. The crossing is over improved levees and through open water and over a small tule island located in the center of the slough. Continuing for 7700' across the tillage of Shima Tract the line makes a 400' open water crossing over Fourteen Mile Slough prior to entering Rindge Tract. The line then extends across Rindge Tract's agriculture for 4000' before again crossing Fourteenmile Slough and continuing onto the Wright Tract. The second Fourteenmile slough crossing is over improved levees, across open water and a tule island located in the center of the slough. Still heading South the line crosses the agriculture of Wright and Elmwood Tract for 8200'. It then makes a 700' open water crossing over the San Joaquin River before entering Roberts Island. The line extends 7100' across a variety of agriculture, crossing House Road 3800' East of it's intersection with Inland Ddve.. The line ends on Roberts Island 2200' South of House Road.

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