NOTICE!

ALL DRAWINGS ARE LOCATED AT THE END OF THE DOCUMENT

REMEDIAL INVESTIGATION PLAN

903 Pad, Mound, and East Trenches Areas

PHASE II - SAMPLING PLAN

U S DEPARTMENT OF ENERGY
Rocky Flats Plant
Golden Colorado

June 30, 1988

Volume II

ROCKWELL INTERNATIONAL
Aerospace Operations
Rocky Flats Plant

DRAFT

EXPLANATION

Contact

Dashed where approximately located, queried where inferred.

- Artificial Fill
- Phreatophytes
- Pavement or Gravel
- Disturbed Ground

Quaternary

- Qal — Recent Valley Fill
- Ql — Landslide
- Qc — Colluvium
- Qt — Terrace Alluvium
- Qs — Slocum Alluvium
- Qv — Verdos Alluvium
- Qrf — Rocky Flats Alluvium

Cretaceous

- Kass — Arapahoe Formation, Sandstone
- Ka — Arapahoe Formation, Claystone

- ○ 4-87 — Alluvial Monitor Well
- ● 5-87BR — Bedrock Monitor Well
- △ 1-74 — Pre-1986 Monitor Well
- + 7-87 BRA — Abandoned Hole
- ⬡ BH 11-87 — Borehole

-N-

Contour Interval = 2'
Scale: 1" = 200'

200' 0' 200' 400'

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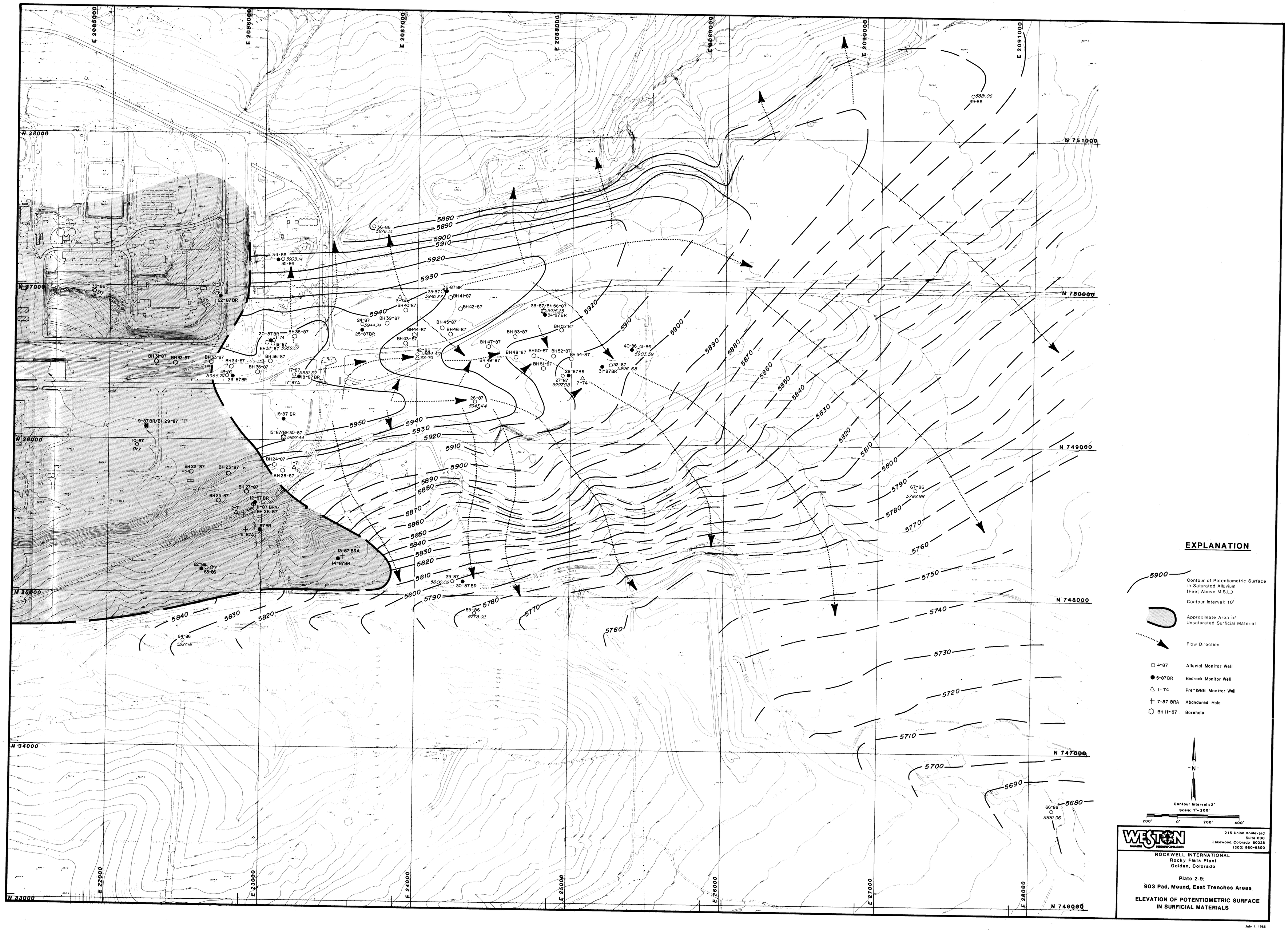
Golden, Colorado

Plate 2-1:

903 Pad, Mound, East Trenches Areas

SURFICIAL GEOLOGY

July 1, 1988



EXPLANATION
5900 Contour of Potentiometric Surface in Saturated Alluvium (Feet Above M.S.L.)
Contour Interval: 10'
Approximate Area of Unsaturated Surficial Material
Flow Direction
4-87 Alluvial Monitor Well
5-87BR Bedrock Monitor Well
1-74 Pre-1986 Monitor Well
7-87 BRA Abandoned Hole
BH 11-87 Borehole
N
Contour Interval = 2'
Scale: 1" = 200'
200' 0' 200' 400'
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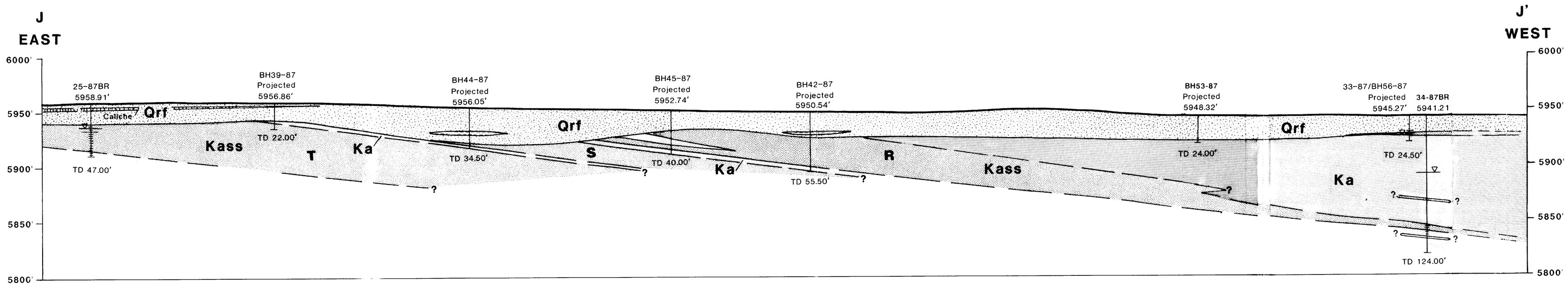
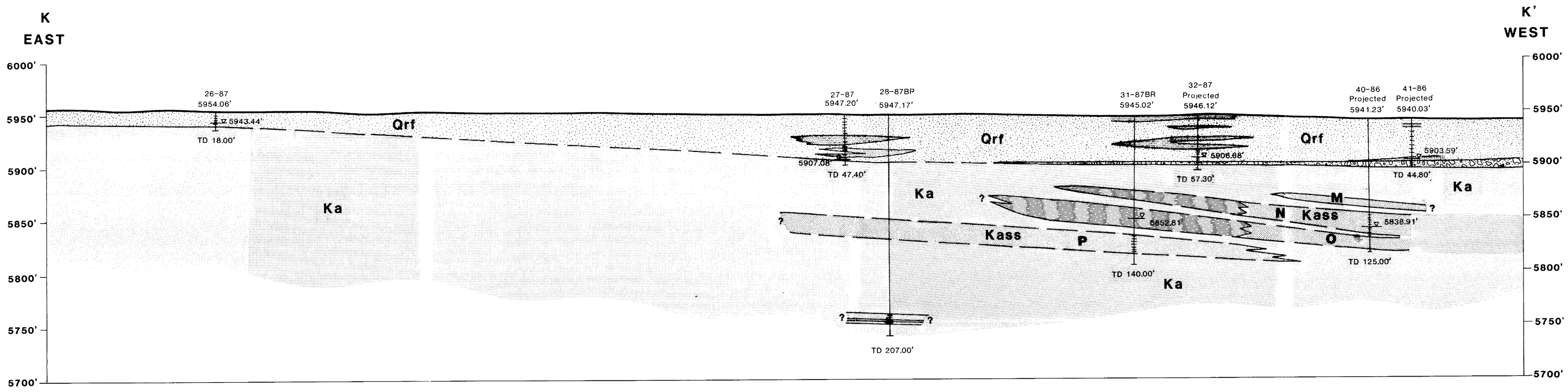
Golden, Colorado
Plate 2-9:
903 Pad, Mound, East Trenches Areas
ELEVATION OF POTENTIOMETRIC SURFACE IN SURFICIAL MATERIALS
July 1, 1988





EXPLANATION

2-87/BH3-87	Well/Borehole Identification
Prjtd.	Projected
5930.56'	Ground Surface Elevation (Surveyed)
▽	Water Level (Measured 12/1/87)
— —	Geologic Contact (Dashed Where Inferred)
‡	Screened Interval
TD 16.00'	Total Depth Drilled

50' 0 50'
No Vertical Exaggeration
SCALE

QUATERNARY

Qd	Disturbed Ground
Qc	Colluvium
Qrf	Rocky Flats Alluvium
Qal	Alluvium

CRETACEOUS

Ka	Arapahoe Formation (Claystone)
Kass	Arapahoe Formation (Sandstone)
T	Sandstone Subcroppings

- Clay
- Clayey Sand or Sandy Clay
- Cobbles and/or Gravel
- Sand and Sandstone
- Sand and Gravel
- Silt or Siltstone
- Claystone

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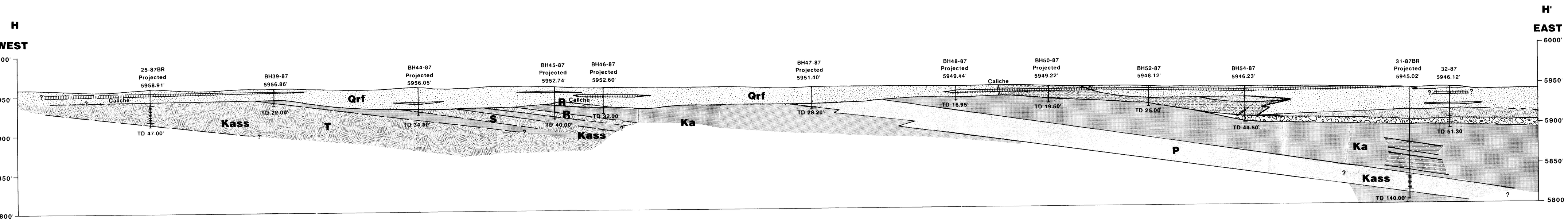
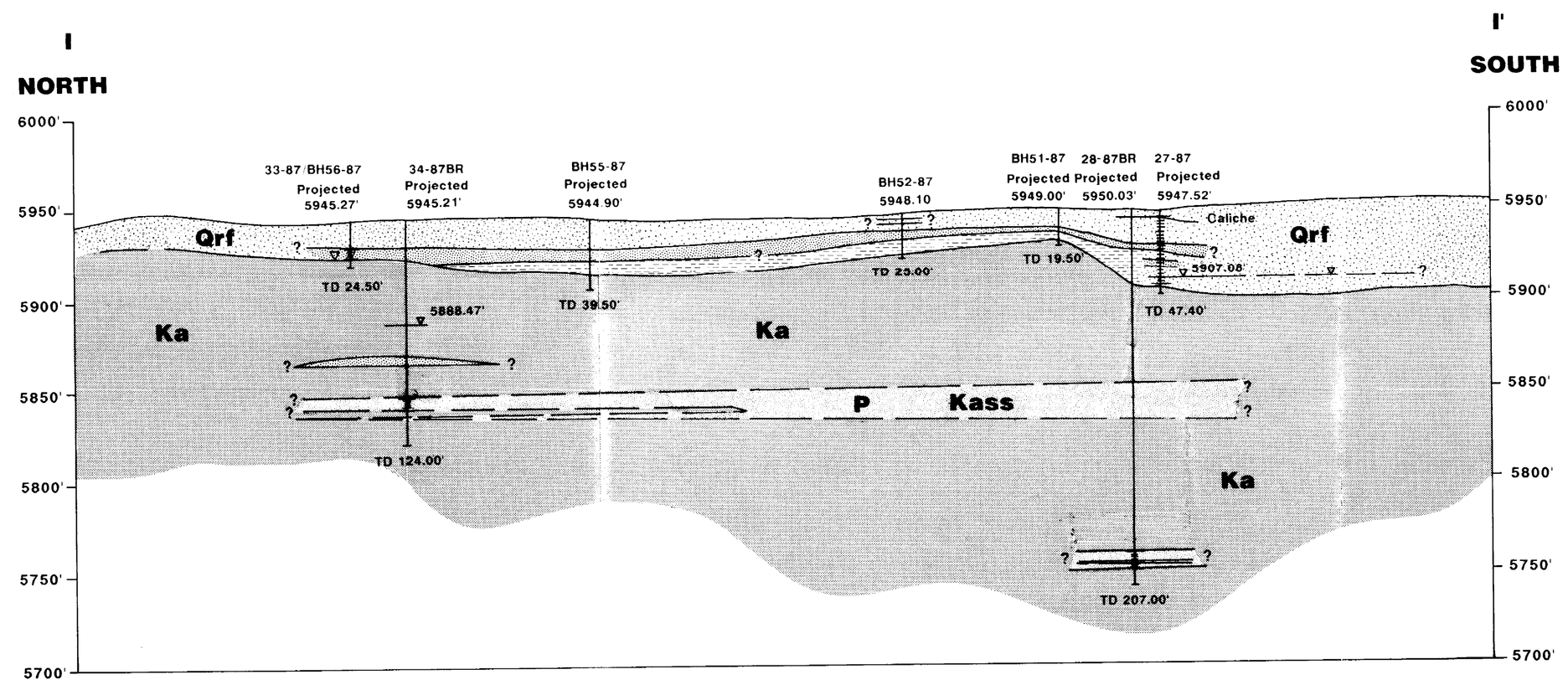
Plate 2-8:

903 Pad, Mound, East Trenches Areas

CROSS SECTIONS J-J', AND K-K'

July 1, 1988





EXPLANATION

2-87/BH3-87	Well/Borehole Identification
Prjtd.	Projected
5930.56'	Ground Surface Elevation (Surveyed)
▽	Water Level (Measured 12/1/87)
	Geologic Contact (Dashed Where Inferred)
	Screened Interval
TD 16.00'	Total Depth Drilled

QUATERNARY

- Qd Disturbed Ground
- Qc Colluvium
- Qrf Rocky Flats Alluvium
- Qal Alluvium

CRETACEOUS

- Ka Arapahoe Formation (Claystone)
- Kass Arapahoe Formation (Sandstone)
- P Sandstone Subcropping

- Clay
- Clayey Sand or Sandy Clay
- Cobbles and/or Gravel
- Sand and Sandstone
- Sand and Gravel
- Silt or Siltstone
- Claystone

Vertical 1"=50'
Horizontal 1"= 50'
SCALE

NOTE: Geology inferred between data points, see Plate 2-4 for cross section locations.

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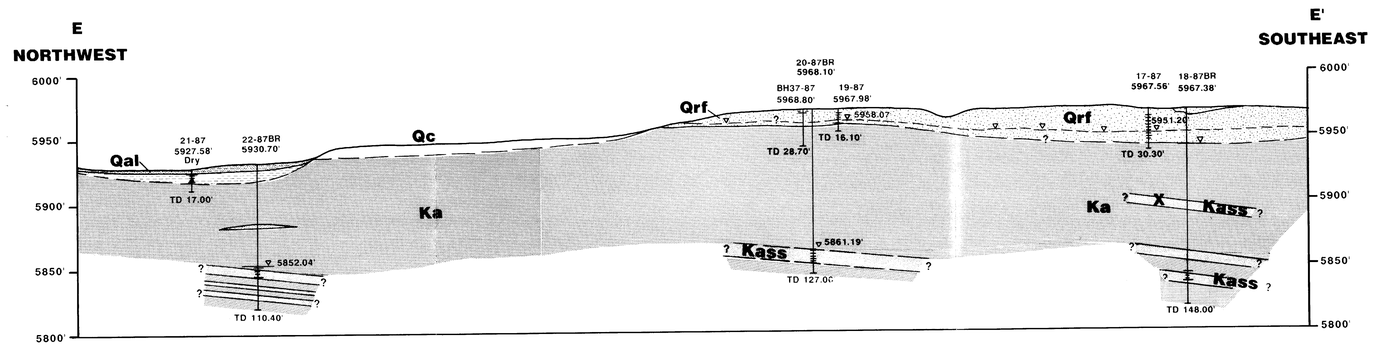
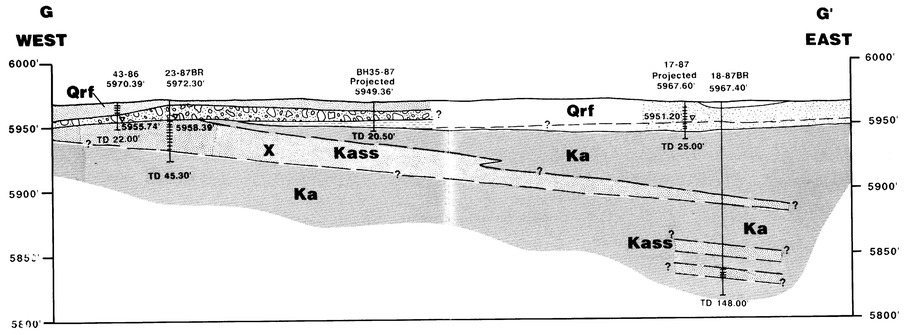
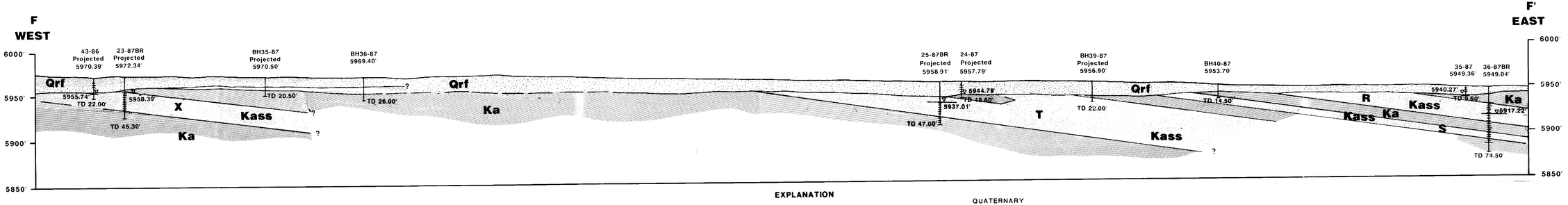
Plate 2-7:
903 Pad, Mound, East Trenches Areas
CROSS SECTIONS H-H', AND I-I'

July 1, 1988







EXPLANATION

2-87/BH3-87 Prjtd. 5930.56'	Well/Borehole Identification Projected Ground Surface Elevation (Surveyed)
▽	Water Level (Measured 12/1/87)
— —	Geologic Contact (Dashed Where Inferred)
⊥	Screened Interval
TD 16.00'	Total Depth Drilled

QUATERNARY

- Qd Disturbed Ground
- Qc Colluvium
- Qrf Rocky Flats Alluvium
- Qal Alluvium

CRETACEOUS

- Ka Arapahoe Formation (Claystone)
- Kass Arapahoe Formation (Sandstone)
- T Sandstone Subcropping

- Clay
- Clayey Sand or Sandy Clay
- Cobbles and/or Gravel
- Sand and Sandstone
- Sand and Gravel
- Silt or Siltstone
- Claystone

50' 0 50'

No Vertical Exaggeration

SCALE

NOTE: Geology inferred between data points.
See Plate 2-4 for cross section locations.

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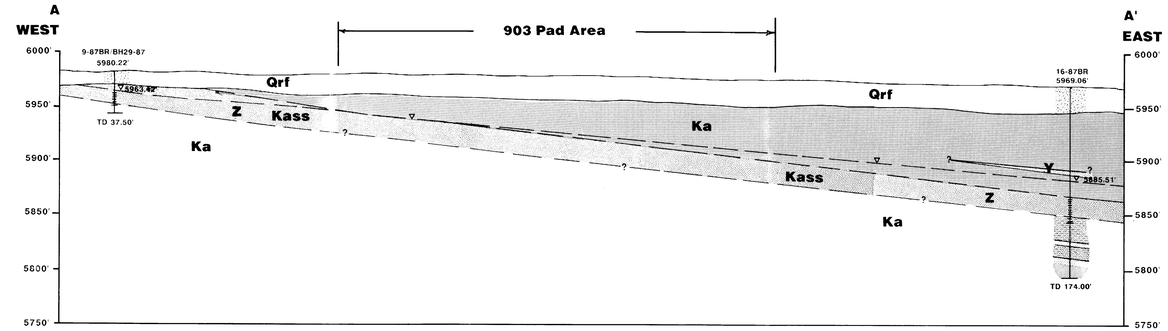
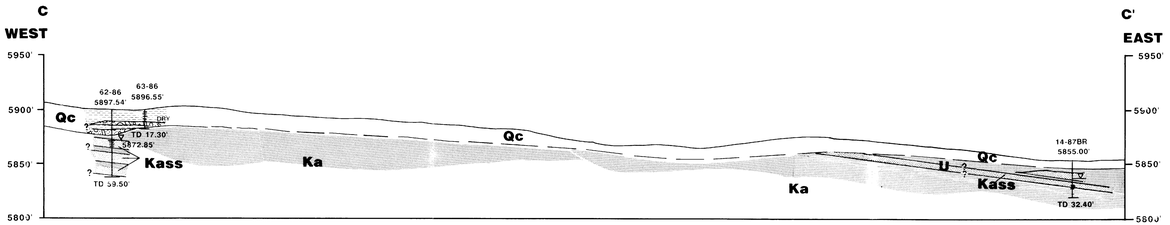
Plate 2-6:

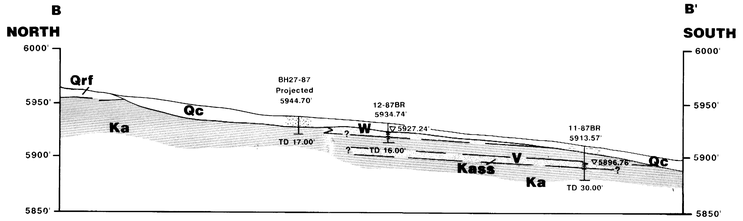
903 Pad, Mound, East Trenches Areac

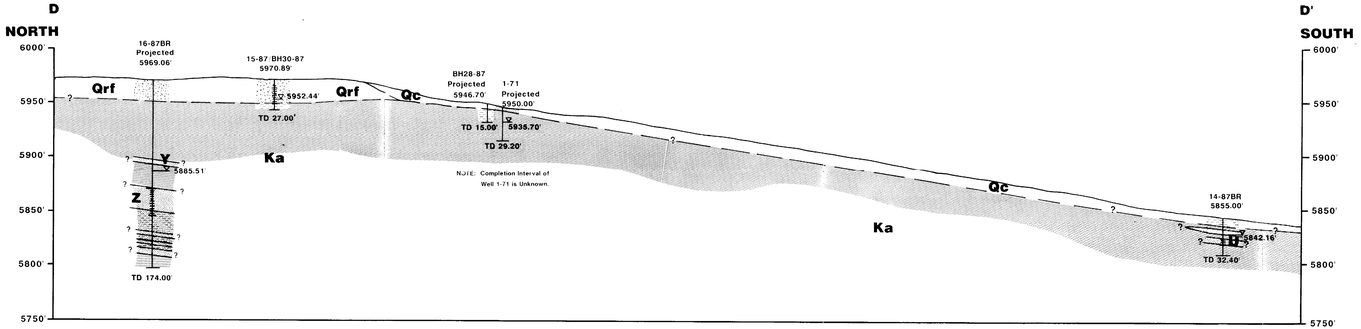
CROSS SECTIONS E-E', F-F', AND G-G'

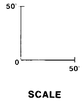
July 1, 1988











EXPLANATION

2-87/BH3-87	Well/Borehole Identification
Prjtd. 5930.56	Projected Ground Surface Elevation (Surveyed)
	Water Level (Measured 12/1/87)
	Geologic Contact (Dashed Where Inferred)
	Screened Interval
TD 16.00'	Total Depth Drilled

QUATERNARY

Qd	Disturbed Ground
Qc	Colluvium
Qrf	Rocky Flats Alluvium
Qal	Alluvium

CRETACEOUS

Ka	Arapahoe Formation (Claystone)
Kass	Arapahoe Formation (Sandstone)
Z	Sandstone Subcroppings

- Clay
- Clayey Sand or Sandy Clay
- Cobbles and/or Gravel
- Sand and Sandstone
- Sand and Gravel
- Silt or Siltstone
- Claystone

NOTE: Geology inferred between data points, see Plate 2-4 for cross section locations.

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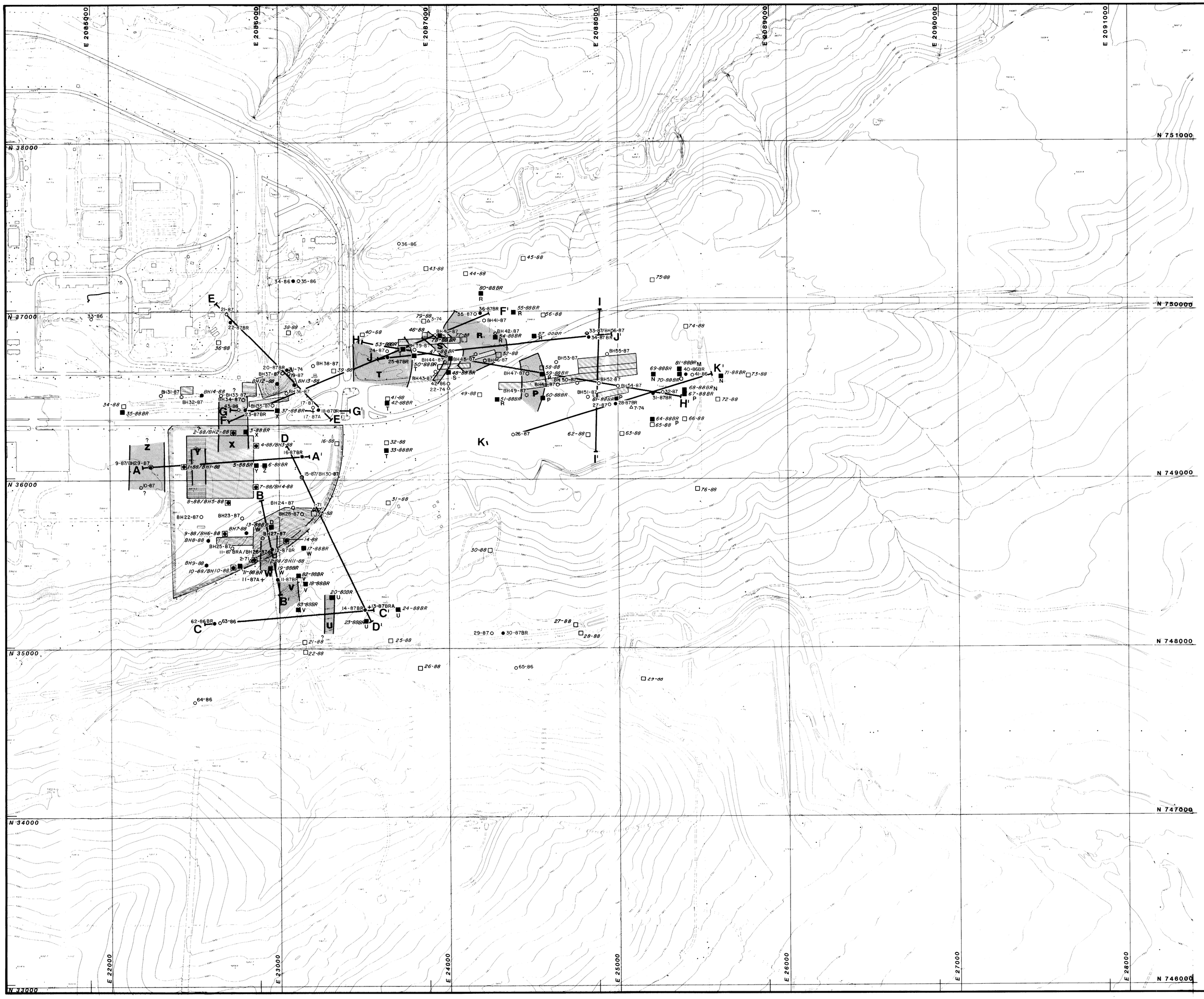
Plate 2-5:
903 Pad, Mound, East Trenches Areas

CROSS SECTIONS A-A', B-B', C-C', AND D-D'

July 1, 1988



EXPLANATION

- Line of Section
- SWMU Location
- 65-86 — Alluvial Monitor Well
- 30-87BR — Bedrock Monitor Well
- I-71 — Pre-1986 Monitor Well
- II-87A — Abandoned Hole
- BH22-87 — Borehole
- 4-88 — Proposed 1988 Alluvial Well
- 5-88BR — Proposed 1988 Bedrock Well
- BH6-88 — Proposed 1988 Borehole
- Z — Sandstone Subcroppings

N

Contour Interval = 2'
Scale: 1" = 200'

200' 0' 200' 400'

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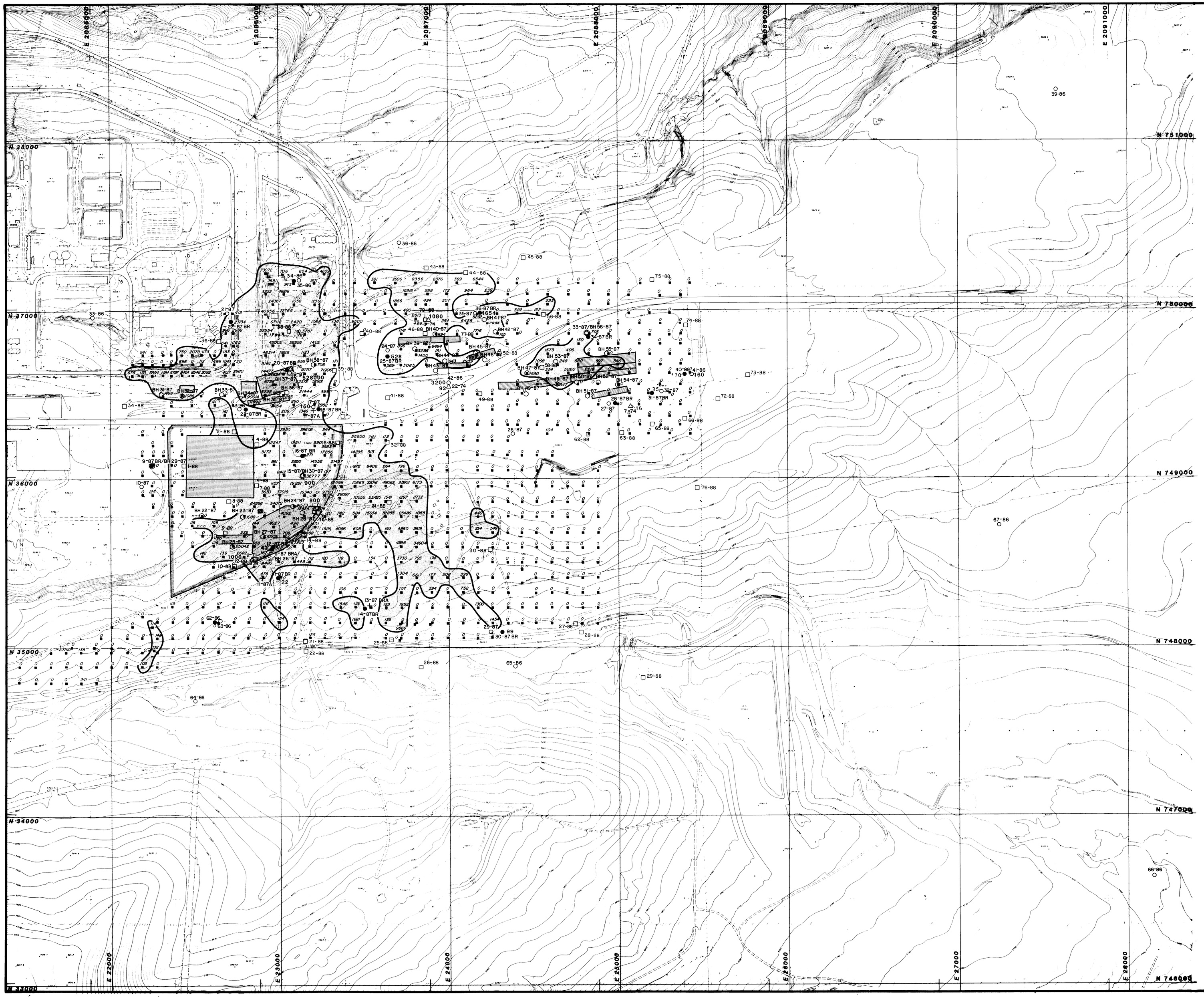
Plate 2-4:

903 Pad, Mound and East Trenches Areas

BOREHOLE, MONITOR WELL, CROSS SECTION, SOLID WASTE MANAGEMENT UNIT, AND 1988 PROPOSED WELL LOCATIONS

July 1, 1988



EXPLANATION

	Extent of PCE in Soil Gas
4654	Maximum Detected PCE Concentrations in Groundwater (µg/l)
	SWMU Location
■ 0	Soil Gas Sample Location
○ 4-87	Alluvial Monitor Well
● 5-87BR	Bedrock Monitor Well
△ 1-74	Pre-1986 Monitor Well
+ 7-87 BRA	Abandoned Hole
⬡ BH 11-87	Borehole
□ 29-88	Proposed Alluvial Wells

-N-

Contour Interval = 2'
Scale: 1" = 200'

200' 0' 200' 400'

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Plate 2-3

903 Pad, Mound, East Trenches Areas

TETRACHLOROETHENE MOLECULAR COUNTS IN SOIL GAS & PROPOSED ALLUVIAL WELL LOCATIONS

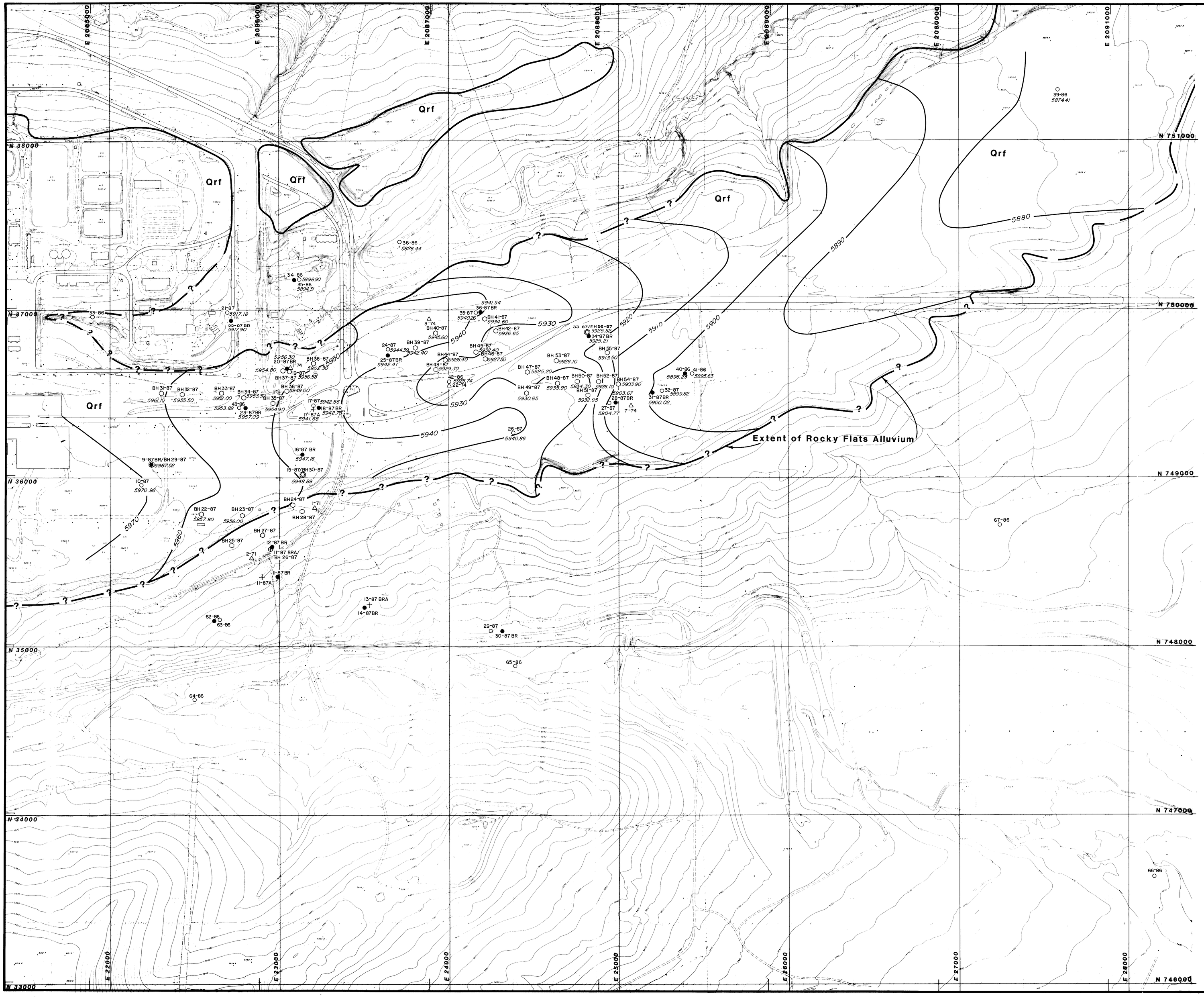
Qrf
Extent of Rocky Flats Alluvium
5880
5890
5900
5910
5920
5930
5940
5950
5960
5970
N 38000
N 37000
N 36000
N 35000
N 34000
N 33000
N 751000
N 750000
N 749000
N 748000
N 747000
N 746000
E 2085000
E 2086000
E 2087000
E 2088000
E 2089000
E 2090000
E 2091000
E 22000
E 23000
E 24000
E 25000
E 26000
E 27000
E 28000
EXPLANATION
Contact
Dashed where approximately located, queried where inferred.
5900
Top of Bedrock Elevation (feet above M.S.L.) Contour Interval = 10'
4-87 Alluvial Monitor Well
5-87BR Bedrock Monitor Well
1-74 Pre-1986 Monitor Well
7-87 BRA Abandoned Hole
BH 11-87 Borehole
N
Contour Interval = 2'
Scale: 1" = 200'
200' 0' 200' 400'
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Plate 2-2:
903 Pad, Mound, East Trenches Areas
TOP OF BEDROCK ELEVATION
BENEATH ROCKY FLATS ALLUVIUM
July 1, 1988