November 23, 2004

MEMORANDUM TO: Daniel M. Gillen, Deputy Director
Decommissioning Directorate
Division of Waste Management
and Environmental Protection
Office of Nuclear Material Safety
and Safeguards

FROM: John Hickman, Project Manager /RA/
Decommissioning Directorate
Division of Waste Management
and Environmental Protection
Office of Nuclear Material Safety
and Safeguards

SUBJECT: SUMMARY OF THE NOVEMBER 3, 2004, MEETING BETWEEN THE NUCLEAR REGULATORY COMMISSION STAFF AND SACRAMENTO MUNICIPAL UTILITY DISTRICT REGARDING THE RANCHO SECO NUCLEAR GENERATING STATION LICENSE TERMINATION PLAN

On November 3, 2004, a public meeting was held at the Nuclear Regulatory Commission (NRC) offices between staff from the NRC, and Sacramento Municipal Utility District (SMUD) to discuss the hydrogeologic characterization plan related to SMUD's License Termination Plan (LTP) for the Rancho Seco Nuclear Generating Station.

SMUD discussed their current knowledge of the hydrogeologic characteristics of the site and their plans for further investigation. The licensee noted that no radionuclides above background have been identified to date in either on or off-site wells. The licensee also stated that they intend to submit the LTP in June of 2005.

The meeting attendance list and a copy of the slides used by the licensee for their presentation is attached. This meeting was noticed on October 20, 2004. No proprietary information was disseminated or presented at this meeting. No regulatory decisions were requested or made.

Docket No. 50-312

Attachments: Attendance List
Presentation Slides

cc: Service List

Attendees List for
Sacramento Municipal Utility District
Regarding Submittal of a License Termination Plan
For the Rancho Seco Nuclear Generating Station
November 3, 2004

Name	Organization
Einar Ronningen	Sacramento Municipal Utility District
Bob Jones	Sacramento Municipal Utility District
Leon Brown	Sacramento Municipal Utility District
Tom Cudzilo	URS Corporation
Claudia Craig	Decommissioning Directorate, NMSS, NRC
John Hickman	Decommissioning Directorate, NMSS, NRC
Sam Nalluswami	Decommissioning Directorate, NMSS, NRC

Rancho Seco Nuclear Generating Station Service List

cc:

Mr. James Shetler
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Sacramento Municipal Utility District
6201 S Street
P.O. Box 15830
Sacramento, CA 95852

Mr. Jerry Delezenski
QA/Licensing Superintendent
Sacramento Municipal Utility District
Rancho Seco Nuclear Station
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Herald, CA 95638-9799

Sacramento County
Board of Supervisors
700 H Street, Suite 2450
Sacramento, CA 95814

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Steve Cohn, Assistant General Counsel
Sacramento Municipal Utility District
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Sacramento, CA 95817-1899

Mr. Steve Hsu
Radiologic Health Branch
MS 7610
PO Box 997414
Sacramento, CA 95899-7414.

Mr. Ed Bailey, Radiation Program Director
Radiologic Health Branch
MS 7610
PO Box 997414
Sacramento, CA 95899-7414.

Commissioners' Office
California Energy Commission
1516 Ninth Street (MS 34)
Sacramento, CA 95814-5512

Site Document Control Supervisor
Sacramento Municipal Utility District
Rancho Seco Nuclear Generating Station
14440 Twin Cities Road
Herald, CA 95638-9799

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

Bill Potter, Coordinator (Radiological)
Governor's Office of Emergency Services
Radiological Preparedness Unit
P.O. Box 419047
Rancho Cordova CA 95741-9047


Rancho Seco Nuclear Generating Station
License Termination Plan
Meeting with NRC
November 3, 2004

Purpose of the Meeting

- Continue discussion on issues related to our LTP
- Review hydrogeologic characterization plan
- Obtain NRC feedback on proposed hydrogeologic characterization and monitoring well design and locations
- Discuss future interactions

Agenda

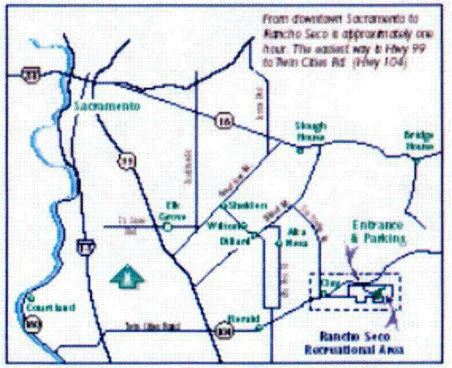
- Rancho Seco Features — Einar Ronningen
- Hydrogeologic characterization — Tom Cudzilo, PhD
- Dose Modeling Impacts — Leon Brown, CHP
- Future Meetings — Bob Jones

Rancho Seco Site Features

- 2,480 acre owner-controlled area
  - Industrial Area - 87 acres
  - ISFSI (site-specific 10 CFR Part 72 license) - 9/10 acre
  - Photovoltaic plant - 50 acres
  - 500 MWe gas-fired plant (under construction) - 30 acres
  - Rancho Seco switchyard is a major intertie with the Western Grid – six transmission lines and switchyard
  - 560 acre park with 160 acre-feet recreational lake
  - 100 acres are impacted
- SMUD will retain site ownership

Rancho Seco Property Map

1	Reactor Bldg	18	South Multiplex Bldg	33	Quinset Hut
2	Fuel Bldg	20	"A" Warehouse	34	West Cooling Tower
3	Auxiliary Bldg	21	Control Bldg	35	East Cooling Tower
4	Turbine Bldg	22	Fuel Station	36	Intake Structure
5	Training & Records Bldg	23	"B" Warehouse	37	Chlorine Bldg
6	Nuclear Service Electrical Bldg	24	NPS Metal Fab Shop	38	Water Treatment Plant
7	Central Alarm Station	25	Diesel Oil Tank	39	Offsite Whse
8	Cask Support Facility	26	Independent Spent Fuel Storage Installation	40	Landscaping Bldg
9	Electrical Fabrication Shop	27	Microwave Bldg	41	Offsite Receiving Whse
10	General Receiving & Shipping Whse	28	Interim Onsite Storage Bldg	42	Personnel Access Portal Bldg
11	"C" Warehouse	29	Retention Basin	43	Administration Bldg
12	SMUD Fab Shop	30	West Spray Pond, Valve House & Pump House	44	L & D Bldg
13	Tool Room Bldg	31	North Multiplex Bldg	45	Technical Support Bldg
14	Regenerated Hold-up Tanks	32	East Spray Pond, Valve House & Pump House	46	Photovoltaic Units
15	Transformer Yard			47	Future Site of Gas-fired Plant
17	Chemical Storage				

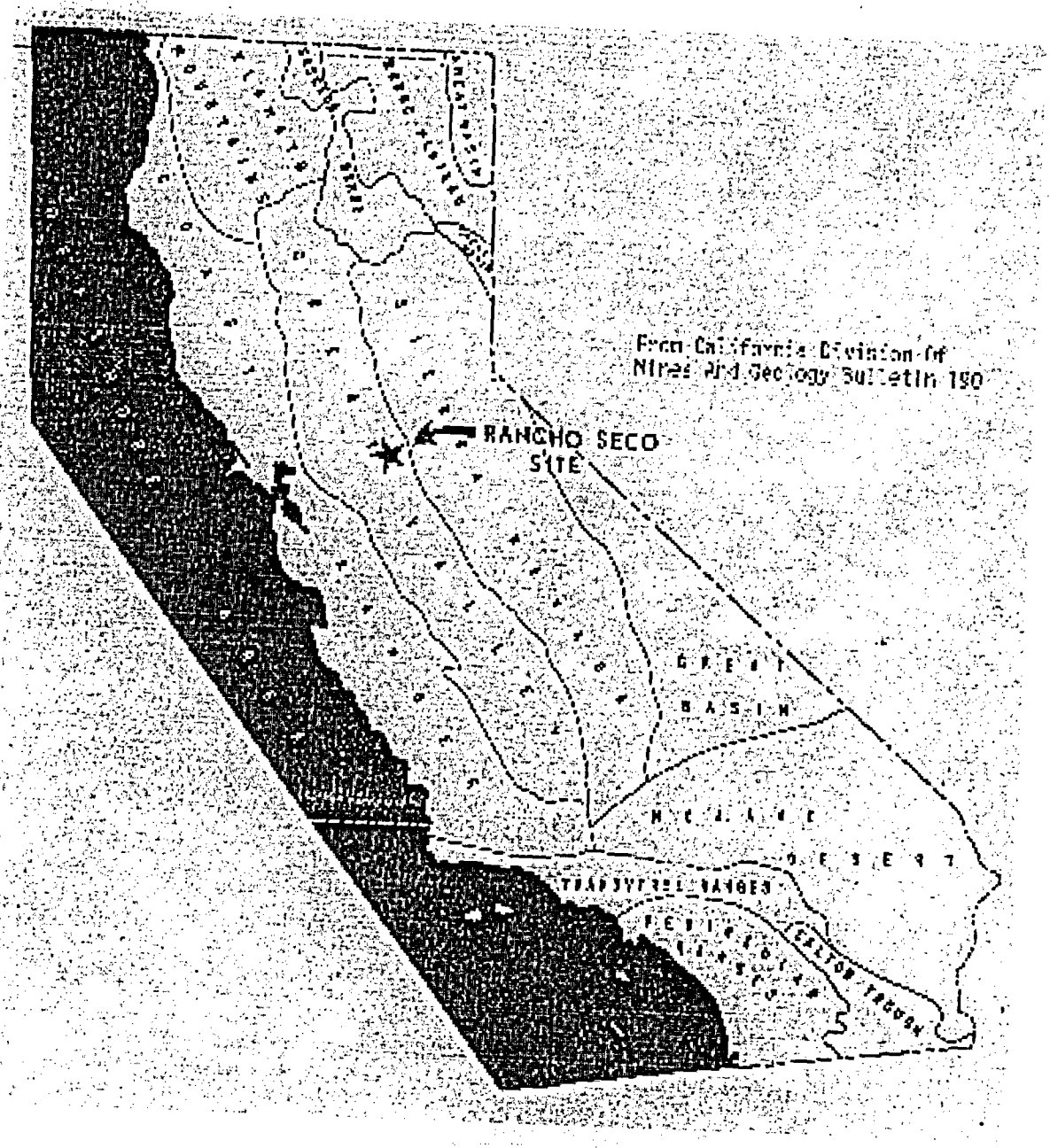


C01

C02

Rancho Seco Site Features, Cont.

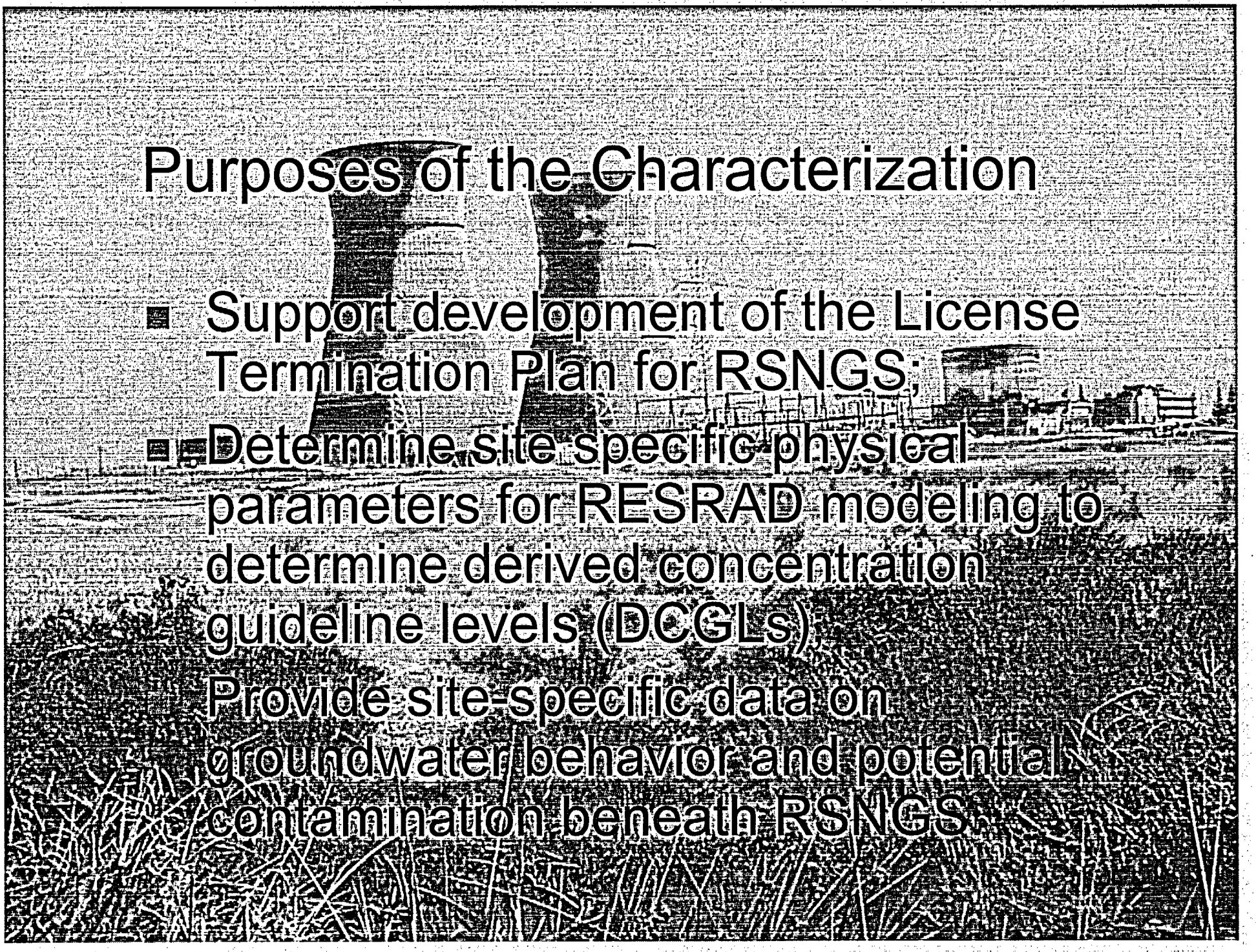
- Located on the Great Valley wedge of sedimentary rocks
  - Basement rocks stretch from Sierra Nevada east to Coast Ranges west
  - Accumulation of sediments deposited in trough
  - Up to 30,000 feet thick along trough axis but thin rapidly to the east
- Surface soil at the site underlain by alternating layers of sandstone and siltstone

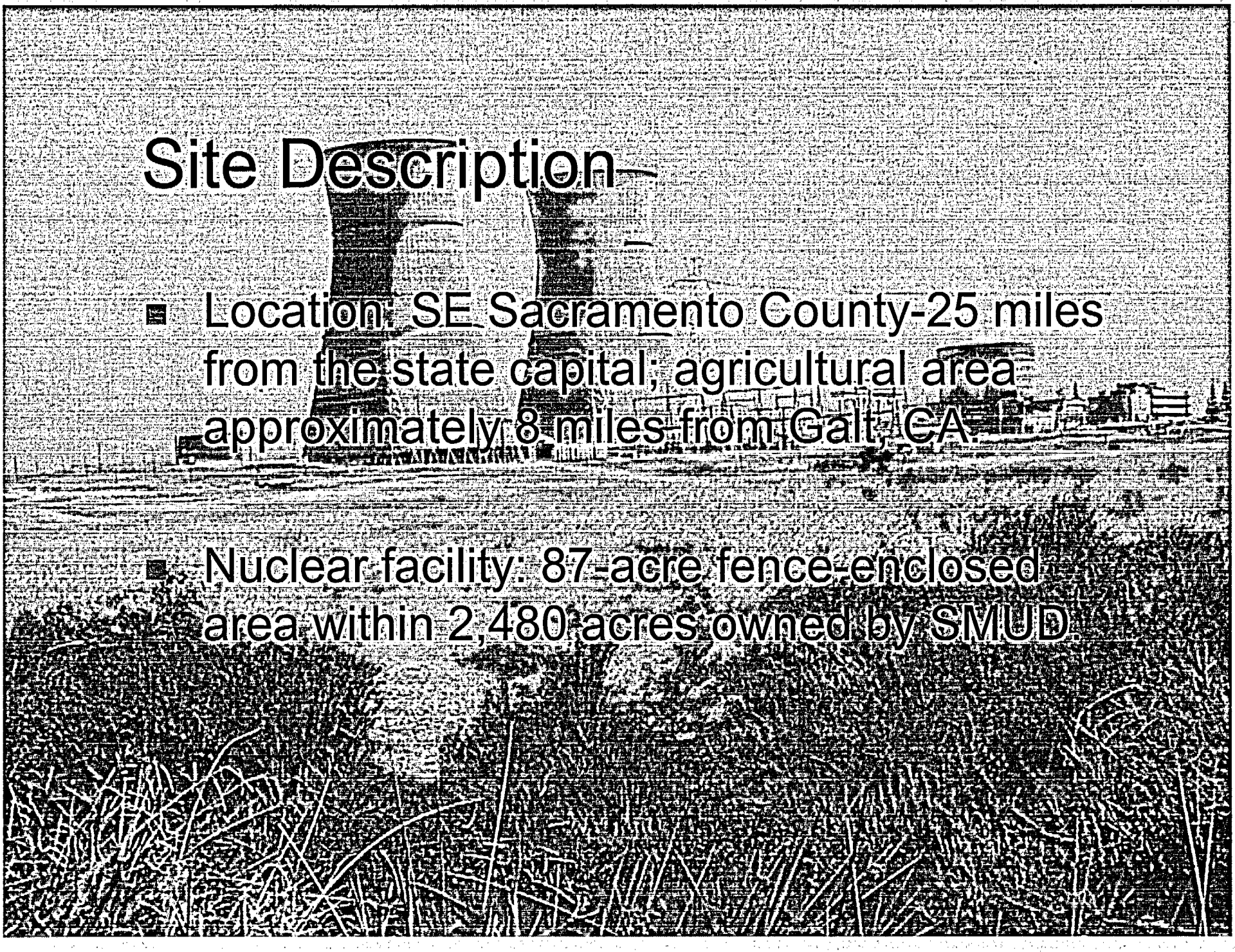

From California Division of
Mines and Geology Bulletin 190
RANCHO SECO
SITE
GREAT
BASIN
MOJAVE
DESERT
TRANSVERSE RANGES
PENINSULAR
RANGES
SALTON TROUGH

Rancho Seco Site Features, Cont.

- Industrial Area graded to elevation +165 ft
  - Required excavation of 10 to 20 feet of original surface soils
- Dry site (i.e., no major waterways nearby)
- Deep water table (140 – 160 feet below surface, very little recharge from local rainfall)

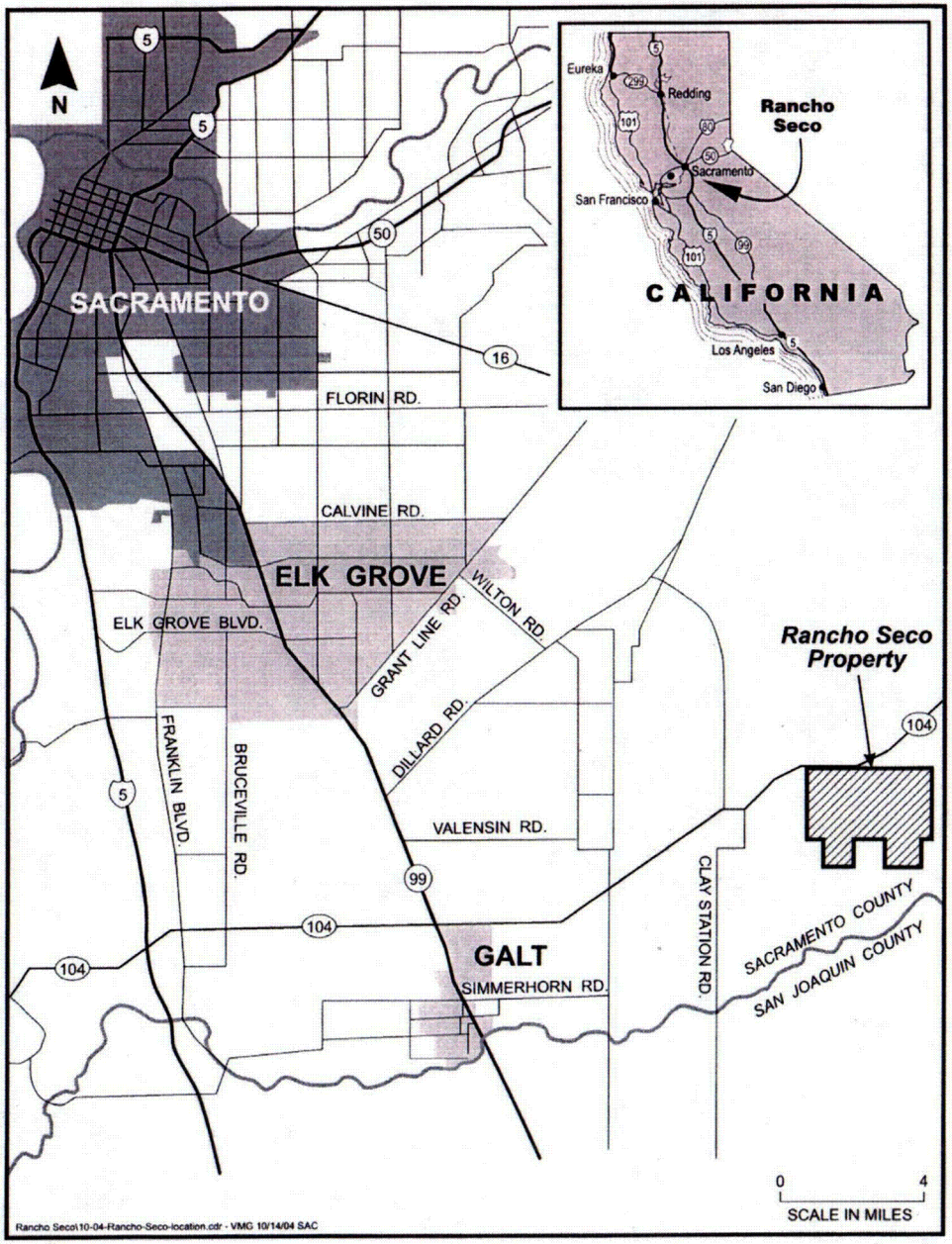
March 10, 1969 – Site Preparation, looking north at first rough grading cut into the turbine area


Purposes of the Characterization
Support development of the License Termination Plan for RSNGS;
Determine site-specific physical parameters for RESRAD modeling to determine derived concentration guideline levels (DCGLs)
Provide site-specific data on groundwater behavior and potential contamination beneath RSNGS



Site Description

- Location: SE Sacramento County-25 miles from the state capital; agricultural area approximately 8 miles from Galt, CA.
- Nuclear facility: 87-acre fence-enclosed area within 2,480 acres owned by SMUD.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5
50
16
SACRAMENTO
FLORIN RD.
CALVINE RD.
ELK GROVE
ELK GROVE BLVD.
GRANT LINE RD.
WILTON RD.
DILLARD RD.
FRANKLIN BLVD.
BRUCEVILLE RD.
VALENSIN RD.
99
104
104
104
GALT
SIMMERHORN RD.
CLAY STATION RD.
SACRAMENTO COUNTY
SAN JOAQUIN COUNTY
Rancho Seco
Property
0
4
SCALE IN MILES
Rancho Seco\10-04-Rancho-Seco-location.cdr - VMG 10/14/04 SAC
Eureka
Redding
Rancho
Seco
Sacramento
San Francisco
CALIFORNIA
Los Angeles
San Diego
5
299
101
80
50
99
101
5

C03

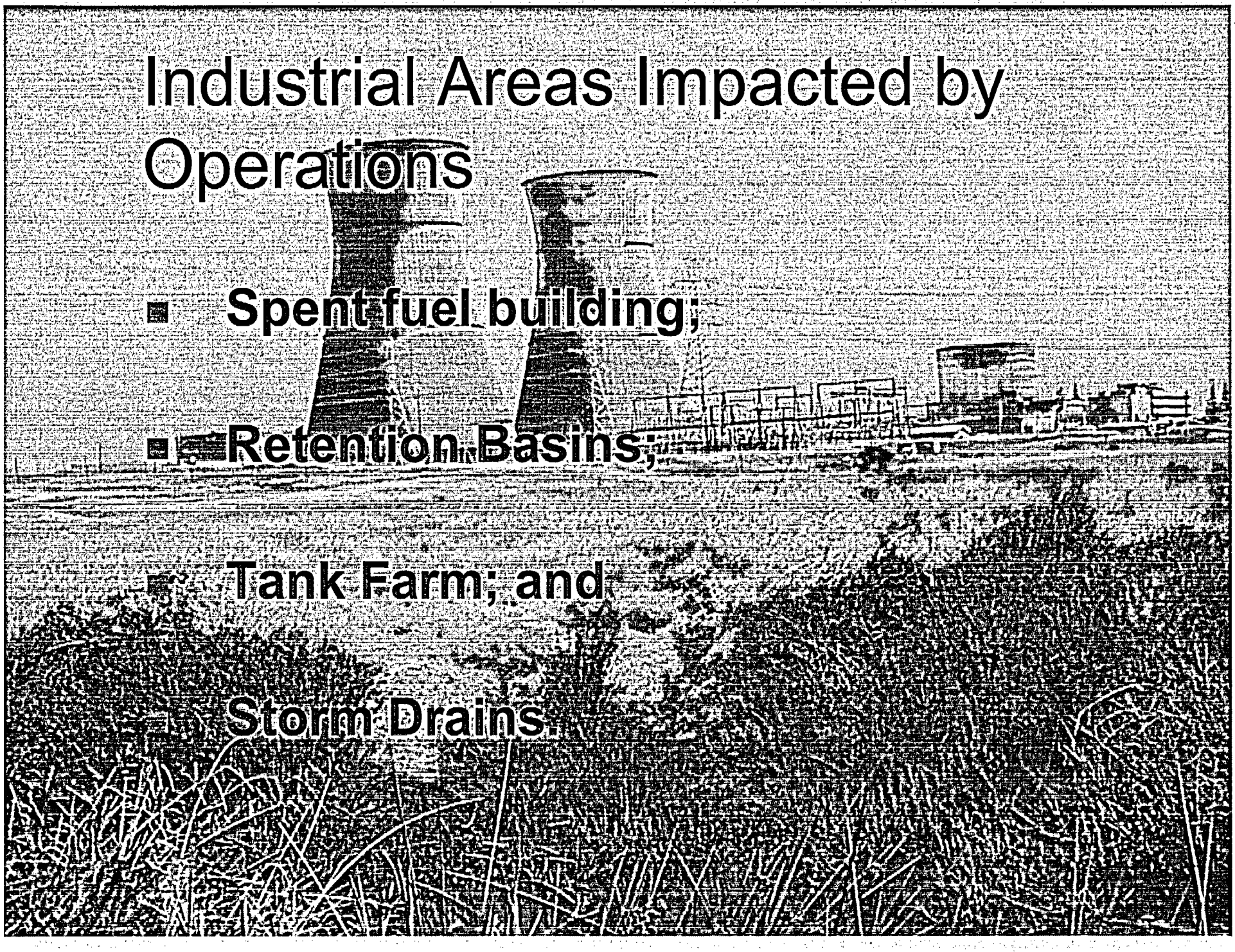
Site Demography

- Area is rural: principal uses outside of the site are grape production, row and silage crops, and cattle grazing
- Current population: 5,400 persons; 2025 estimated population 6,520.
- Eight miles west, City of Galt is growing rapidly. Expected 87% population increase by 2025.
- Six groundwater wells supply most water to Galt.

Topography/Meteorology

- Site surface elevation: 147 to 195 feet (mean sea level)
- Plant site 165 feet; well-drained; minimal danger of flooding.
- Climate: hot, dry summers and cool, wet winters.
- Average precipitation: 18" to 19" per year; average evapotranspiration: about 50" per year.

Industrial Areas Impacted by Operations

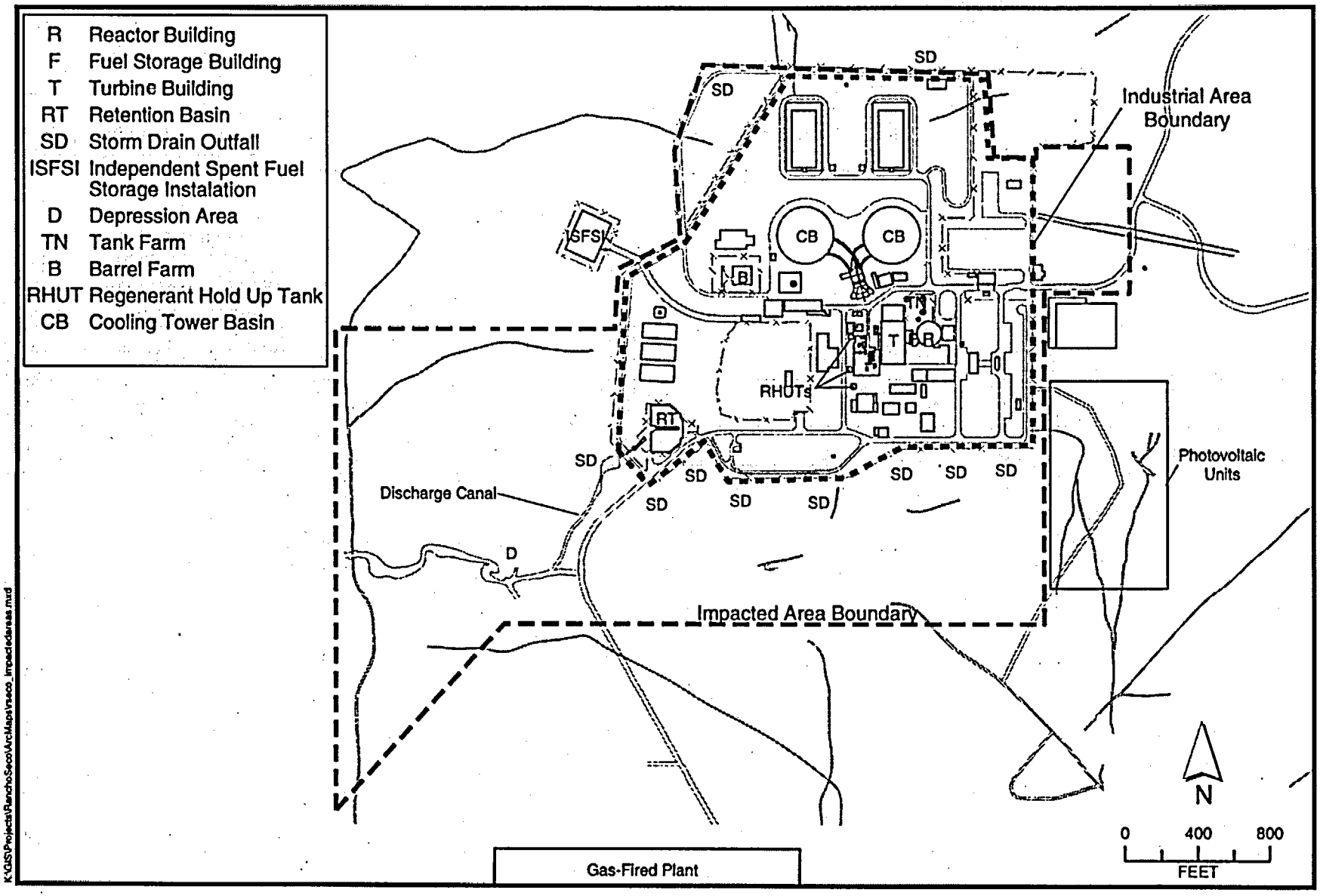


- Spent fuel building;
- Retention Basins;
- Tank Farm; and
- Storm Drains.

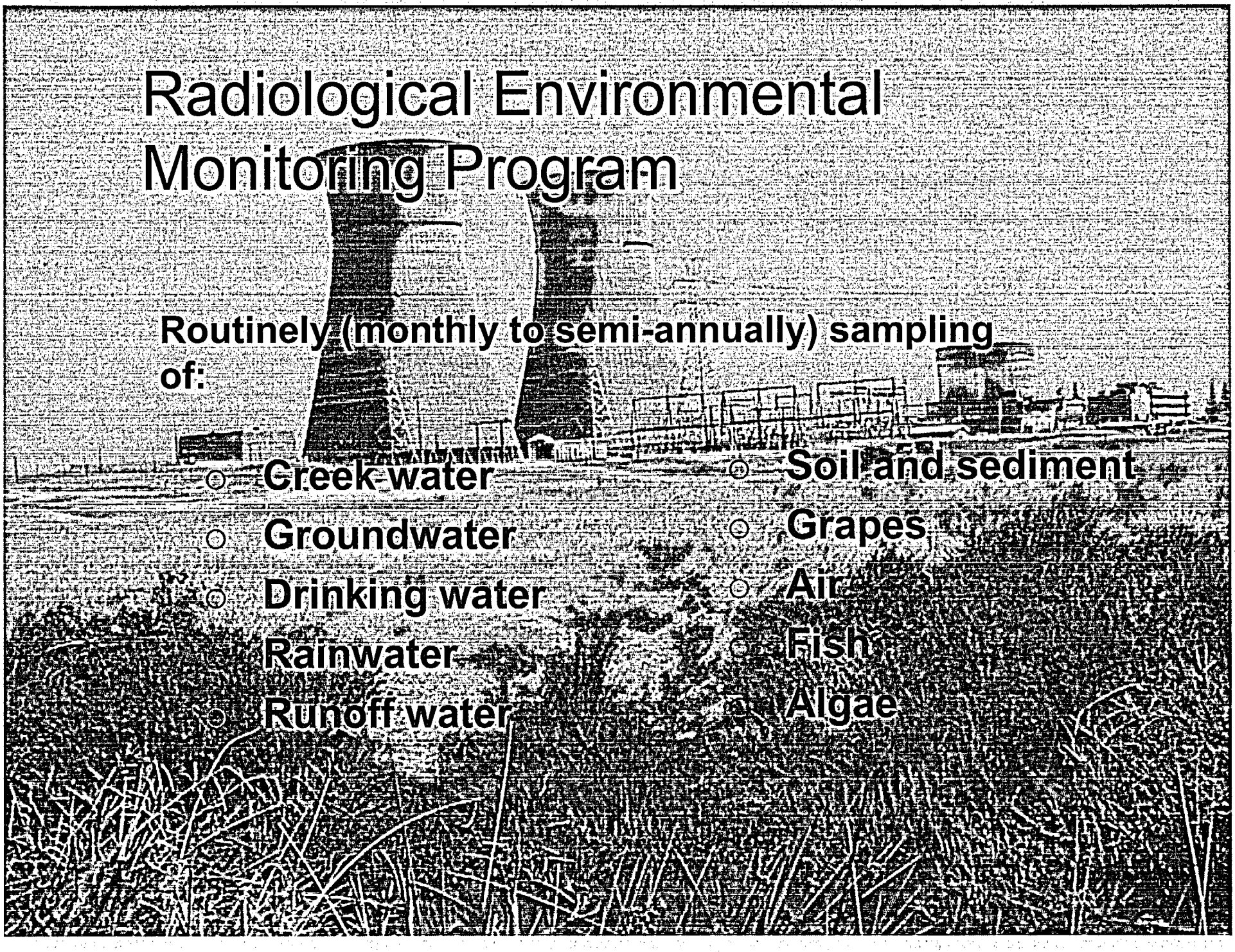
Non-industrial Areas Impacted by Operations

- Plant Discharge Canal sediment
- Soil adjacent to the canal/No-name creek
- Depression area soil from creek overflow
- Storm drain outlets from industrial area

RSNGS Impacted and Industrial Areas



Radiological Environmental Monitoring Program



Routinely (monthly to semi-annually) sampling of:

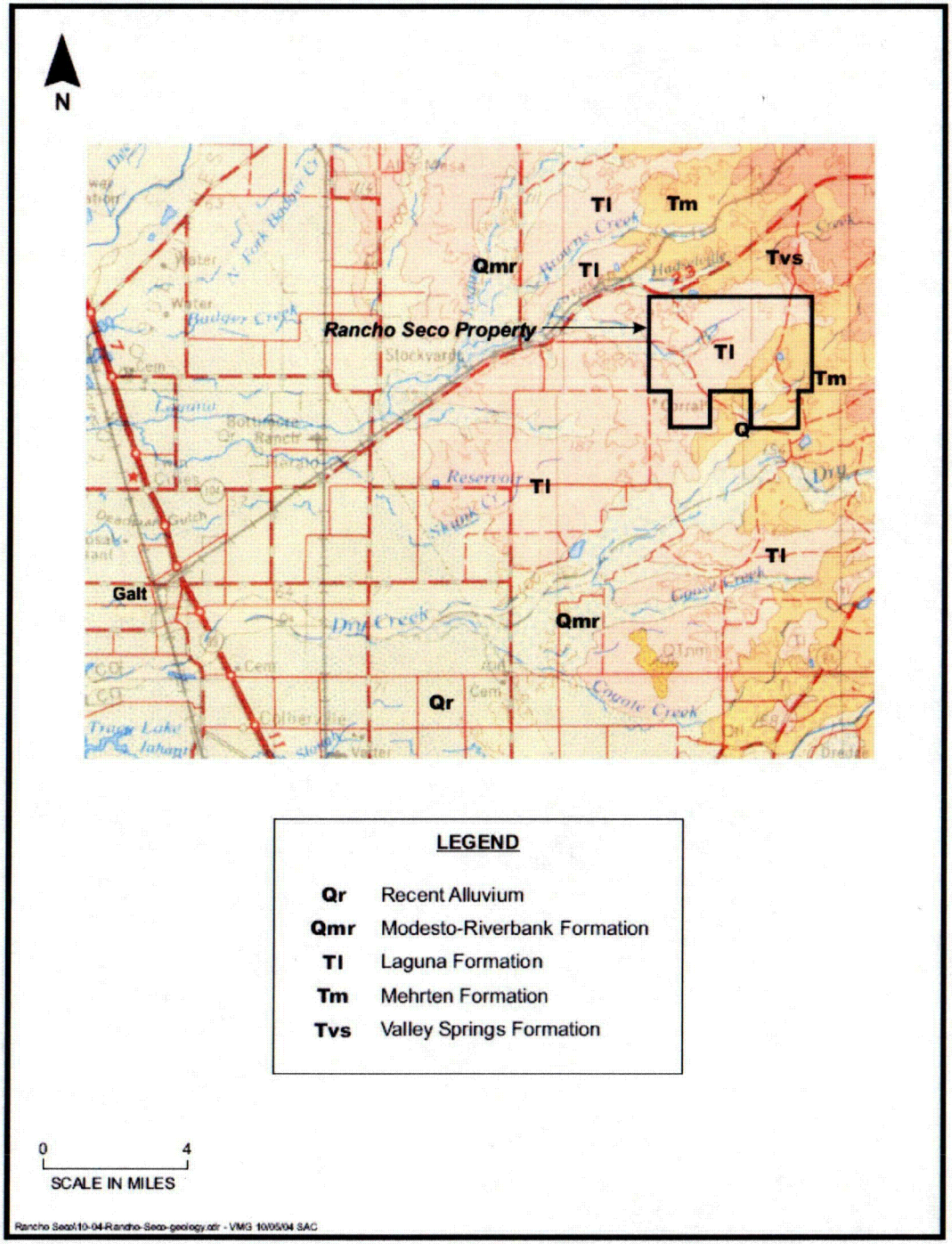
- Creek-water
- Groundwater
- Drinking water
- Rainwater
- Runoff water
- Soil and sediment
- Grapes
- Air
- Fish
- Algae

Previous Investigations

- Provide basis for site-specific hydrogeologic data
  - 1967 initial siting investigation drilling and sampling of 71 borings and one water supply well; one described boring penetrated 460 feet of groundwater
  - 1985 siting investigation for evaporation ponds; 10 soil borings; three monitoring wells constructed (two accessible)
  - Provided parameter data for near surface soils and aquifer samples

Geology

- Regional – RSNGS in the Central Valley sedimentary trough; approximately 2,000 feet of sediment rest on metamorphic rock basement.
- Semi-consolidated to unconsolidated sediments dip west and thicken westward into the sedimentary trough.
- Three rock units outcrop on the SMUD property and a fourth has been penetrated at depth.


N
Tl
Tm
Qmr
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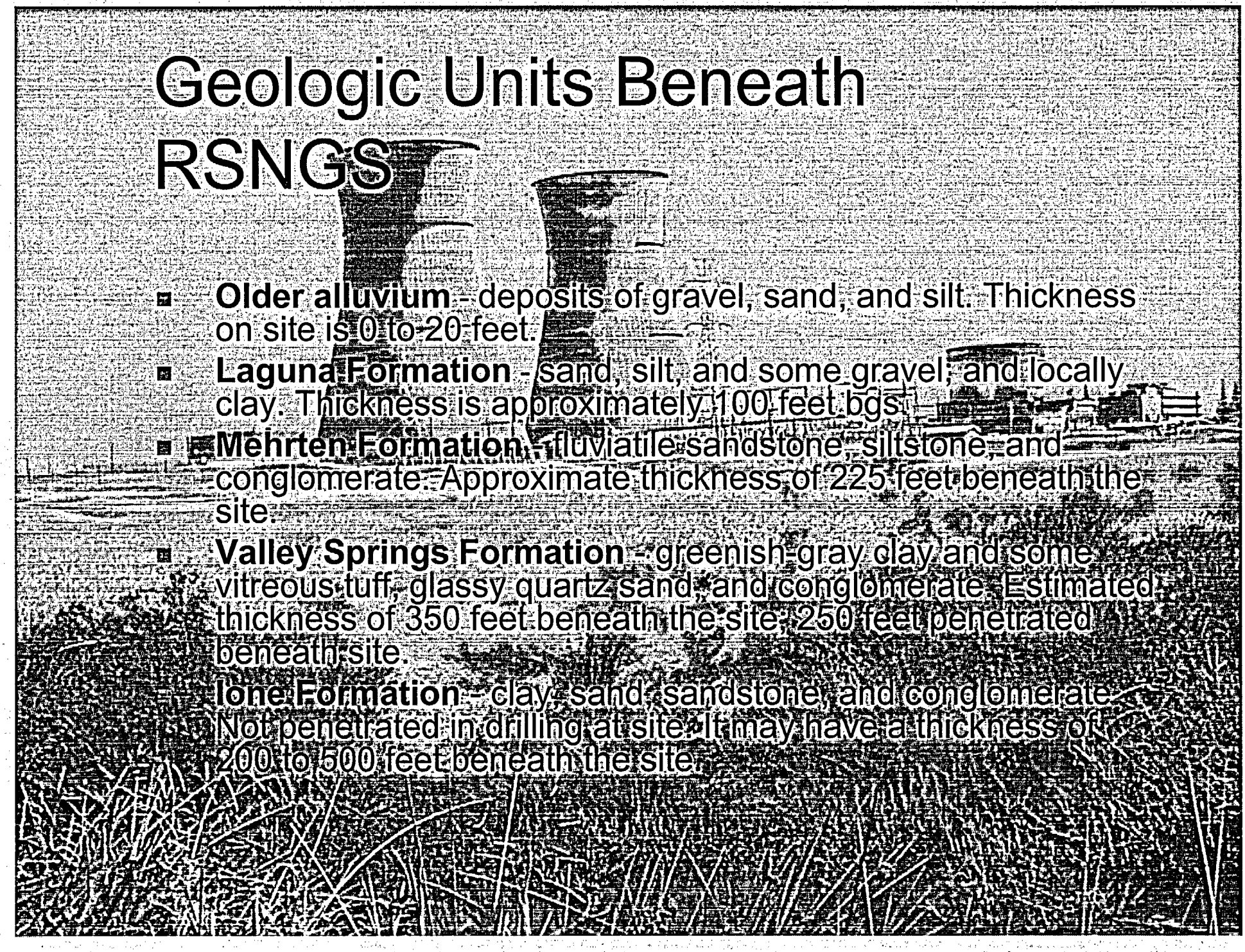
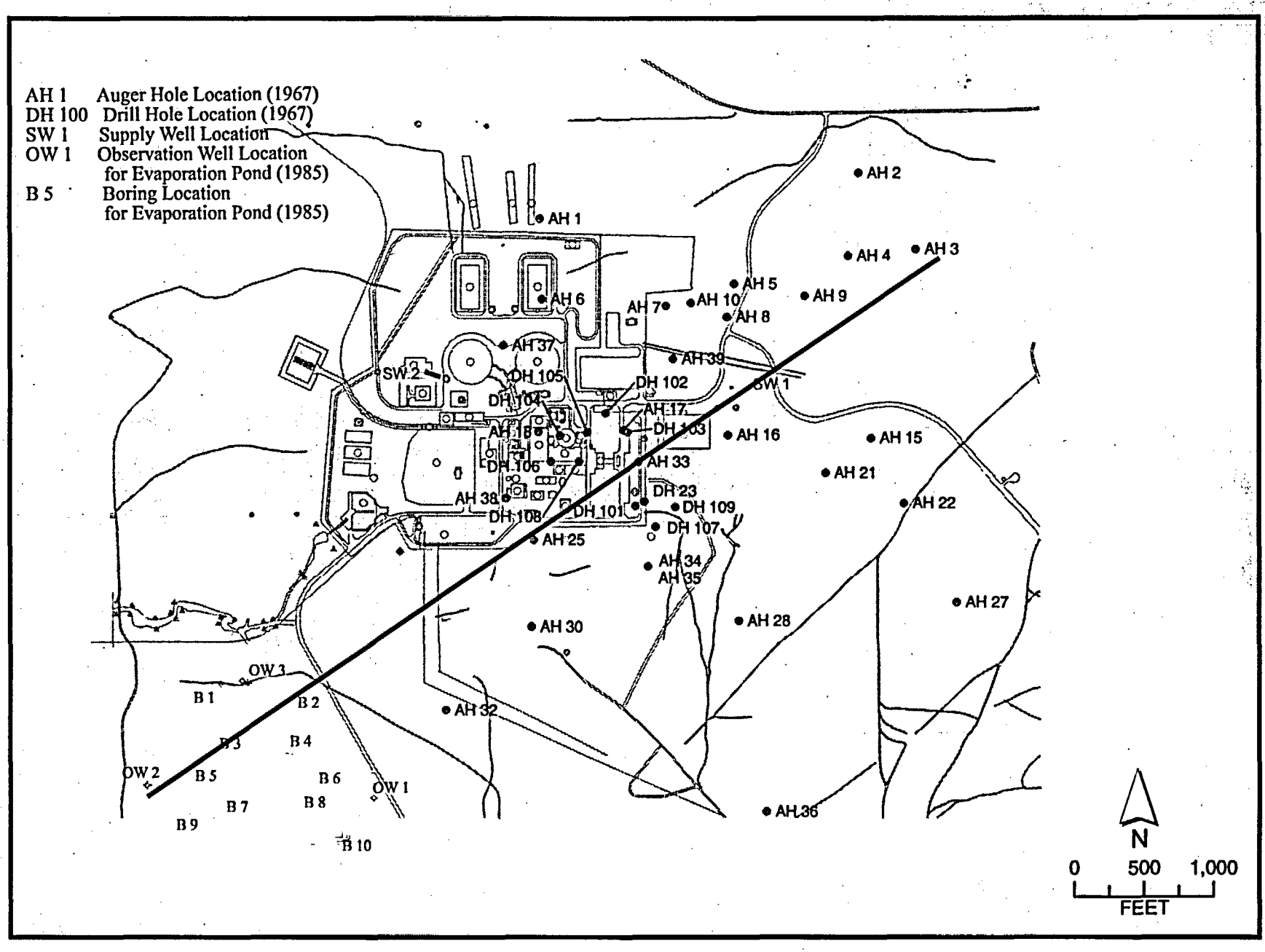
Rancho Seco Property
Tl
Tm
Q
Tl
Tl
Galt
Qmr
Qr
LEGEND
Qr Recent Alluvium
Qmr Modesto-Riverbank Formation
Tl Laguna Formation
Tm Mehrten Formation
Tvs Valley Springs Formation
0
4
SCALE IN MILES
Rancho Seco\10-04-Rancho-Seco-geology.cdr - VMG 10/05/04 SAC

C04

Geologic Units Beneath RSNGS



- **Older alluvium** - deposits of gravel, sand, and silt. Thickness on site is 0 to 20 feet.
- **Laguna Formation** - sand, silt, and some gravel; and locally clay. Thickness is approximately 100 feet bgs.
- **Mehrten Formation** - fluviatile sandstone, siltstone, and conglomerate. Approximate thickness of 225 feet beneath the site.
- **Valley Springs Formation** - greenish-gray clay and some vitreous tuff, glassy quartz sand, and conglomerate. Estimated thickness of 350 feet beneath the site; 250 feet penetrated beneath site.
- **Ione Formation** - clay, sand, sandstone, and conglomerate. Not penetrated in drilling at site. It may have a thickness of 200 to 500 feet beneath the site.


AH 1 Auger Hole Location (1967)
DH 100 Drill Hole Location (1967)
SW 1 Supply Well Location
OW 1 Observation Well Location for Evaporation Pond (1985)
B 5 Boring Location for Evaporation Pond (1985)
AH 1
AH 2
AH 3
AH 4
AH 5
AH 6
AH 7
AH 8
AH 9
AH 10
AH 15
AH 16
AH 17
AH 21
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AH 34
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DH 101
DH 102
DH 103
DH 104
DH 105
DH 106
DH 107
DH 108
DH 109
DH 23
SW 1
SW 2
OW 1
OW 2
OW 3
B 1
B 2
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B 4
B 5
B 6
B 7
B 8
B 9
B 10
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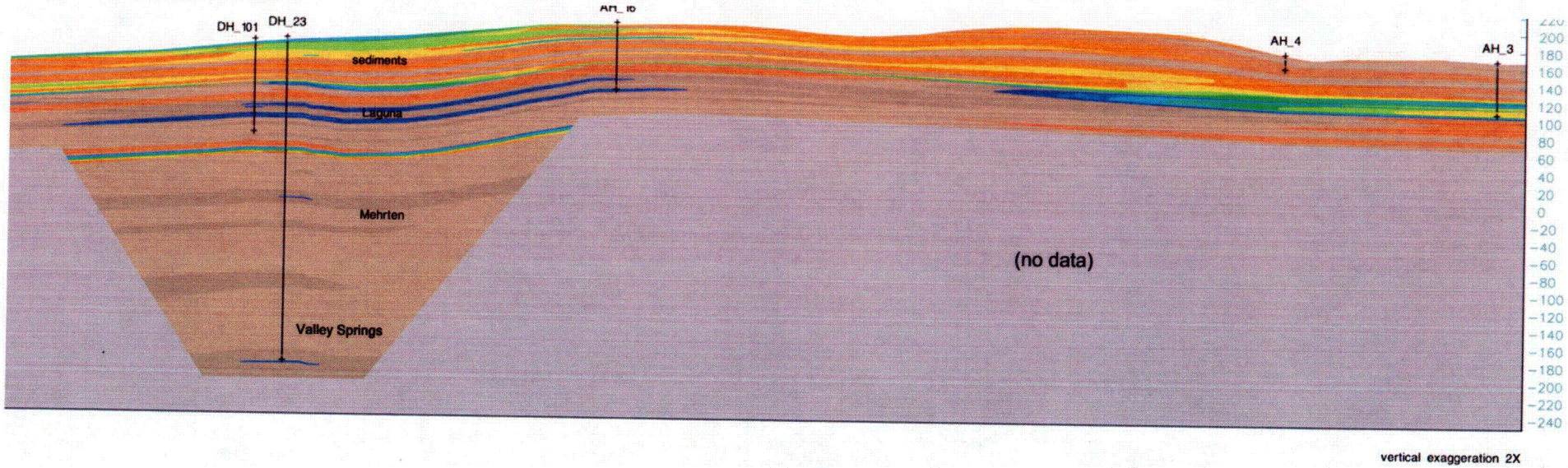
FEET

Legend

- conglomerate
- sandstone
- siltstone
- claystone
- gravel
- sand
- silt
- clay



Legend

- conglomerate
- sandstone
- siltstone
- claystone
- gravel
- sand
- silt
- clay

COG

Hydrology

- Regionally, recharge to the groundwater occurs primarily by the infiltration of surface water along the active channels of streams and by deep percolation of applied irrigation water.
- Runoff from the site drains into the seasonal "No Name" Creek, which is tributary to Clay Creek, which empties into Hadselville Creek, tributary of the San Joaquin River.
- Direct recharge on RSNGS is limited by low annual rainfall and low permeability of 0.07 to 0.08 inches per hour, and water table at 150 feet.

Hydrogeology 1

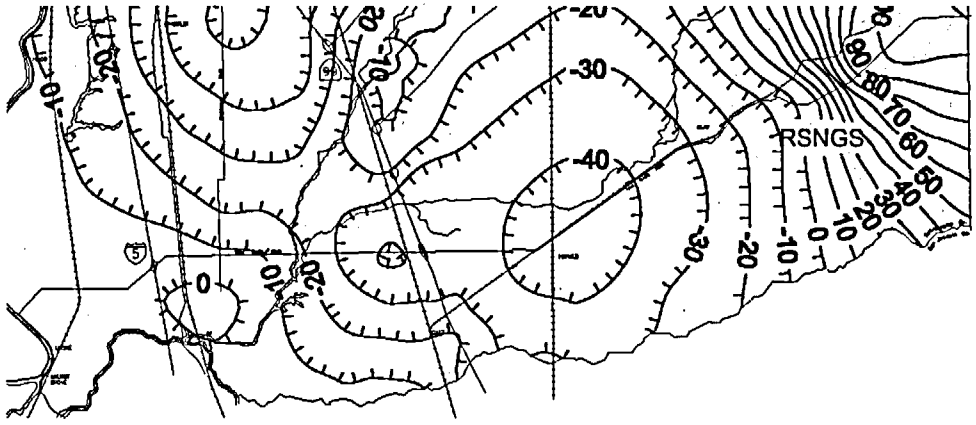
- Cosumnes Subbasin of the San Joaquin Valley Groundwater Basin filled with unconsolidated and semi-consolidated sedimentary deposits between the Cosumnes River and the Mokelumne River.
- All of the sedimentary deposits in the Cosumnes Subbasin, and probably the basement rocks if they are fractured, may contain groundwater.
- The upper groundwater surface beneath the site now occurs at approximately 150 feet in the sediments of the Mehrten Formation.

Hydrogeology 2

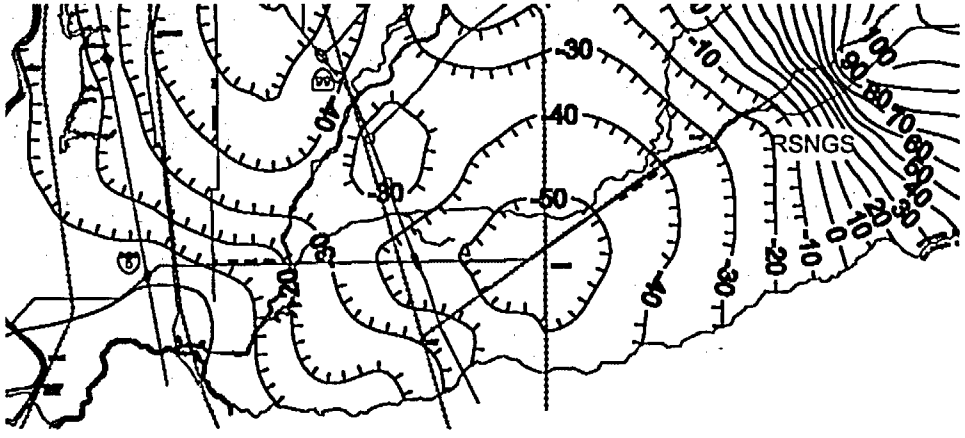
- Regionally, the Mehrten Formation is known to yield large volumes of water to wells.
- Beneath the site, the Mehrten Formation consists of siltstones and claystones with lower hydraulic conductivity values (10^{-7} centimeters per second [cm/sec] to 10^{-4} cm/sec) from permeability tests than the typical Mehrten Formation. On-site well produced 300 gallons per minute from Mehrten (156-400 feet deep)
- Valley Springs and Ione Formations are small yield aquifers because of low hydraulic conductivity values caused by claystone and siltstone layers

Hydrogeology 3

- In Cosumnes Subbasin, groundwater flows westerly;
- For at least 40 years - groundwater depression in the Galt area caused by agricultural wells.
- Contours on 2003 groundwater surface figures show flow west/southwest from RSNGS.
- Long-term hydrographs – water levels declined 20 to 40 feet mid-60s to 1980, recovered 10 to 15 feet from 1980 to 1986, have stabilized except in drought periods.
- Water in Laguna and Mehrten is naturally good quality, sodium bicarbonate type, TDS <200 mg/L



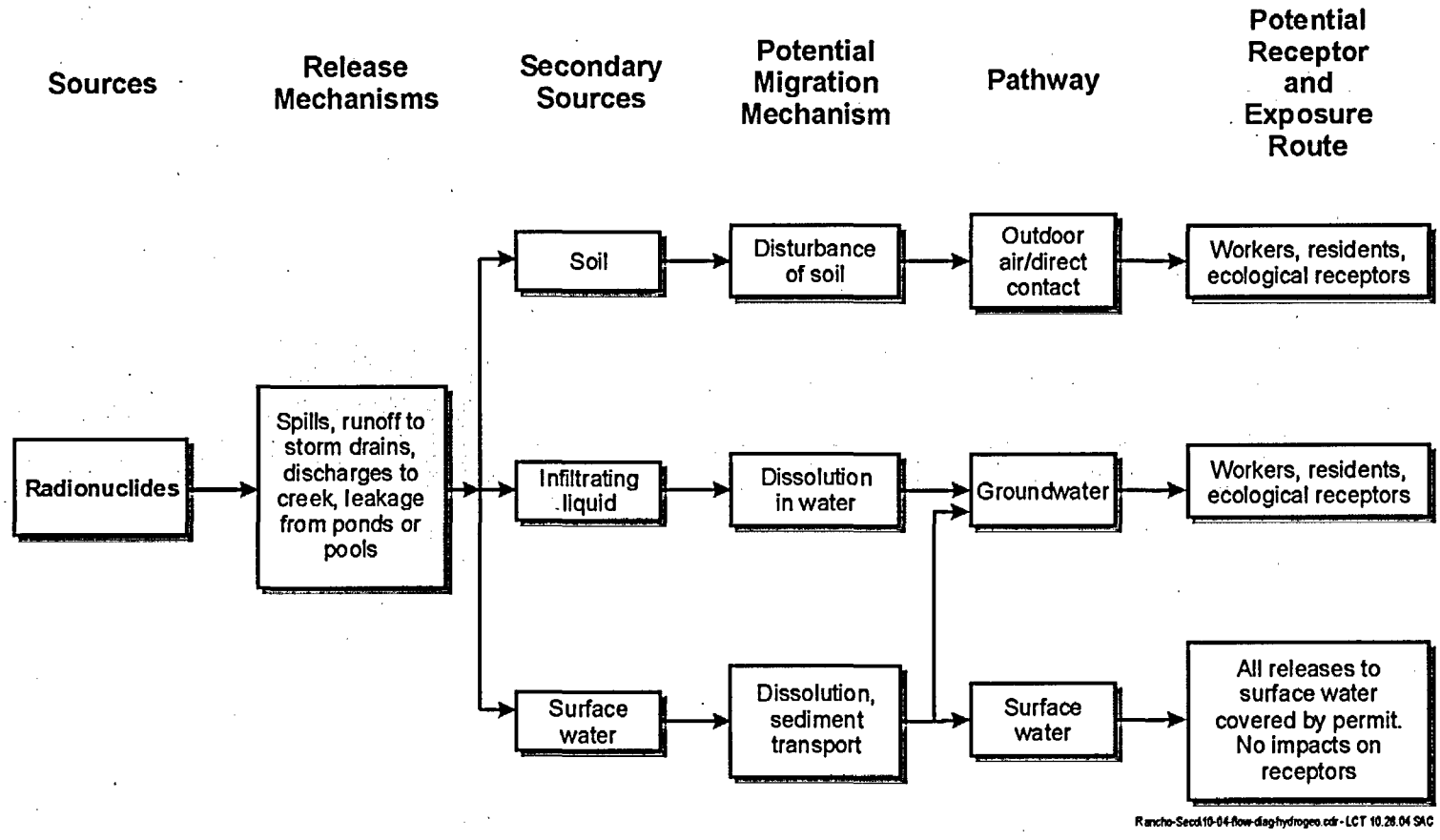
Groundwater Levels Southern Sacramento County
Spring 2003



Groundwater Levels Southern Sacramento County
Fall 2003

Hydrogeological Conceptual Site Model

- Hydrogeological CSM addresses the potential migration of site contamination through the subsurface to potential receptors on and off site.
- Next figure illustrates the components of the hydrogeological CSM.


Sources
Release Mechanisms
Secondary Sources
Potential Migration Mechanism
Pathway
Potential Receptor and Exposure Route
Radionuclides
Spills, runoff to storm drains, discharges to creek, leakage from ponds or pools
Soil
Infiltrating liquid
Surface water
Disturbance of soil
Dissolution in water
Dissolution, sediment transport
Outdoor air/direct contact
Groundwater
Surface water
Workers, residents, ecological receptors
Workers, residents, ecological receptors
All releases to surface water covered by permit. No impacts on receptors
Rancho-Seco\10-04-flow-diag-hydrogeo.cdr - LCT 10.28.04 SAC

RESRAD Model

- RESRAD modeling to determine DCGLs will require that the site hydrogeology be described in terms of physical parameters.
- Each zone used in the model will require site-specific values for the following parameters as described in the *Data Collection Handbook To Support Modeling Impacts Of Radioactive Material In Soil (Yu and others, 1993).*
- Following tables list the modeling parameters and site-specific data availability.

Information Requirements for RESRAD Modeling for RSGNS		
Parameter or Data Need	**RSGNS Data Availability**	**Adequacy Rating**
Soil dry bulk density	39 measurements	Inadequate; samples from limited area
Soil total porosity	15 measurements	Inadequate; samples from one boring
Effective porosity	No data; calculated from other parameters	Inadequate
Hydraulic conductivity	8 in unsaturated zone; 23 in saturated zone	Inadequate; no data below 200 feet
Volumetric water content	71 measurements	Adequate
Soil exponential *b* parameter	No data	Can be obtained from other parameters
Hydraulic gradient - horizontal	No data	Inadequate
Hydraulic gradient - vertical	No data	Inadequate
Water table drop rate	Data from existing subbasin wells	Adequate
Thickness of uncontaminated, unsaturated zones	Combined zones are approximately 150 feet thick	Inadequate
Potentiometric surface maps	No data on site	Inadequate
Groundwater flow paths	No data	Can be estimated with hydraulic gradients
Climatic, land use, and recharge impacts	Data available for subbasin	Adequate
Surface water impacts on groundwater	No data; groundwater 150 feet below surface	Inadequate onsite along No Name creek and downstream
Rate of groundwater movement	Limited data to perform calculation	Inadequate for entire aquifer; obtained from hydraulic conductivity and gradient
Rate of contaminant transport	No data	Inadequate if contaminants are present; calculated from rate of groundwater movement
Radionuclide presence and extent	Limited data for soil or groundwater	Inadequate
K_d Partitioning coefficient	No data	To be derived with probabilistic calculations in RESRAD

Data for Wells On-Site and Downgradient from RSNGS

Well ID	Total Depth (ft bgs)	Screen Interval (ft.bgs)	Water Use	Monitored by SMUD
11 Site well (SW-1)	410	156-400	RSNGS	Yes
12 Marciel Ranch	250	NA	Domestic	Yes
13 Clay Cattle Feedlot	NA	NA	Commercial	Yes
14 Tiplings-Clay Area	175	NA	Domestic	Yes
49 Vineyard Well	785	NA	Irrigation	Yes
8 Silva Feedlot Well	NA	NA	Commercial	Yes
OW-1	187.8	172.7-182.7	None	No
OW-2	183	168.2-177.2	None	No
OW-3	192.9	176.8-187.2	None	No

Conclusions 1

- Past investigations provide limited hydrogeologic data for RSNGS.
- Following are questions to be answered relative to site hydrogeology:
  - Have any contaminants from the site entered soils in the unsaturated zone, making the soil a secondary source?
  - Are any contaminants susceptible to secondary release from soil, allowing them to migrate vertically to groundwater?

Conclusions 2

- Have any contaminants from the RSNGS migrated to the saturated zone and started to migrate downgradient?
- What are the horizontal and vertical hydraulic gradients beneath the site that would determine the migration pathway of contaminants?
- Is any on-site well or off-site well capable of diverting the flow of groundwater or contaminants because of its pumping rate and pumping frequency?
- Are there any subsurface deposits (e.g., sands, gravels, sandstones, conglomerates) that offer the potential for a faster migration rate that have not been identified in subsurface investigations?

Conclusions 3

- What are the hydraulic conductivities of subsurface deposits beneath the site that would, along with hydraulic gradient, determine the velocity of contaminant migration?
- What is the range of the physical parameters for unsaturated and saturated materials that strongly influence the migration of contaminants to groundwater and in the aquifer?
- Are the data that show no radiological contamination in samples from water supply wells monitored by Rancho Seco actually representative of the quality of groundwater leaving the site?

To address these questions, hydrogeological data collection actions are presented in the next section.

Actions

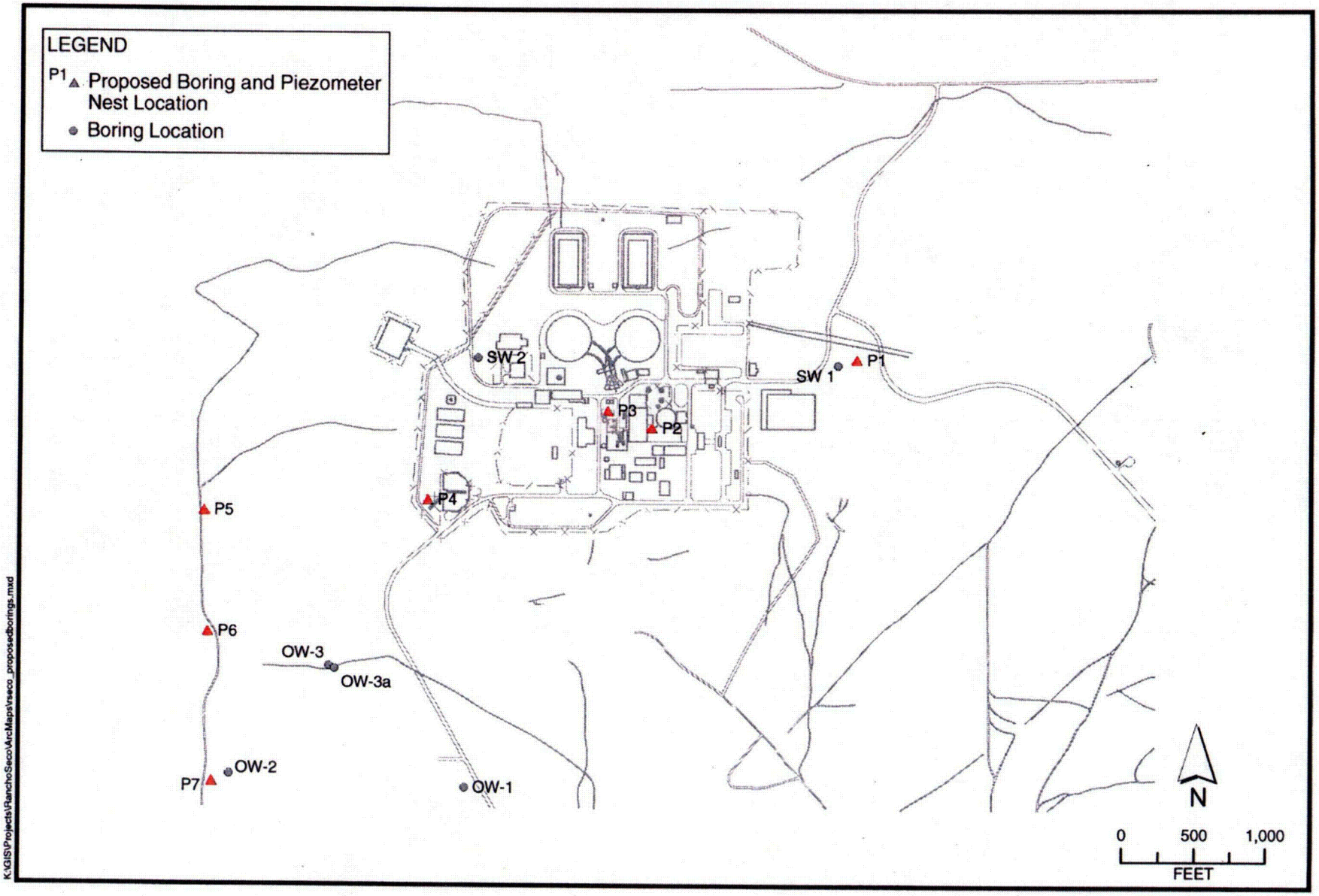
Data collection actions for RSNGS hydrogeologic characterization:

- Borings. Drill six borings (approximately 400 feet deep) and a seventh to 160 feet to obtain information on the subsurface geology of the unsaturated zone and the aquifer, obtain samples for measuring physical parameters, and select depths at which to install piezometer/monitoring points at each location.
  - During drilling, obtain a geological description of soil and rock over the entire drill depth, core selected intervals to obtain samples at approximately five depths for physical parameter measurements, and obtain geophysical logs of each boring to aid in correlating the stratigraphic units.
  - Boring P1 is a "background" location at which groundwater should not have been affected by the site.
- Piezometer clusters. With the geological and geophysical information obtained, select approximately three depths in each boring at which to install a piezometer to measure water levels and collect samples for contaminant analysis.

Actions 2

- Collect water samples for the analysis of radionuclides and boron from each of the piezometers installed in the six locations.
- Collect water-level measurements monthly in all on-site piezometers to evaluate horizontal and vertical gradients and flow directions and changes resulting from additional recharge and supply well operation.
- Update the hydrogeologic CSM with the new information.
- Depending on the results, additional wells may be installed on site to obtain samples for physical parameter analyses and to answer questions relating to any groundwater contamination.

Proposed Cluster Well Descriptions, Sampling, and Rationale			
Proposed Location Identification (see Figure 4-1)	Piezometers in the Cluster	Sampling	Rationale
P1	3	Groundwater: radionuclides and boron - sample in three successive quarters; then decide on need for additional sampling	East of SW-1 Obtain parameters for mathematical modeling. Establish background concentrations; Monitor static water levels at three depth intervals; Monitor water levels when SW-1 is pumping at three depth intervals;
P2	3	Soil: dry bulk density, total porosity, hydraulic conductivity Groundwater: radionuclides and boron - sample in three successive quarters; then decide on need for additional sampling	West of Turbine Building. Obtain parameters for mathematical modeling. Determine if contaminants are entering groundwater, at reactor turbine building, fuel storage building Monitor water levels at three depth intervals
P3	3	Soil: dry bulk density, total porosity, hydraulic conductivity Groundwater: radionuclides and boron - sample in three successive quarters; then decide on need for additional sampling	Southwest of the reactor/ fuel storage building, near the transformer yard Obtain parameters for mathematical modeling Determine if contaminants are entering groundwater, at reactor turbine building, fuel storage building Monitor water levels at three depth intervals
P4	1	Soil: dry bulk density, total porosity, hydraulic conductivity Groundwater: radionuclides and boron - sample in three successive quarters; then decide on need for additional sampling	West of Retention Basins Obtain parameters for mathematical modeling; Determine if contaminants are entering groundwater from leakage of discharge retention basins Monitor water levels at one depth interval


LEGEND
P1 Proposed Boring and Piezometer Nest Location
Boring Location
SW 2
SW 1
P1
P3
P2
P4
P5
P6
OW-3
OW-3a
P7
OW-2
OW-1
N
0
500
1,000
FEET
K:\GIS\Projects\RanchoSeco\ArcMaps\rseco_proposedborings.mxd

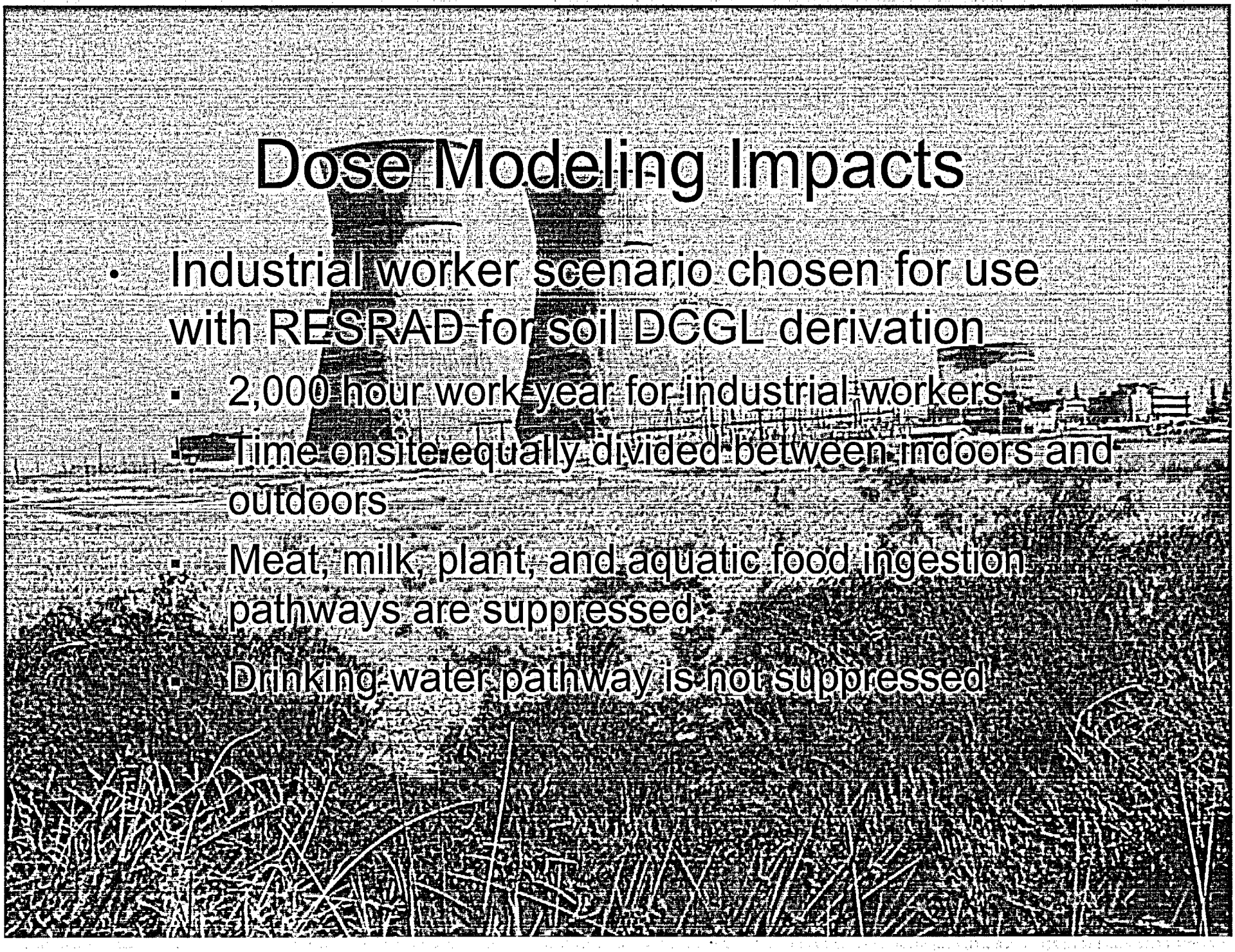
C07

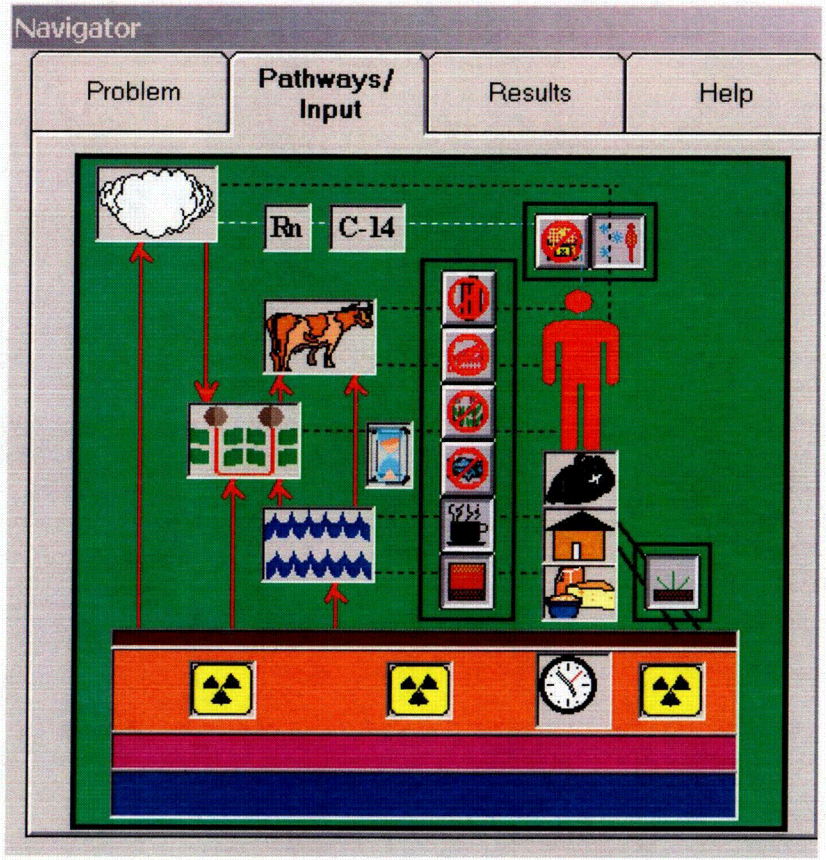
Proposed Cluster Well Descriptions, Sampling, and Rationale
continued

P5	3	Groundwater: radionuclides and boron - sample in three successive quarters; then decide on need for additional sampling	Near western property boundary, 200 feet north of No-name creek; Determine if contaminants are migrating from upgradient sources Monitor water levels at three depth intervals
P6	3	Groundwater: radionuclides and boron - sample in three successive quarters; then decide on need for additional sampling	Near western property boundary, 100 feet south of No-name creek Determine if contaminants are migrating from upgradient sources Monitor water levels at three depth intervals
P7	2	Groundwater: radionuclides and boron - sample in three successive quarters; then decide on need for additional sampling	Near western property boundary, adjacent to OW-2 Determine if contaminants are migrating from upgradient sources Monitor water levels at two depth intervals here and one in OW-2

Dose Modeling Impacts

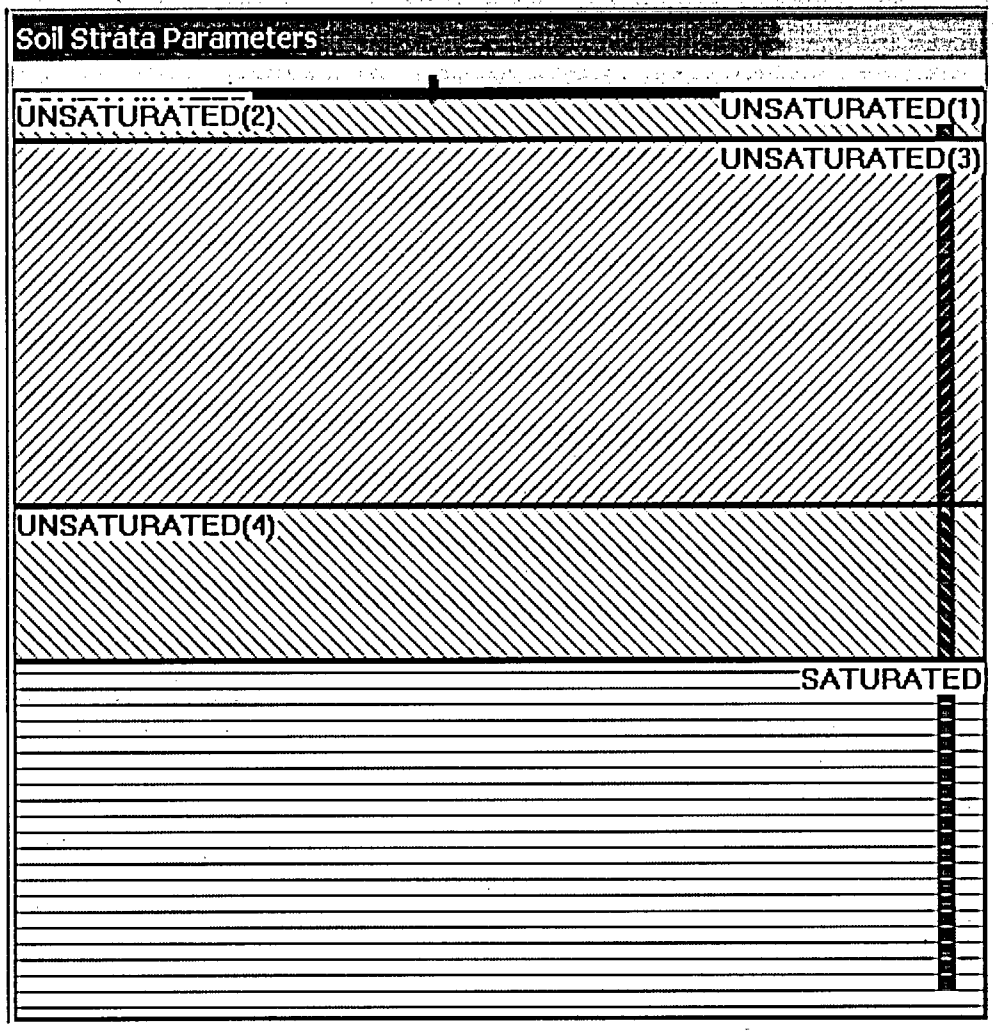
- Industrial worker scenario chosen for use with RESRAD for soil DCGL derivation
  - 2,000 hour work year for industrial workers
  - Time onsite equally divided between indoors and outdoors
  - Meat, milk, plant, and aquatic food ingestion pathways are suppressed
  - Drinking water pathway is not suppressed




Navigator
Problem
Pathways/ Input
Results
Help
Rn
C-14

Dose Modeling Impacts, Cont.

- Simplified mathematical model developed for preliminary use with RESRAD
  - 15 cm layer of contaminated silt
  - 1 ft (0.3 m) silt unsaturated zone
  - 10 ft (3 m) of fine sandy soil unsaturated zone
  - 84 ft (25.6 m) thick siltstone unsaturated zone
  - 35½ ft (10.8 m) thick sandstone unsaturated zone
  - Sandstone saturated zone
  - Well pump intake 100 ft (30 m) below top of saturated zone (i.e., 235 ft (71.6 m) below soil surface)


Soil Strata Parameters
UNSATURATED(2)
UNSATURATED(1)
UNSATURATED(3)
UNSATURATED(4)
SATURATED

Dose Modeling Impacts, Cont.

- Hydrogeologic characterization results may impact preliminary mathematical model
  - Look-up values for physical hydrogeological parameters will be replaced with measured values
  - May revise thickness, composition, and number of unsaturated zones
  - Could have little impact on calculated DCGL values
    - Industrial worker scenario has drinking water as the only waterborne exposure pathway
- Parameter sensitivity analysis will need repeating

Future Meeting Topics

- Historical Site Assessment and Site Characterization
- Dose Modeling Approach
- Final Status Survey Program
- NRC visit to Rancho Seco site