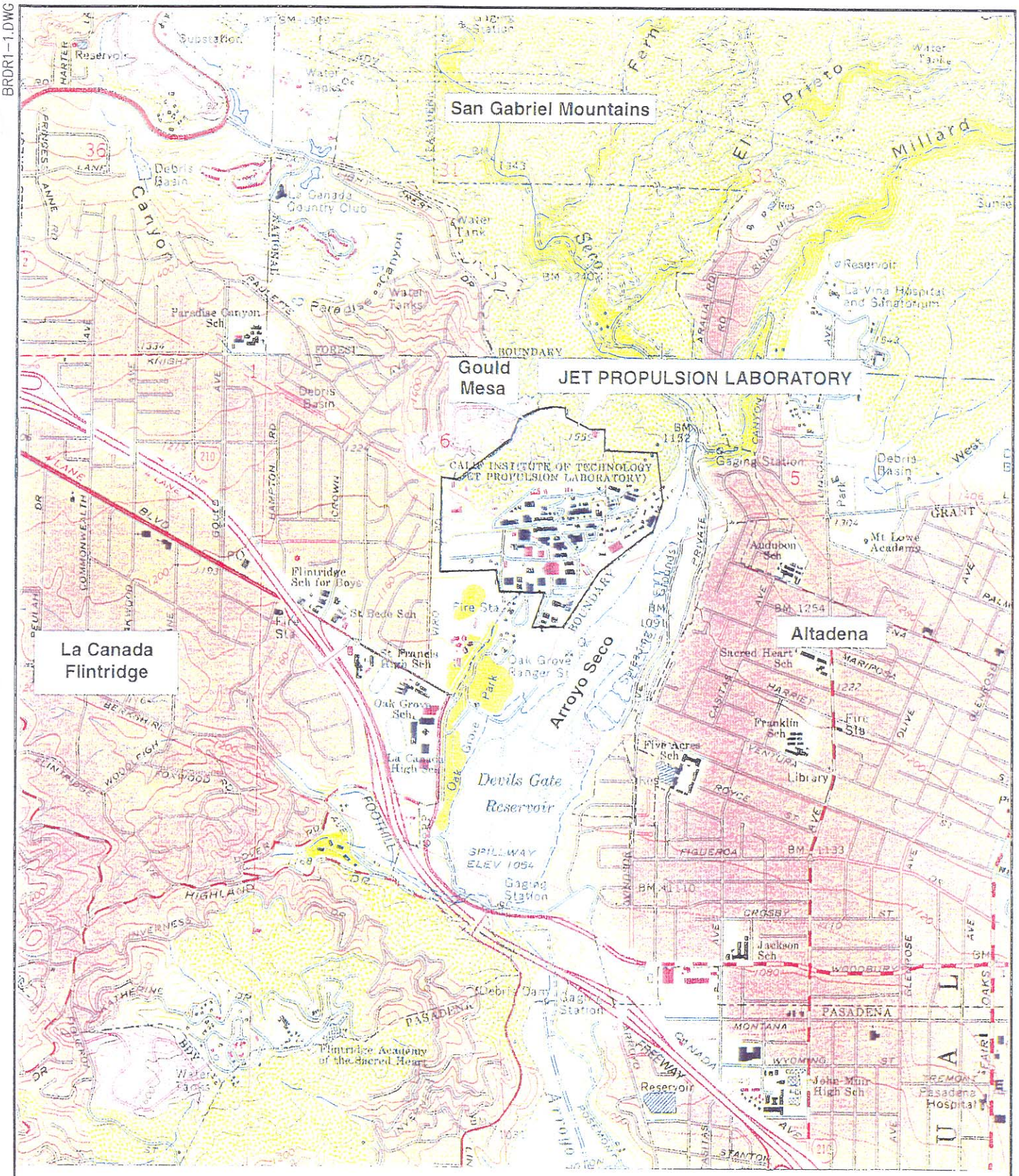
FIGURES

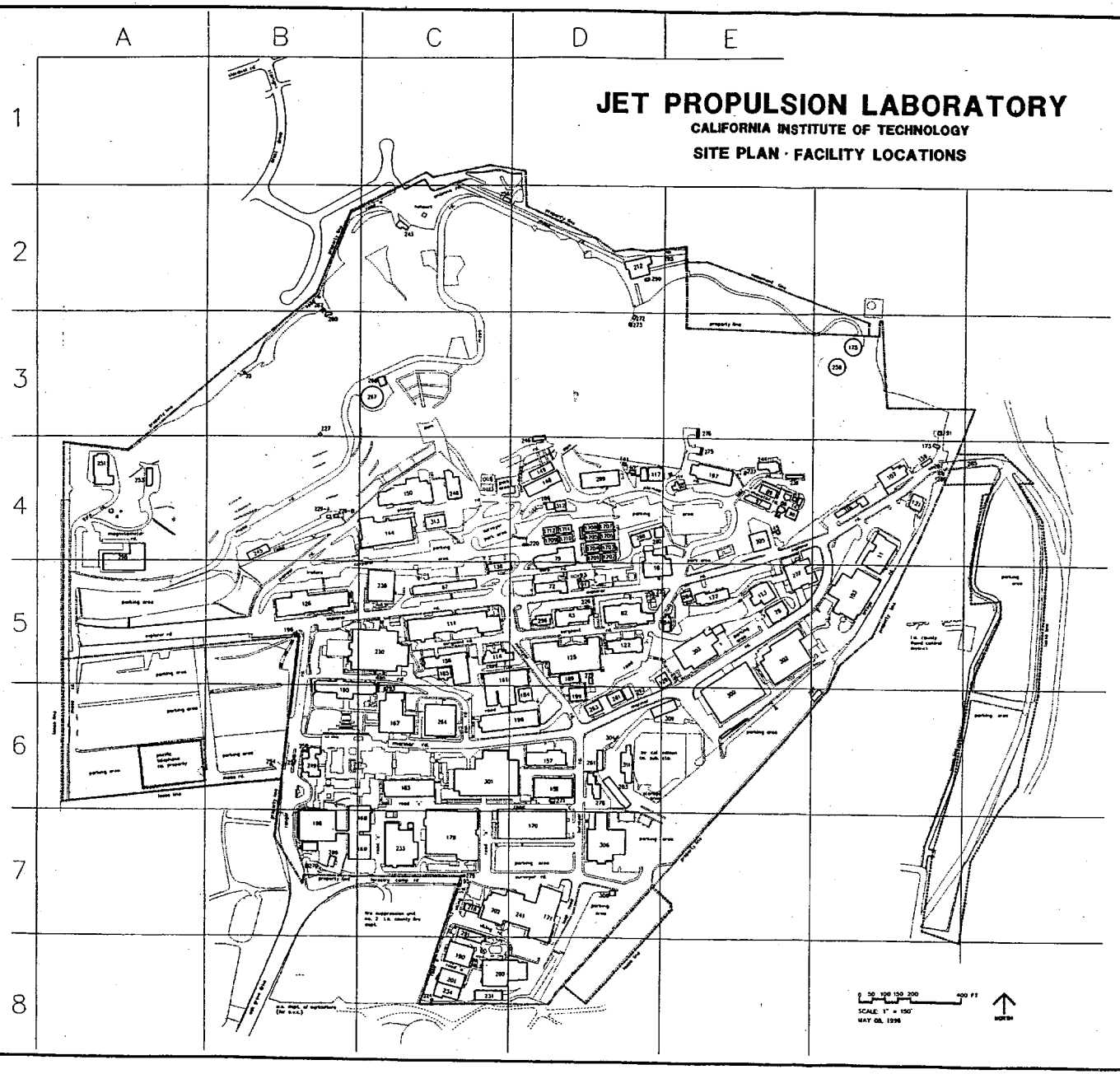
BRDR1-1.DWG


San Gabriel Mountains
Gould Mesa
JET PROPULSION LABORATORY
CALIF INSTITUTE OF TECHNOLOGY (JET PROPULSION LABORATORY)
La Canada Flintridge
Altadena
Arroyo Seco
Devils Gate Reservoir
SPILLWAY ELEV 1054
Flintridge Sch for Boys
St Bede Sch
St Francis High Sch
Oak Grove Sch
La Canada High Sch
Paradise Canyon Sch
La Canada Country Club
Debris Basin
Flintridge Academy of the Sacred Heart
Audubon Sch
Mt Lowe Academy
Sacred Heart Sch
Franklin Sch
Five Acres Sch
Library
Jackson Sch
John Muir High Sch
Pasadena Hospital
Mt Lowe Sch
Gaging Station
Fire Sta
Reservoir
PASADENA
FOOTHILL
FREEWAY
BOUNDARY
GRANT
FIGUEROA
CROSBY
WOODBURY
MONTANA
WYOMING
STANTON
HIGHLAND
INVERNESS
PASADENA
CANADA
BLVD
COMMONWEALTH
GOLDEN
HAMPTON
CROWN
KNIGHT
FOREST
HARTER
PRIVATE
MARIPOSA
HARRIET
VENTURA
ROYCE
OLIVE
GLENROSE
FAIRI
OAKS
ALTADENA
Millard
Sunset
Water Tank
Water Tanks
Water Table
Substation
Reservoir
Debris Dam
Gaging Station
Debris Basin
Fire Sta
Park
Oak Grove Park
Oak Grove Ranger St
Sycamore Grove Grounds
Paradise Canyon
Canyon
Arroyo Seco
Eaton Canyon
Pasadena Freeway
Altadena Blvd
Foothill Blvd
Lincoln Ave
Fair Oaks Ave
Glenrose Ave
Olive St
Ventura St
Harriet St
Mariposa St
Figueroa St
Crosby St
Woodbury Ave
Montana St
Wyoming St
Stanton Ave
Highland Ave
Inverness Dr
Catherine Dr
Pasadena Ave
Canada Blvd
Commonwealth Ave
Golden Ave
Hampton Rd
Crown Ave
Knight Ave
Forest Ave
Harter Ave
Berkshire Dr
Woodleigh Dr
Pongwood Dr
Flintridge Dr
Beulah Ave
Palm Ave
Grant Ave
Lincoln Ave
Araliar Rd
Bishop Hill Rd
Rancho Rd
Rosemont Ave
Fremont Ave
Stanton Ave
Altadena Blvd
Foothill Blvd
Pasadena Freeway
Canada Blvd
Golden Ave
Commonwealth

JET PROPULSION LABORATORY

CALIFORNIA INSTITUTE OF TECHNOLOGY

SITE PLAN · FACILITY LOCATIONS



Facility Locations

No.	Facility Title	Location
11	Space Sciences Laboratory	4-F
18	Structural Test Laboratory	5-D
35	Radio/Repeater Complex	3-B
67	Material Research	5-C
72	Engineering Offices	5-D
78	Hydraulics Laboratory	5-E
79	Wind Tunnel (20 inch)	4-D
82	High Vacuum Laboratory	5-D
83	Quality Assurance	5-D
84	Chemical Materials Laboratory	5-E
86	Solid Oxidizer Laboratory	4-E
87	Propellant Conditioning Laboratory	4-E
88	Mixing Laboratory	4-E
89	Laser Laboratory	4-E
90	Pyrotechnics Laboratory	4-E
91	Air Dryer	5-D
93	Vaporizer	5-D
97	Development Laboratory and Offices	4-E
98	Solid Fuel Laboratory	4-E
103	Fabrication Shop	5-F
107	Laser Research Laboratory	4-F
111	Technical Information	5-C
113	Pneumatics Laboratory	5-E
114	Electronics Development	5-C
117	Liquid and Solid Propellant Laboratory	4-D
121	Analytical Instruments Laboratory	4-F
122	Energy Conservation Systems	5-D
125	Combined Engineering Support	5-D
126	Information Systems Development	5-B
129	Combustion Research Laboratory	5-E
138	Mission Operations	5-C
140	Propulsion Materials Storage	4-D
141	Propulsion Materials Storage	4-D
143	Solid Rocket Dock	4-E
144	Environmental Laboratory	4-C
145	Magazine - Propellant	4-E
148	Energy Conservation Laboratory	4-D
149	Energy Conservation Development	4-D
150	25-Foot Space Simulator	4-C
156	Computer Program Offices	5-C
157	Applied Mechanics	6-D
158	Material Research Processing Laboratory	6-D
159	Pump House (water)	4-F
161	Telecommunications Laboratory	5-C
166	Cooling Tower	4-D
167	Cafeteria	6-C
168	Instrument System Laboratory	7-C
169	Earth Space Science	7-C
170	Fabrication Shop	7-D
171	Material Services	7-D
173	Test Shelter	4-F
175	Water Reservoir	3-F
177	Transportation Garage	5-E
179	Spacecraft Assembly Facility	7-C
180	Administration	6-B
183	Physical Science Laboratory	6-C
184	Electronic Stores	6-D
185	Programming Office	5-C
186	Science Exhibits and Engineering	7-B
189	Electronics Laboratory Annex	5-D
190	Procurement Offices	6-C
191	Materials Compatibility Laboratory	3-F
195	Guard Shelter	7-C
196	Guard Shelter	5-B
197	Solid Propellant Engineering Laboratory	4-E
198	Control Systems Laboratory	6-D
199	Celestial Simulator	6-D
200	Facilities Engineering and Services	8-C
201	Carpenter Shop	8-C
202	Procurement and Communications Support	7-C
212	Antenna Laboratory	2-D
218	Credit Union	7-C
220	ICS Terminal	4-D
224	Sewage Lift Station	8-C
225	Nitrogen Facility Office	5-D
226	Solvent Storage	5-D
227	Pistol Range Storage	3-B
228	Cooling Tower (A-B)	4-B
229	Shielded Room Building	5-D
230	Space Flight Operation Facility	5-C
231	Paint Shop	8-C
233	System Development	7-C
234	Lumber Storage	8-C
237	Cooling Tower	4-E
238	Telecommunications	5-C
239	Propellant Conditioning Laboratory	4-E
241	Receiving and Shipping	7-D
243	Remote Antenna Range Control	2-C
244	Chemical Engineering	4-E
245	Spectroscopy Laboratory	4-B
246	Soils Test Laboratory	4-D
248	10-Foot Space Simulator	4-C
249	Visitor Reception	6-B
250	Main Guard Shelter	8-B
251	Gyro Laboratory	4-A
252	Guard Shelter	6-B
253	Magnetic Laboratory	4-A
256	Model Range Control	2-C
257	Main Guard Island	6-B
258	Water Reservoir	3-F
259	Liquid Nitrogen Bottling Storage	5-D
260	Illuminator Equipment	3-B
261	Controlled Storage	6-D
262	Radiometer	2-B
263	First Aid	6-D
264	Space Flight Support	6-C
267	Water Reservoir	3-C
268	Pump House	3-C
270	Sewage Metering Station	7-B
271	Oil Storage	6-D
272	East Illuminator	3-D
273	Antenna Tower	3-D
275	Pyrotechnic Storage	4-E
276	Propellant Storage	3-E
277	Isolope Thermoelec. Sys. Appl. Lab.	5-E
278	Robotics Laboratory	6-D
279	Guard Island	7-C
280	Static Test Tower	4-D
281	Fire and Guard Headquarters	6-D
283	Metal Storage	5-D
284	Transportation Office	5-E
285	Arroyo Bridge	4-C
286	Guard Shelter	4-F
287	Guard Island	4-F
288	Project Equipment Storage	4-D
289	Main Sewage Lift Station	7-B
290	Antenna Inspection	2-D
291	Procurement Services	8-C
292	Fire Station	6-D
293	Instrumentation Cable Amplifier Building	6-C
294	Guard Shelter (Visitor Lot)	6-B
295	Antenna Test Facility	2-E
298	Central Cooling Tower Water System	5-D
297	Xenon Test Laboratory	6-F
298	Frequency Standard Laboratory	4-A
299	Assembly Handling & Shop Equip. Fac.	4-D
300	Earth and Space Science Laboratory	6-E
301	Central Engineering Building	6-C
302	Microdevices Laboratory	5-E
303	Engineering Support Building	5-E
304	Disintegrator	6-D
305	Hazardous Waste/Cryogenic Storage Facility	4-E
306	Observational Instruments Laboratory	7-D
308	Sewage Lift Station	7-D
309	Maintenance Storage Facility	6-D
311	Ground Maintenance Facility	6-D
312	Shelter Maintenance Facility	4-D
313	Mirror Refurbishment	4-C
316	Hazmat Storage and Dist Facility	4-F
	MODULARS:	
1701-1712	Modular Offices	4-D

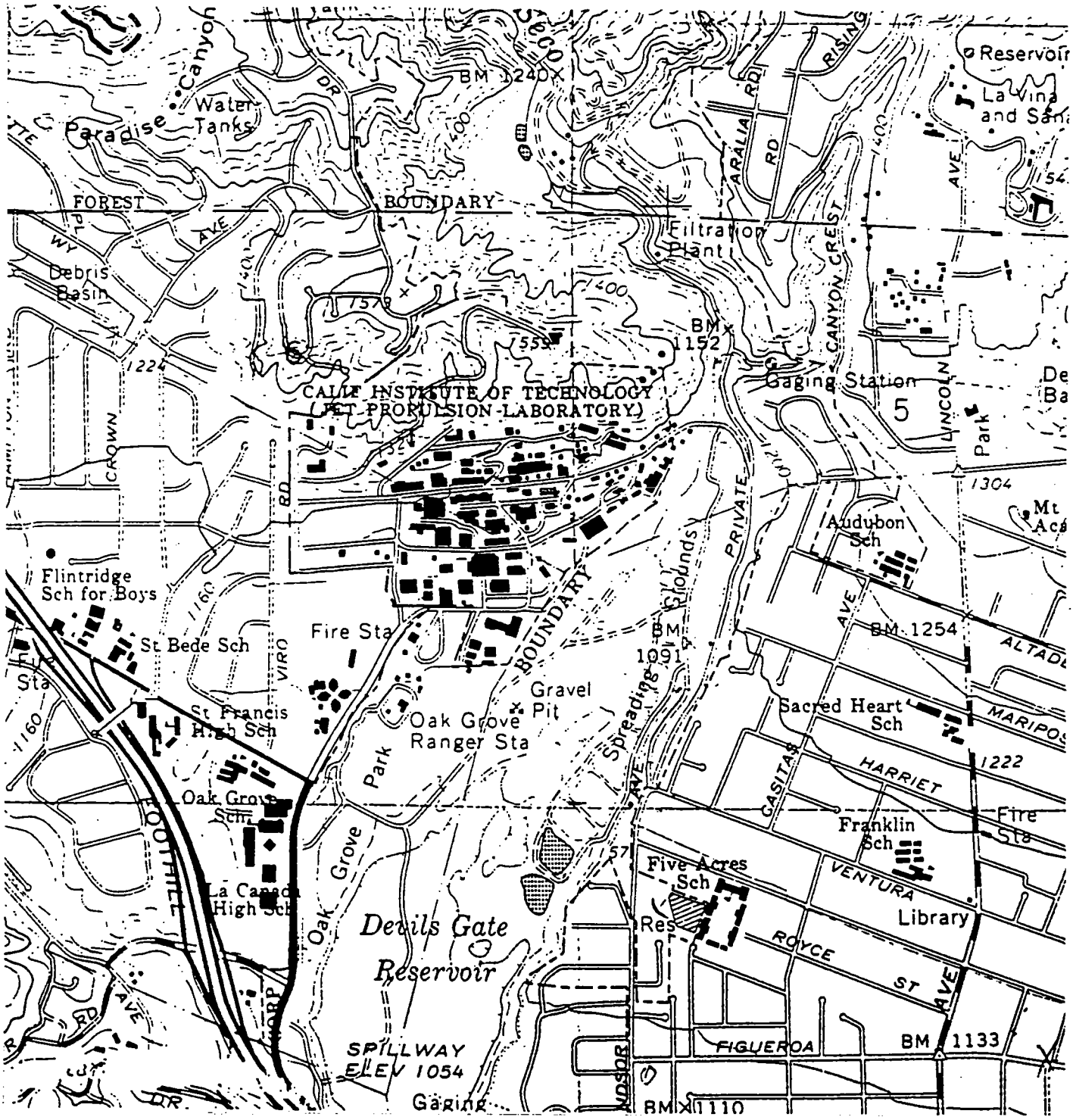
FIGURE 1-2

SITE FACILITY MAP
JET PROPULSION LABORATORY

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

BRDR3-3.DWG



N

Contour Interval: 40 ft.
Scale: 1" = 1300 ft. Approximately
Source: U.S. Geological Survey, Pasadena, California Quadrangle, 1966.

FIGURE 1-3

TOPOGRAPHIC MAP OF JPL AND SURROUNDING AREAS

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

2-4-99

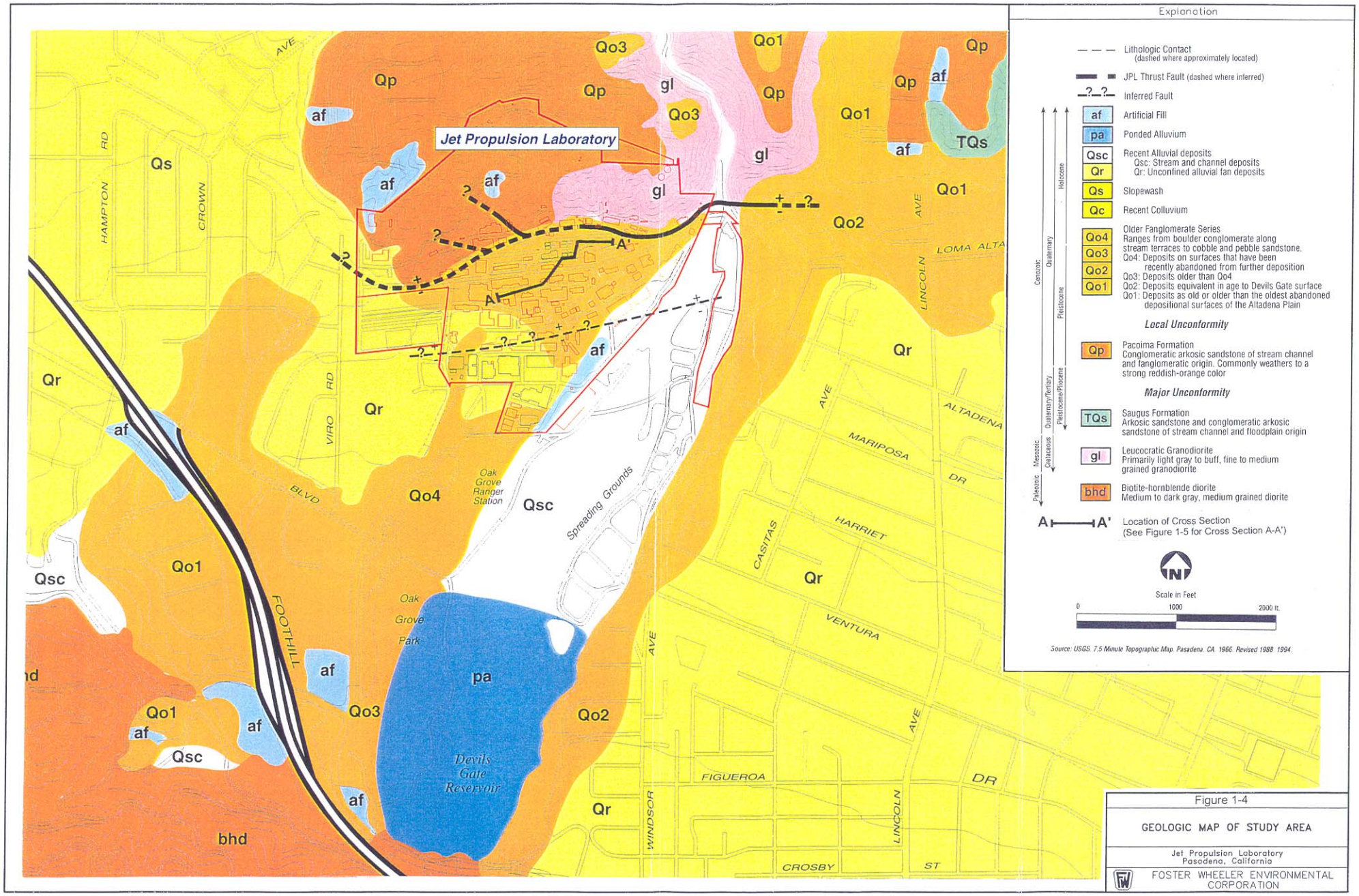


Figure 1-4

GEOLOGIC MAP OF STUDY AREA

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Pasadena, California

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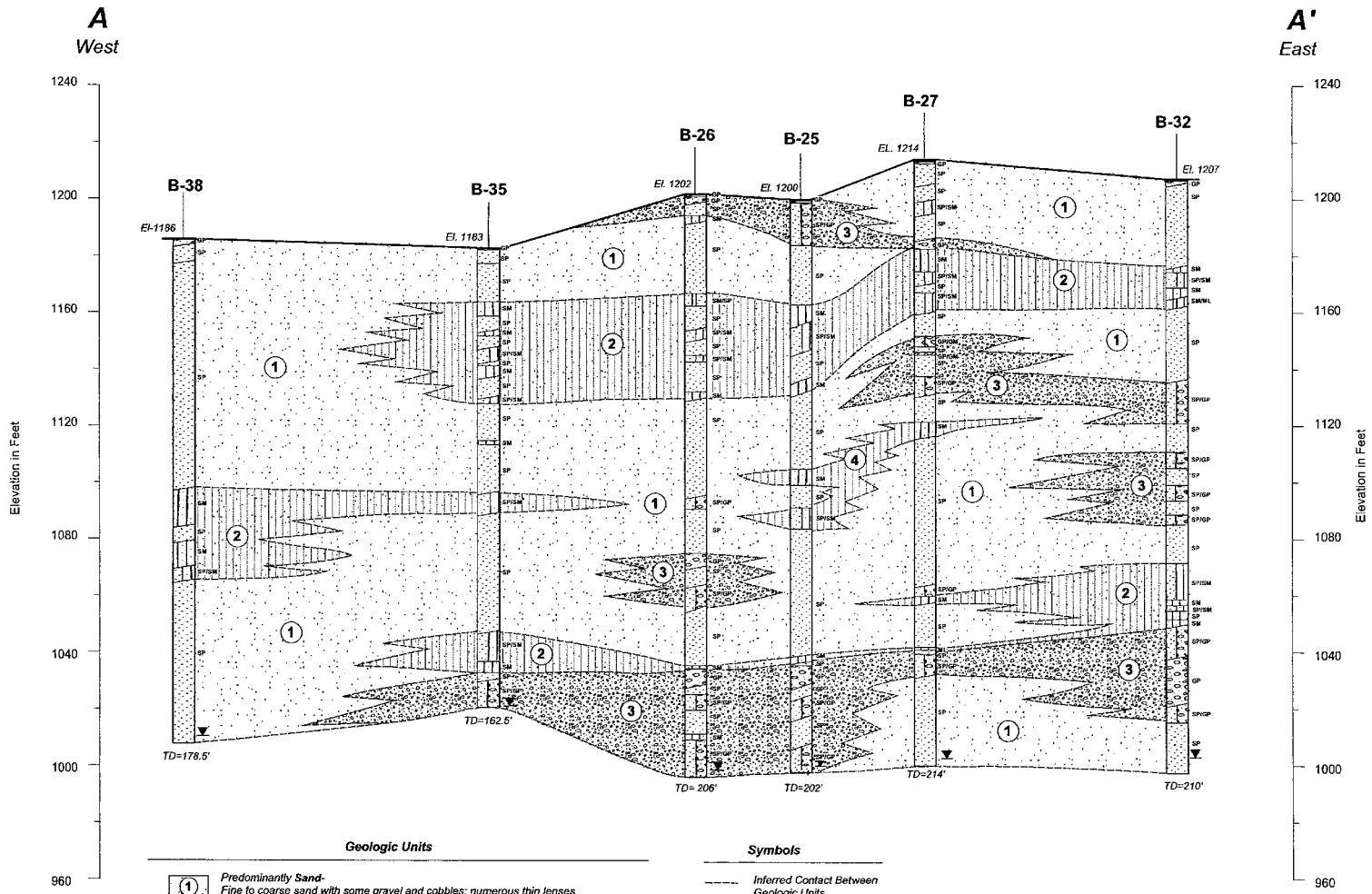

Geologic Units

(1) *Predominantly **Sand**-*
Fine to coarse sand with some gravel and cobbles; numerous thin lenses of gravelly sand and occasional thin lenses of sand with some silt; occasional boulders.

(2) *Predominantly **Sand** and **Silty Sand**-*
Interbedded layers and thin lenses of fine to coarse sand with some silt and silty fine to medium sand; numerous pieces gravel and occasional cobbles

(3) *Predominantly **Sandy Gravel** and **Gravelly Sand**-*
Interbedded layers and thin lenses of sandy fine to coarse gravel and gravelly fine to coarse sand; numerous cobbles and small boulders.

(4) *Predominantly **Silty Sand**-*
Interbedded layers and thin lenses of silty fine to medium sand and fine to coarse sand with silt; occasional thin lenses fine sandy silt; some dispersed fine gravel.

Symbols

Inferred Contact Between Geologic Units

Groundwater Elevation

TD= Total Depth Drilled in Feet

SP Sand, Poorly Graded

SM Silty Sand

GP Gravel, Poorly Graded

GM Silty Gravel

ML Silt

0 40 80 Feet
Vertical Scale

0 160 320 Feet
Horizontal Scale

Note: See Figure 1-4 for location of Cross Section A-A'.

Figure 1-5

GENERALIZED CROSS SECTION A-A' ACROSS THE NORTH-CENTRAL PORTION OF THE SITE

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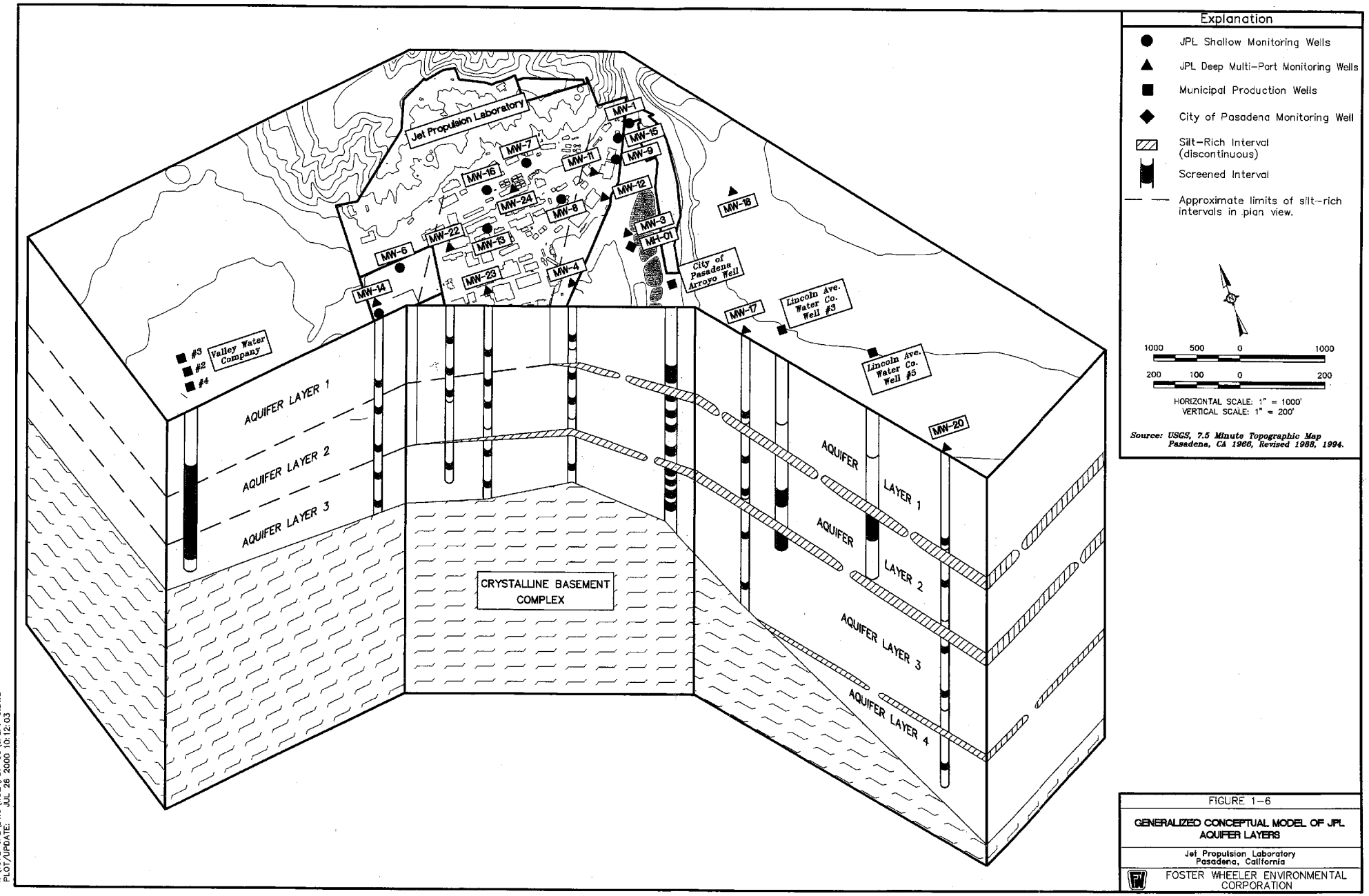

FIGURE 1-6

GENERALIZED CONCEPTUAL MODEL OF JPL AQUIFER LAYERS

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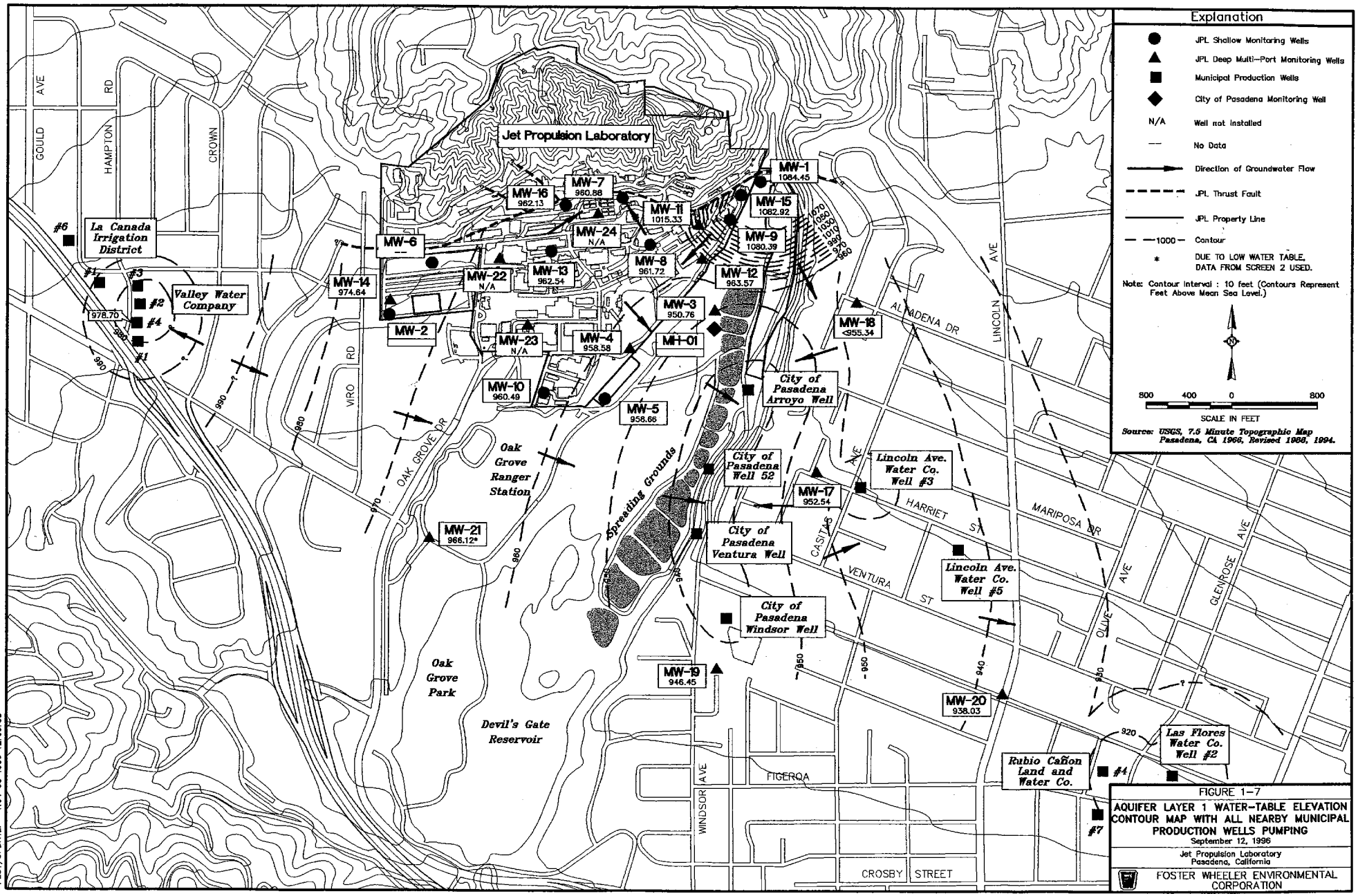

FIGURE 1-7

AQUIFER LAYER 1 WATER-TABLE ELEVATION CONTOUR MAP WITH ALL NEARBY MUNICIPAL PRODUCTION WELLS PUMPING

September 12, 1996

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

I:\1572-JPL\DWG\GU2\FS99\FIG1-7.DWG
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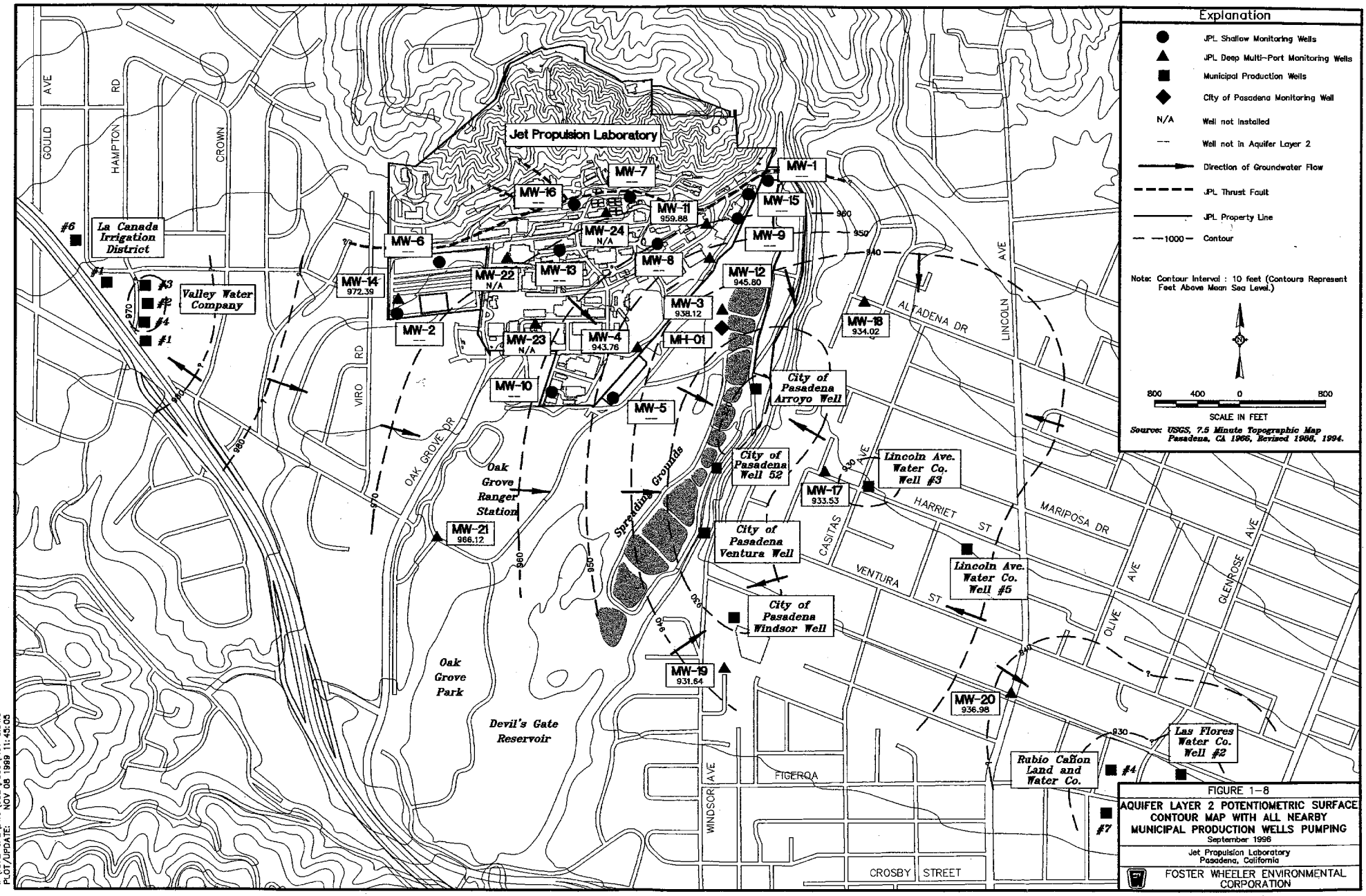

FIGURE 1-8
AQUIFER LAYER 2 POTENTIOMETRIC SURFACE CONTOUR MAP WITH ALL NEARBY MUNICIPAL PRODUCTION WELLS PUMPING
September 1996
Jet Propulsion Laboratory
Pasadena, California
FOSTER WHEELER ENVIRONMENTAL CORPORATION

I:\1572-JPL\DWG\OU2\FS99\FIG1-8.DWG
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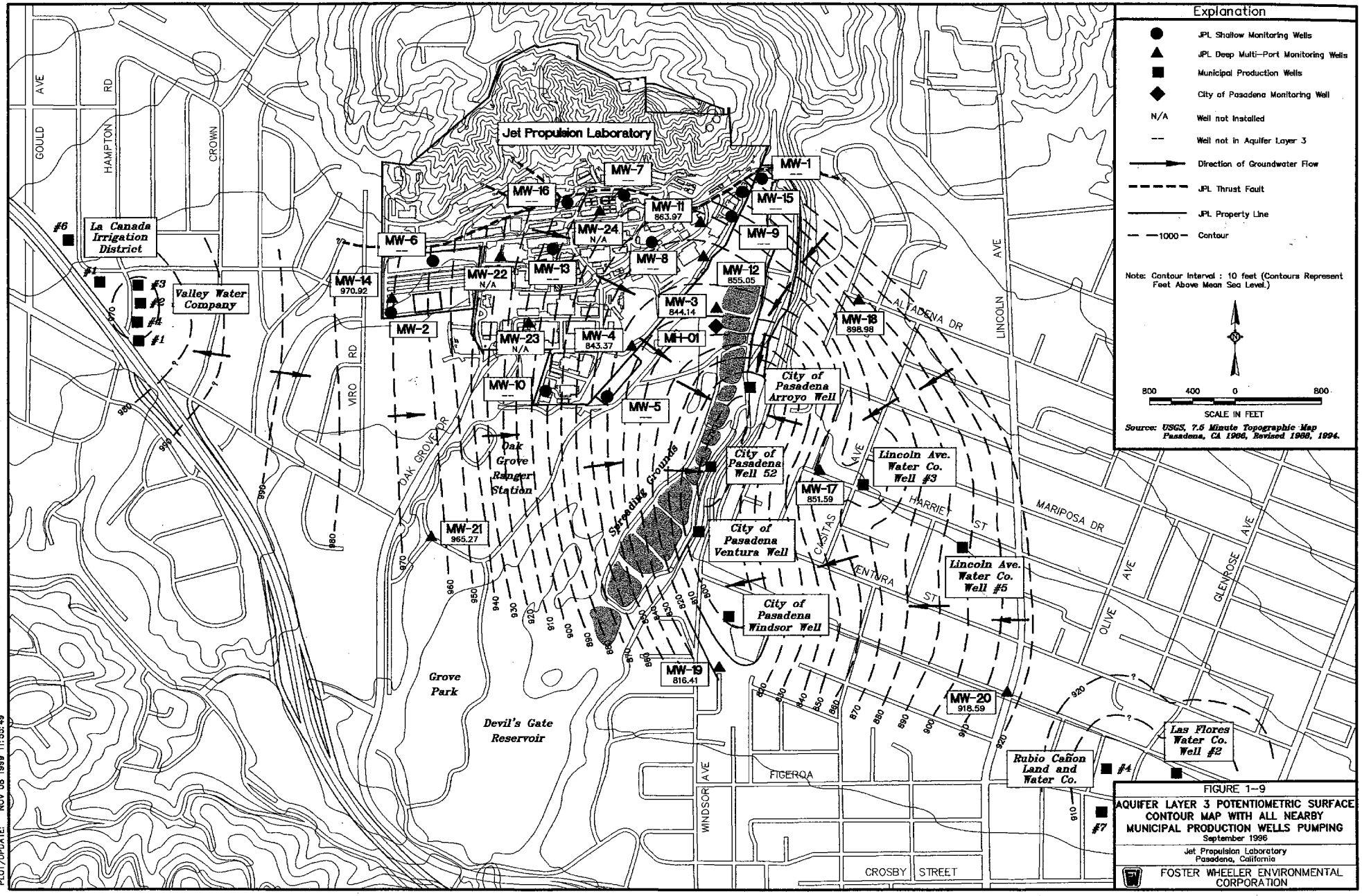

FIGURE 1-9
AQUIFER LAYER 3 POTENTIOMETRIC SURFACE CONTOUR MAP WITH ALL NEARBY MUNICIPAL PRODUCTION WELLS PUMPING
September 1996
Jet Propulsion Laboratory
Pasadena, California
FOSTER WHEELER ENVIRONMENTAL CORPORATION

I:\1572-JPL\DWG\OU2\FS99\FIG1-9.DWG
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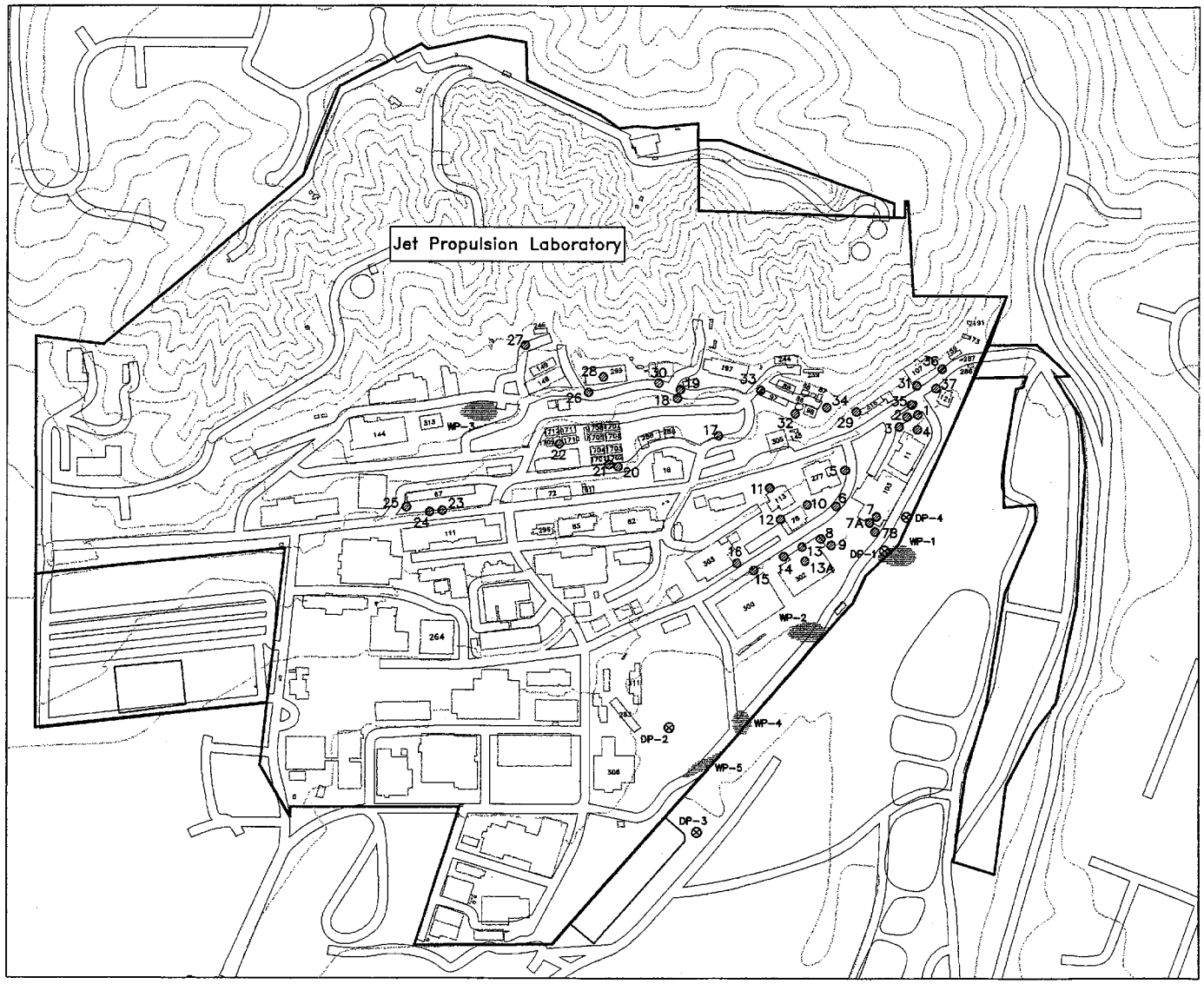

Explanation

⊘1	Seepage Pit or Dry Well Location and Number
⊗DP-1	Surface Water Discharge Points to the Arroyo Seco
WP-1	Suspected Waste Disposal Area

400 200 0 400

SCALE IN FEET

Source: USGS, 7.5 Minute Topographic Map Pasadena, CA 1966, Revised 1988, 1994.

FIGURE 1-10

LOCATIONS OF KNOWN SEEPAGE PITS/ DRY WELLS, DISCHARGE POINTS AND SUSPECTED WASTE DISPOSAL AREAS

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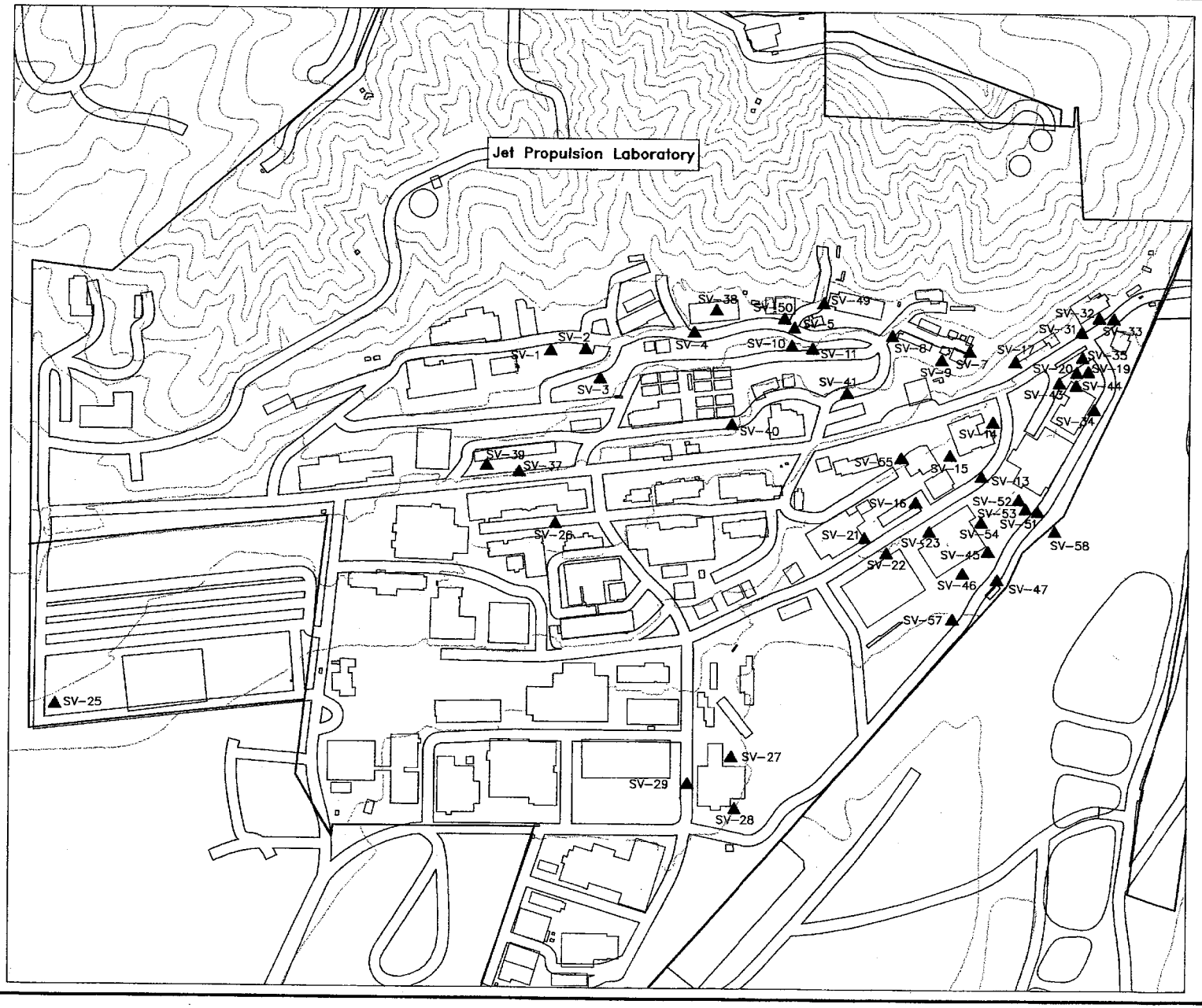

Explanation

▲ SV-58 Soil Vapor Probe Installed During RI Investigation

300 150 0 300

SCALE IN FEET

Source: USGS, 7.5 Minute Topographic Map Pasadena, CA 1968, Revised 1988, 1994.

FIGURE 1-11

LOCATIONS OF SOIL VAPOR PROBES SAMPLED DURING THE INITIAL SCREENING, EVENT 1

January, 1994

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

I:\1572-JPL\DWG...02\F999\FIG1-11.DWG
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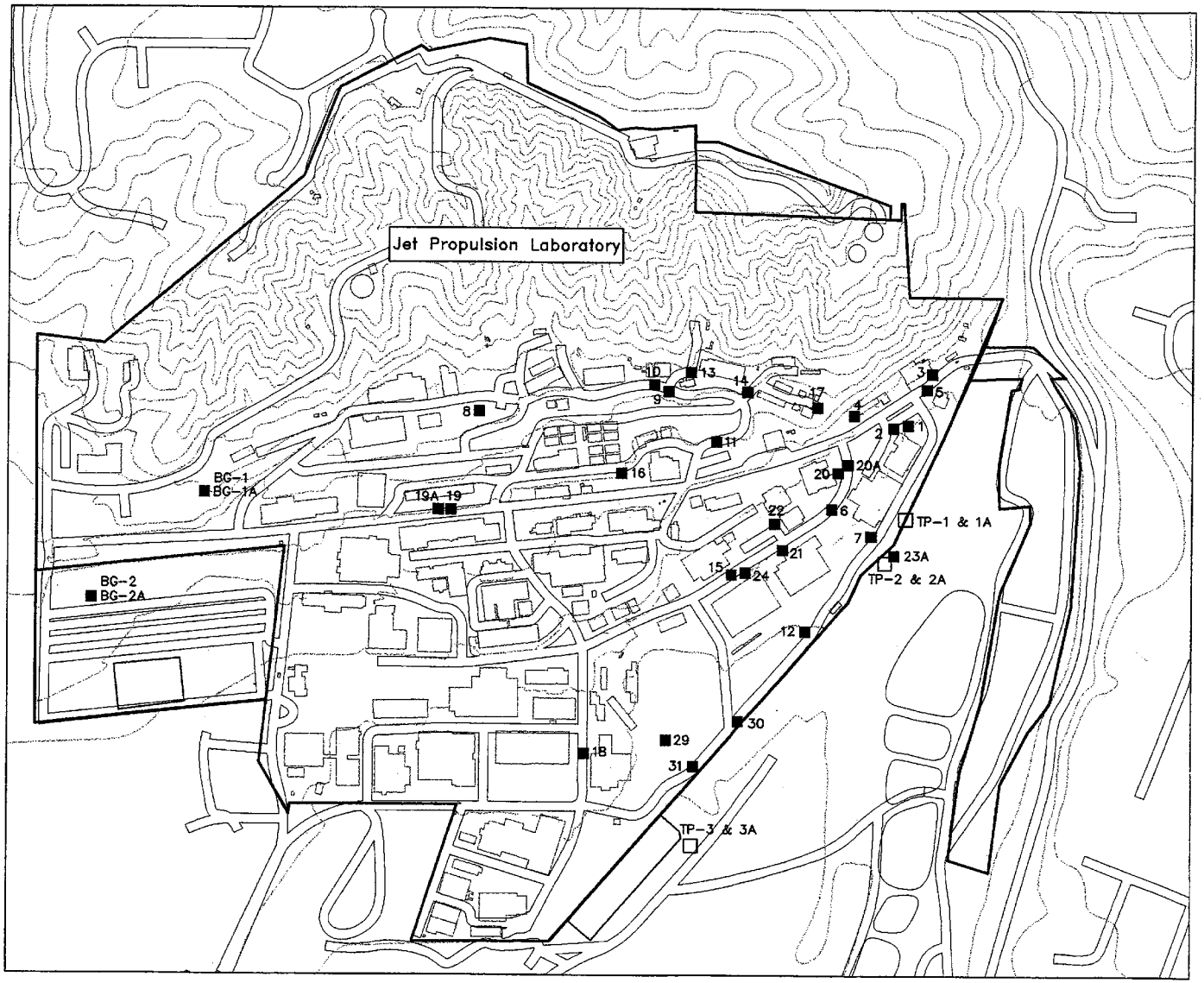

Explanation

■ 31 Soil Boring Drilled During RI Investigation

□ TP-1 Test Pit Completed During RI Investigation

400 200 0 400

SCALE IN FEET

Source: USGS, 7.5 Minute Topographic Map Pasadena, CA 1966, Revised 1988, 1994.

FIGURE 1-12

LOCATIONS OF SOIL BORINGS AND TEST PITS SAMPLED DURING THE OU-2 RI

Jet Propulsion Laboratory
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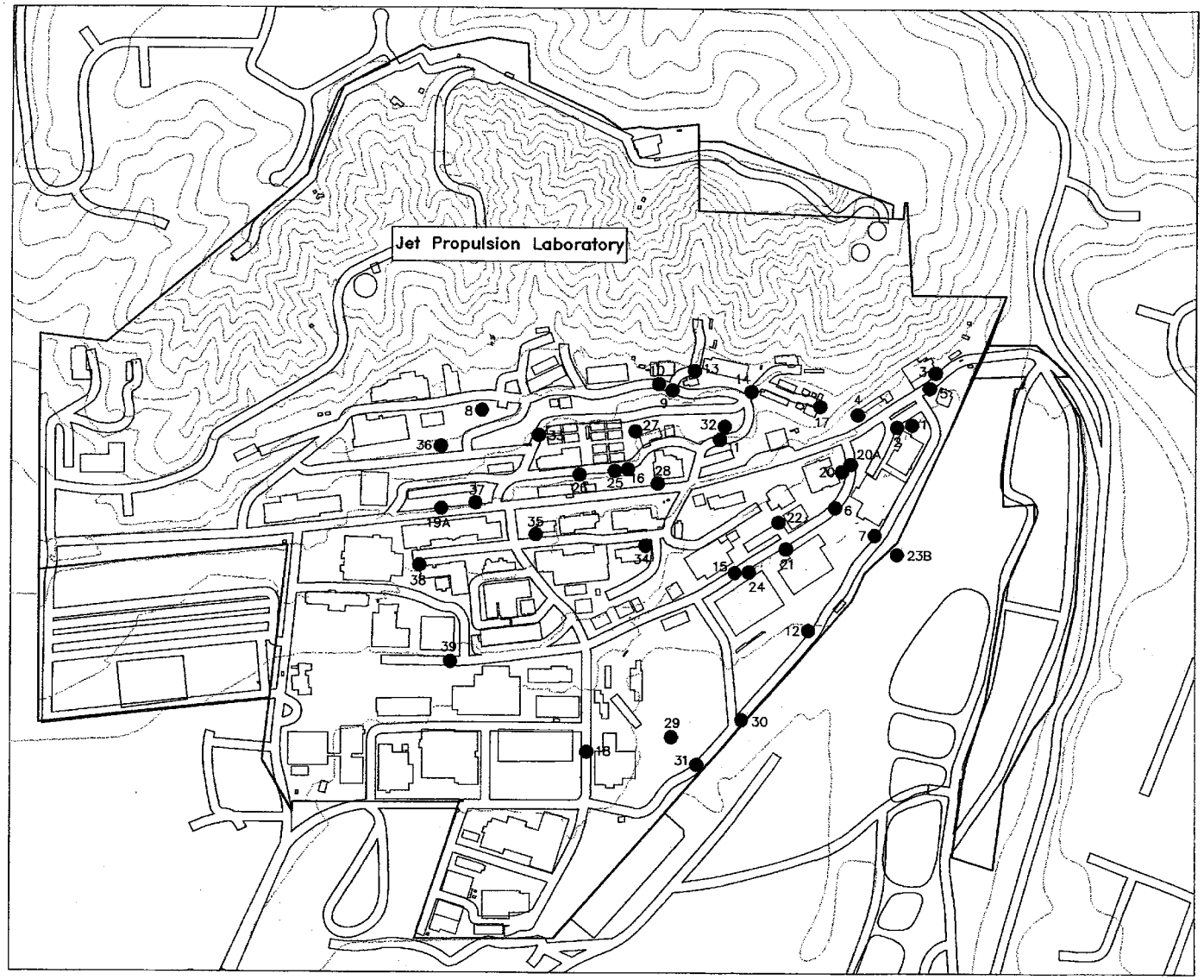

Explanation

● 39 Soil Vapor Well Installed During RI Investigation

400 200 0 400

SCALE IN FEET

Source: USGS, 7.5 Minute Topographic Map Pasadena, CA 1966, Revised 1988, 1994.

FIGURE 1–13

LOCATIONS OF SOIL VAPOR WELLS SAMPLED DURING THE OU–2 RI

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Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

I:\1572–JPL\DWG...2\FS99\FIG1–13.DWG
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