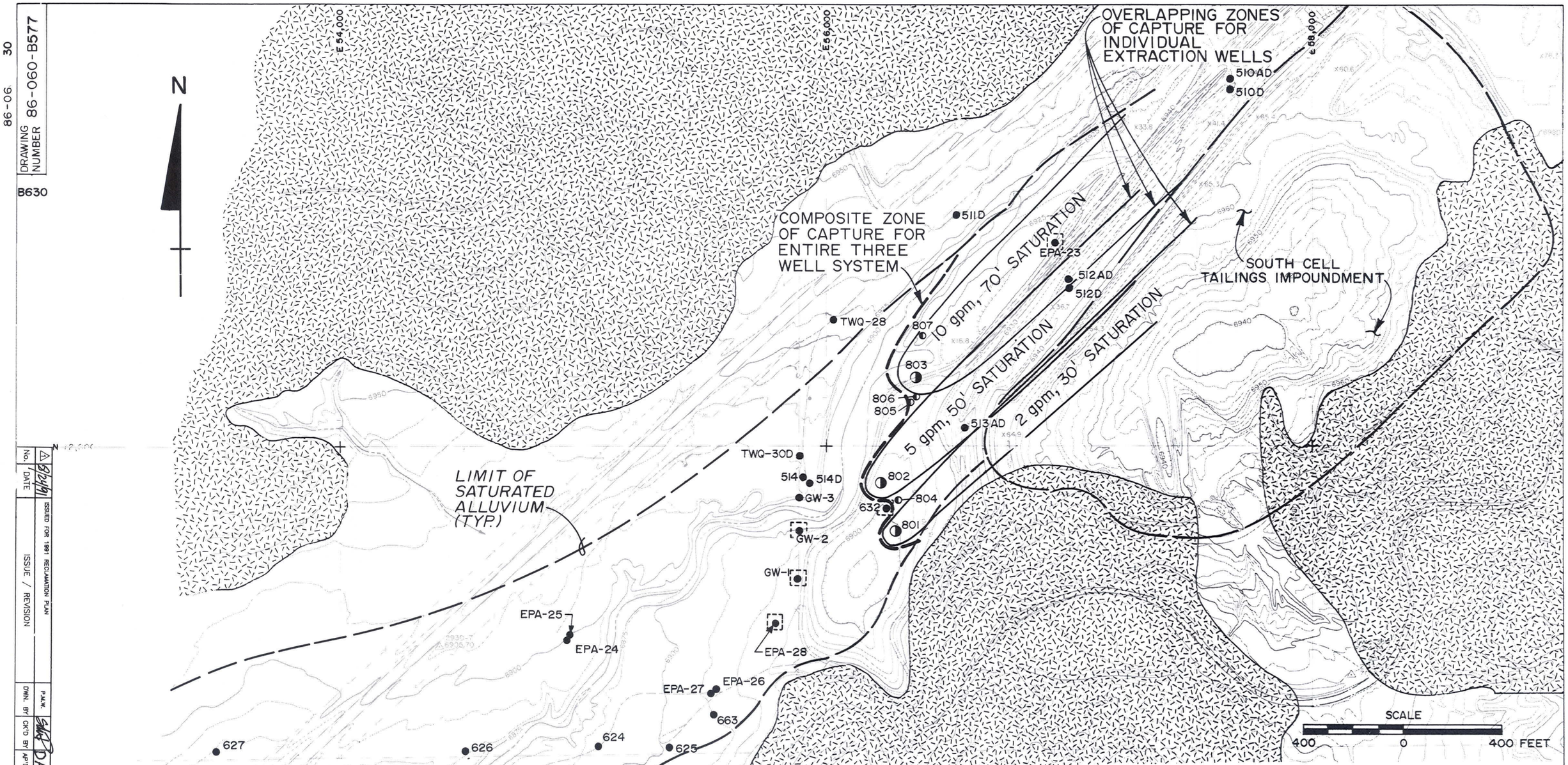


NOTES:

1. WELLS 513AD, 512D, AND 512AD WERE PLUGGED PURSUANT TO NRC LICENSE CONDITIONS.
2. AFTER DRAWING No. 86-060-B167 (FIGURE 3-10) IN AMENDMENT II (CANONIE, 1989a) AND (FIGURE 4-9) IN THE RD (CANONIE, 1989d).

REFERENCE:
TOPOGRAPHIC MAP PROVIDED BY UNITED NUCLEAR CORPORATION. DRAWING NO. 1796-A DATED: MAY 1, 1985.
SCALE: 1" = 400'.

N 70,000

LEGEND:

- BEDROCK OUTCROP
- ALLUVIUM
- 663 ● WELL DESIGNATION
- 801 PROPOSED PUMPING WELL
- 804 PROPOSED MONITORING WELL
- GW-1 EXISTING POINT OF COMPLIANCE WELLS - PROPOSED FOR SYSTEM MONITORING

PUMPING RATES	
WELL	GPM
801	2
802	5
803	10

PREDICTED CAPTURE ZONE MAP WITH PROPOSED WELLS FOR THE REMEDIAL DESIGN

PREPARED FOR

UNC MINING AND MILLING
GALLUP, NEW MEXICO

Canonie Environmental

DATE: 6-4-91
SCALE: AS SHOWN
FIGURE 6-27
DRAWING NUMBER 86-060-B577

86-060-B630

No.	DATE	ISSUE / REVISION
1	8/24/91	ISSUED FOR 1991 RECLAMATION PLAN

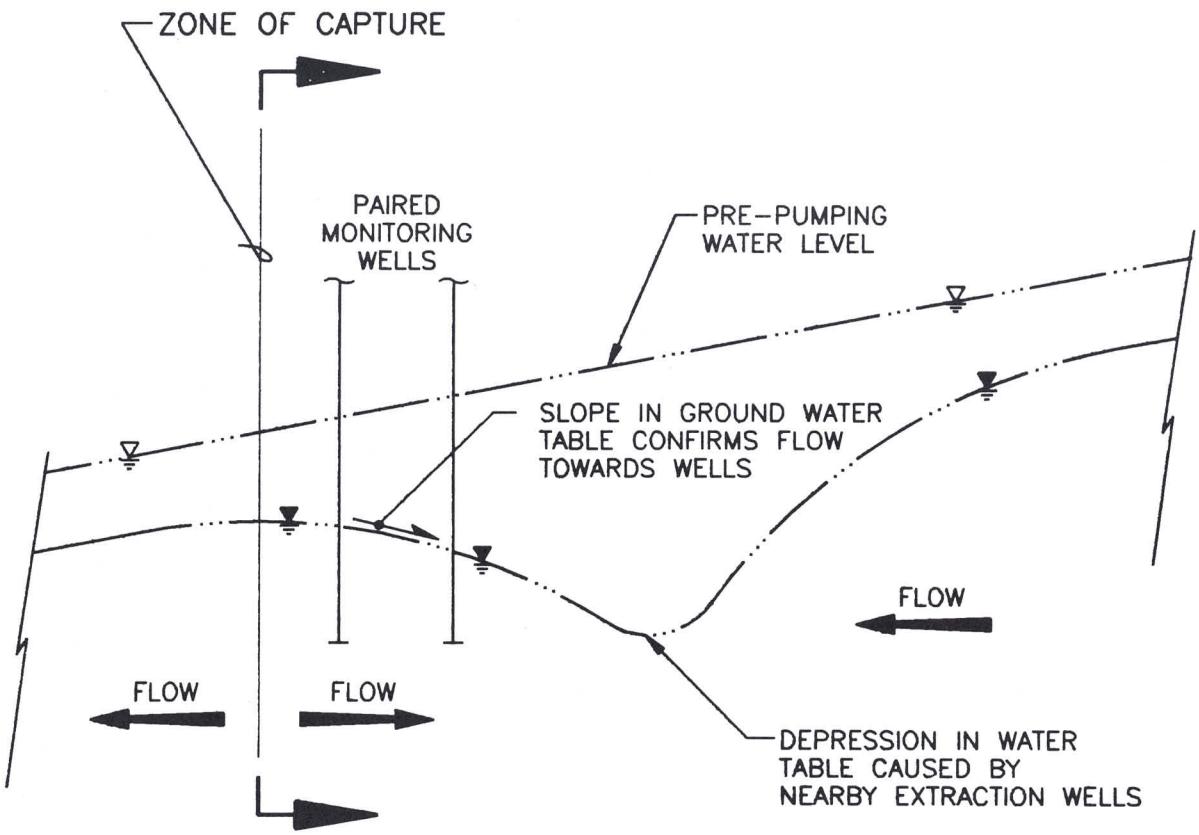
DWN. BY P.A.W.
CK'D BY
APP'D BY DHG

DRAWING NUMBER 86-060-B577

86-06 30

B630

DRAWING NUMBER 86-060-A610



NOTE:

1. AFTER DRAWING No. 86-060-A202 (FIGURE 3-12) IN AMENDMENT II (CANONIE, 1989a) AND (FIGURE 4-10) IN THE RD (CANONIE, 1989d).

SCHEMATIC ILLUSTRATION-
CONFIRMATION OF
FLOW TOWARDS EXTRACTION WELLS
BY PAIRED MONITORING WELLS
FOR THE REMEDIAL DESIGN

PREPARED FOR

UNC MINING AND MILLING
GALLUP, NEW MEXICO

CanonieEnvironmental

No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY
1	8/24/91	ISSUED FOR 1991 RECLAMATION PLAN	M.T.H.	Sdut	DHG

DATE: 5-24-91
SCALE: AS SHOWN

FIGURE 6-28

DRAWING NUMBER 86-060-A610

1

102340

86-060-B609

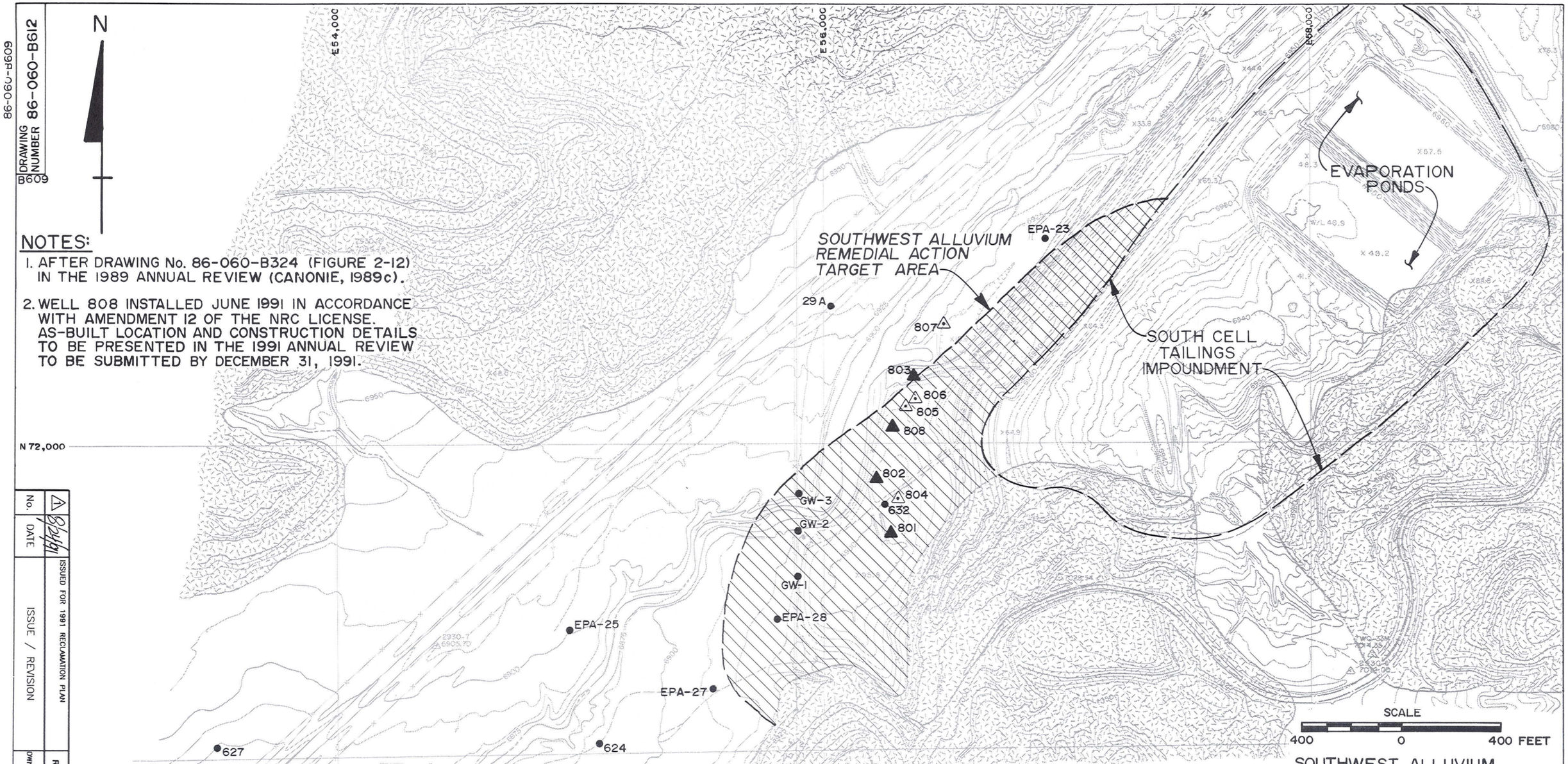
DRAWING NUMBER 86-060-B612

B609

N

NOTES:

1. AFTER DRAWING No. 86-060-B324 (FIGURE 2-12) IN THE 1989 ANNUAL REVIEW (CANONIE, 1989c).
2. WELL 808 INSTALLED JUNE 1991 IN ACCORDANCE WITH AMENDMENT 12 OF THE NRC LICENSE. AS-BUILT LOCATION AND CONSTRUCTION DETAILS TO BE PRESENTED IN THE 1991 ANNUAL REVIEW TO BE SUBMITTED BY DECEMBER 31, 1991.



No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	APP'D BY
1	8/26/91	ISSUED FOR 1991 RECLAMATION PLAN	R.H.		

REFERENCE:
TOPOGRAPHIC MAP OF SEC. 2, T16N, R16W N.M.P.M. & VICINITY PROVIDED BY UNITED NUCLEAR CORPORATION, GALLUP, N.M. DATED: 9-29-89. SCALE: 1" = 200'.

LEGEND:

●624	EXISTING MONITORING WELL
▲801	SOUTHWEST ALLUVIUM EXTRACTION WELL
△804	SOUTHWEST ALLUVIUM OBSERVATION WELL

SOUTHWEST ALLUVIUM WELL LOCATIONS AS OF JUNE 1991

PREPARED FOR

UNC MINING AND MILLING
GALLUP, NEW MEXICO

Canonie Environmental

DATE: 8-13-91	FIGURE 6-29	DRAWING NUMBER
SCALE: AS SHOWN		86-060-B612

86-060-B609 1

86-060-B609

DRAWING NUMBER 86-060-B616

B609

N

NOTE:

1. AFTER DRAWING No. 86-060-B328 (FIGURE 2-13) IN THE 1989 ANNUAL REVIEW (CANONIE, 1989c).

E54,000

E56,000

E58,000

N 72,000

N 70,000

EVAPORATION PONDS

SOUTH CELL TAILINGS IMPOUNDMENT

6900

6895

6890

6885

6880

6875

6870

6865

6860

6855

6850

6845

EPA-23 (6896.7)

29A

807 (6884.5)

803 (6880.4)

806 (6879.8)

805 (6879.3)

(6874.8) 802

514AD (6873.1)

GW-3 (6870.4)

(6874.0) 632

804 (6874.5)

GW-2 (6870.1)

801 (6873.4)

GW-1 (6868.9)

EPA-28 (6867.7)

(6861.1) EPA-25

EPA-27 (6864.8)

(6860.4) 624

(6846.8) 627

SCALE

400 0 400 FEET

REFERENCE:

TOPOGRAPHIC MAP OF SEC. 2, T16N, R16W N.M.P.M. & VICINITY PROVIDED BY UNITED NUCLEAR CORPORATION, GALLUP, N.M. DATED: 9-29-89. SCALE: 1" = 200'.

LEGEND:

●624	EXISTING MONITORING WELL
▲801	SOUTHWEST ALLUVIUM EXTRACTION WELL
△804	SOUTHWEST ALLUVIUM OBSERVATION WELL
—6860—	WATER LEVEL ELEVATION CONTOURS, FEET (DASHED WHERE INFERRED)
(6860.4)	WATER LEVEL ELEVATION, FEET

SOUTHWEST ALLUVIUM POTENTIOMETRIC SURFACE, INITIAL CONDITIONS OCTOBER 16, 1989

PREPARED FOR

UNC MINING AND MILLING GALLUP, NEW MEXICO

Canonie Environmental

No.	DATE	ISSUE / REVISION	DWN.	CHK'D	APP'D
1	8/24/91	ISSUED FOR 1991 RECLAMATION PLAN	P.M.W.		

DATE: 12-7-89	FIGURE 6-30	DRAWING NUMBER
SCALE: AS SHOWN		86-060-B616

86-060-B609 1

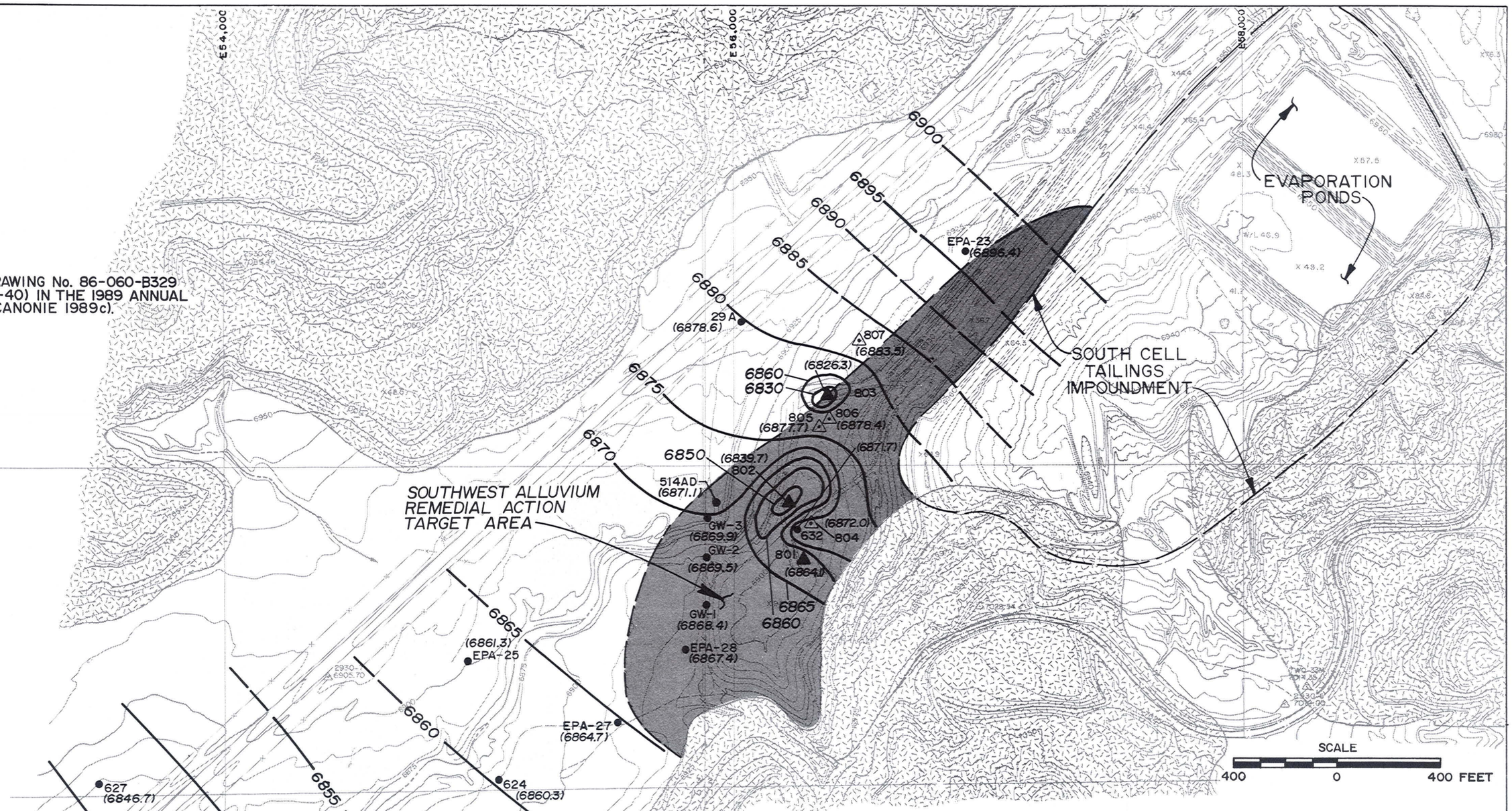
DRAWING NUMBER 86-060-B648

B609

N

NOTE:

1. AFTER DRAWING No. 86-060-B329 (FIGURE 6-40) IN THE 1989 ANNUAL REVIEW (CANONIE 1989c).



No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY
1	8/24/91	ISSUED FOR 1991 RECLAMATION PLAN	P.M.W.		

REFERENCE:

TOPOGRAPHIC MAP OF SEC. 2, T16N, R16W N.M.P.M. & VICINITY PROVIDED BY UNITED NUCLEAR CORPORATION, GALLUP, N.M. DATED: 9-29-89. SCALE: 1" = 200'.

LEGEND:

●624	EXISTING MONITORING WELL
▲801	SOUTHWEST ALLUVIUM EXTRACTION WELL
△804	SOUTHWEST ALLUVIUM OBSERVATION WELL
—6860—	WATER LEVEL ELEVATION CONTOURS, FEET (DASHED WHERE INFERRED)
(6860.4)	WATER LEVEL ELEVATION, FEET

SOUTHWEST ALLUVIUM POTENTIOMETRIC SURFACE, DECEMBER 4, 1989

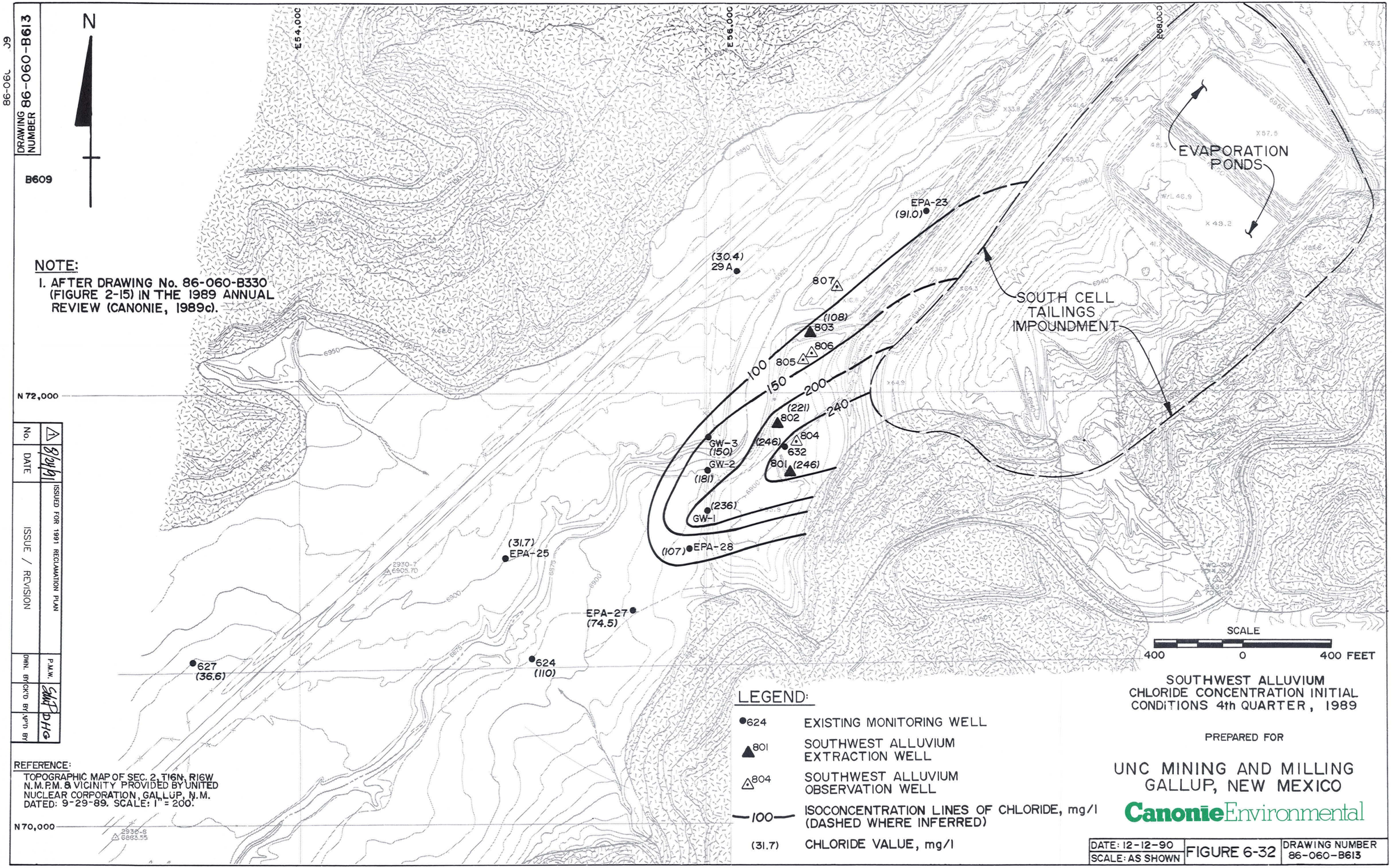
PREPARED FOR

UNC MINING AND MILLING
GALLUP, NEW MEXICO

Canonie Environmental

DATE: 12-7-89	FIGURE 6-31	DRAWING NUMBER 86-060-B648
SCALE: AS SHOWN		

86-060-B609 1



NOTE:

1. AFTER DRAWING No. 86-060-B330 (FIGURE 2-15) IN THE 1989 ANNUAL REVIEW (CANONIE, 1989c).

REFERENCE:
TOPOGRAPHIC MAP OF SEC. 2, T16N, R16W N.M.P.M. & VICINITY PROVIDED BY UNITED NUCLEAR CORPORATION, GALLUP, N.M. DATED: 9-29-89. SCALE: 1" = 200'.

LEGEND:

●624	EXISTING MONITORING WELL
▲801	SOUTHWEST ALLUVIUM EXTRACTION WELL
△804	SOUTHWEST ALLUVIUM OBSERVATION WELL
—100—	ISOCONCENTRATION LINES OF CHLORIDE, mg/l (DASHED WHERE INFERRED)
(31.7)	CHLORIDE VALUE, mg/l

SOUTHWEST ALLUVIUM CHLORIDE CONCENTRATION INITIAL CONDITIONS 4th QUARTER, 1989

PREPARED FOR

UNC MINING AND MILLING GALLUP, NEW MEXICO

Canonie Environmental

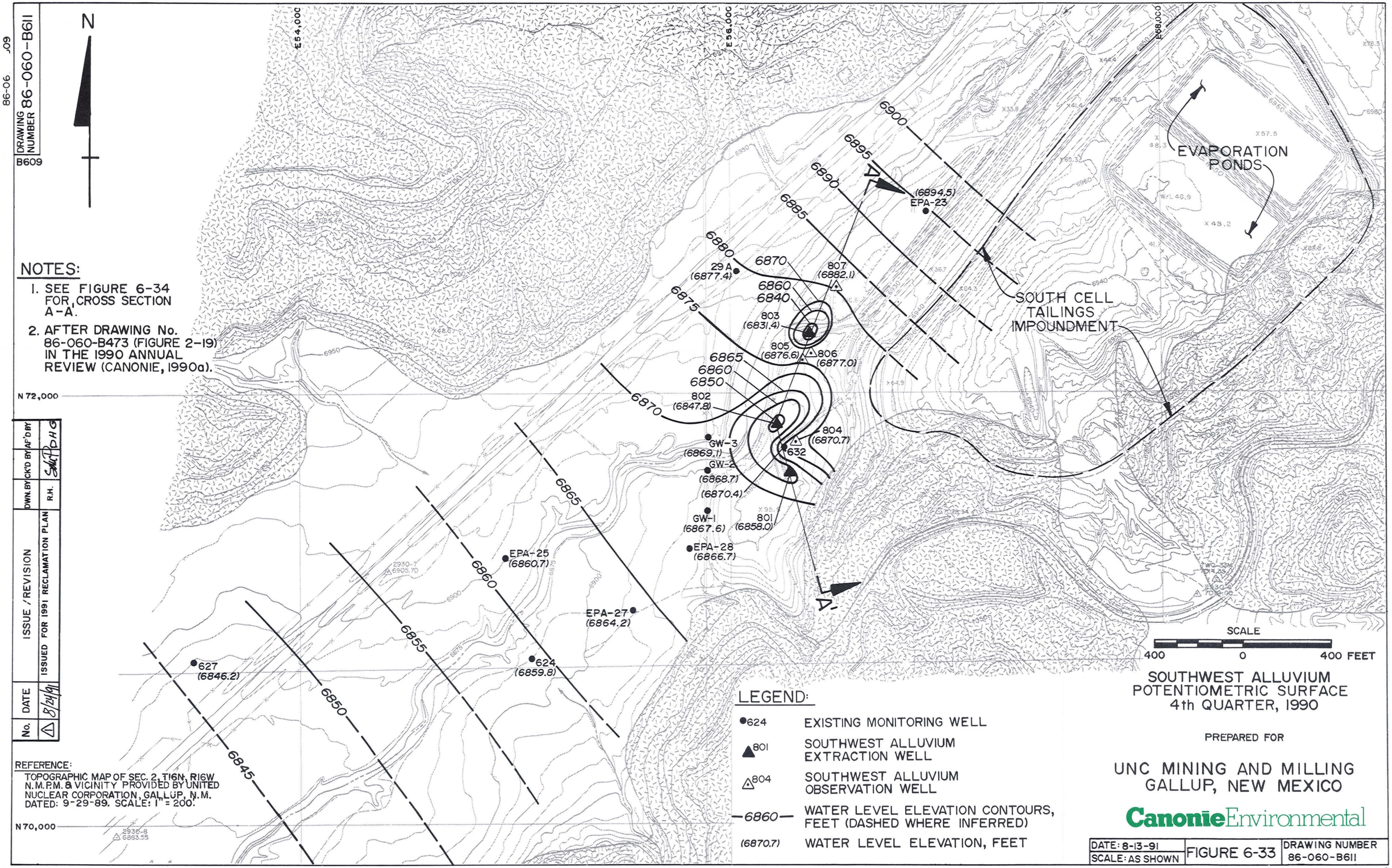
DATE: 12-12-90	FIGURE 6-32	DRAWING NUMBER 86-060-B613
SCALE: AS SHOWN		

86-060-B609 1

DRAWING NUMBER 86-060-B613

No.	DATE	ISSUE / REVISION
1	8/24/91	ISSUED FOR 1991 RECLAMATION PLAN

DWN. BY: P.M.W. CK'D BY: DHG APP'D BY:



DRAWING NUMBER 86-060-B611

B609

86-06 60'

NOTES:

1. SEE FIGURE 6-34 FOR CROSS SECTION A-A'.
2. AFTER DRAWING No. 86-060-B473 (FIGURE 2-19) IN THE 1990 ANNUAL REVIEW (CANONIE, 1990a).

No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AF'D BY
1	8/24/91	ISSUED FOR 1991 RECLAMATION PLAN	R.H.		

REFERENCE:
TOPOGRAPHIC MAP OF SEC. 2, T16N, R16W N.M.P.M. & VICINITY PROVIDED BY UNITED NUCLEAR CORPORATION, GALLUP, N.M. DATED: 9-29-89. SCALE: 1" = 200'.

LEGEND:

●624	EXISTING MONITORING WELL
▲801	SOUTHWEST ALLUVIUM EXTRACTION WELL
△804	SOUTHWEST ALLUVIUM OBSERVATION WELL
—6860—	WATER LEVEL ELEVATION CONTOURS, FEET (DASHED WHERE INFERRED)
(6870.7)	WATER LEVEL ELEVATION, FEET

SOUTHWEST ALLUVIUM POTENTIOMETRIC SURFACE 4th QUARTER, 1990

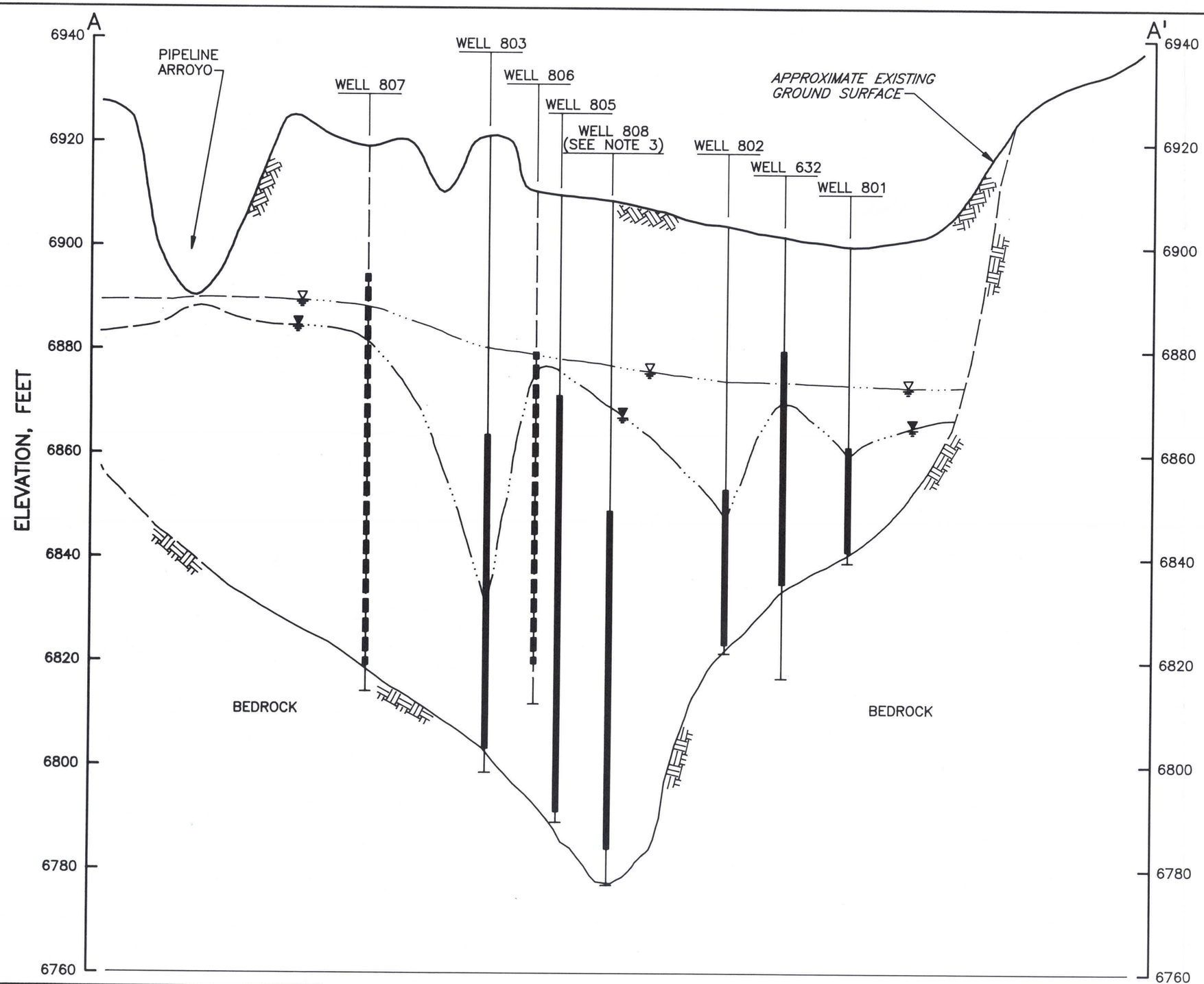
PREPARED FOR

UNC MINING AND MILLING
GALLUP, NEW MEXICO

Canonie Environmental

DATE: 8-13-91	FIGURE 6-33	DRAWING NUMBER
SCALE: AS SHOWN		86-060-B611

86-060-B609 △1



LOOKING NORTHEAST

LEGEND:

WELL

SCREENED INTERVAL

PRE-OPERATIONAL WATER LEVEL

CURRENT WATER LEVEL

NOTES:

1. SEE FIGURE 2-33 FOR LOCATION OF CROSS SECTION.
2. DASHED WELLS ARE PROJECTED TO CROSS SECTION A-A'.
3. WELL 808 WAS INSTALLED AND BEGAN OPERATING IN JUNE 1991. SEE FIGURE 6-29 FOR THE LOCATION OF THE WELL.

VERTICAL SCALE

20 0 20 FEET

HORIZONTAL SCALE

200 0 200 FEET

VERTICAL EXAGGERATION = 10x

CROSS SECTION
ILLUSTRATING EFFECT OF
SW ALLUVIUM EXTRACTION WELLS
4th QUARTER, 1990

PREPARED FOR

UNC MINING AND MILLING
GALLUP, NEW MEXICO

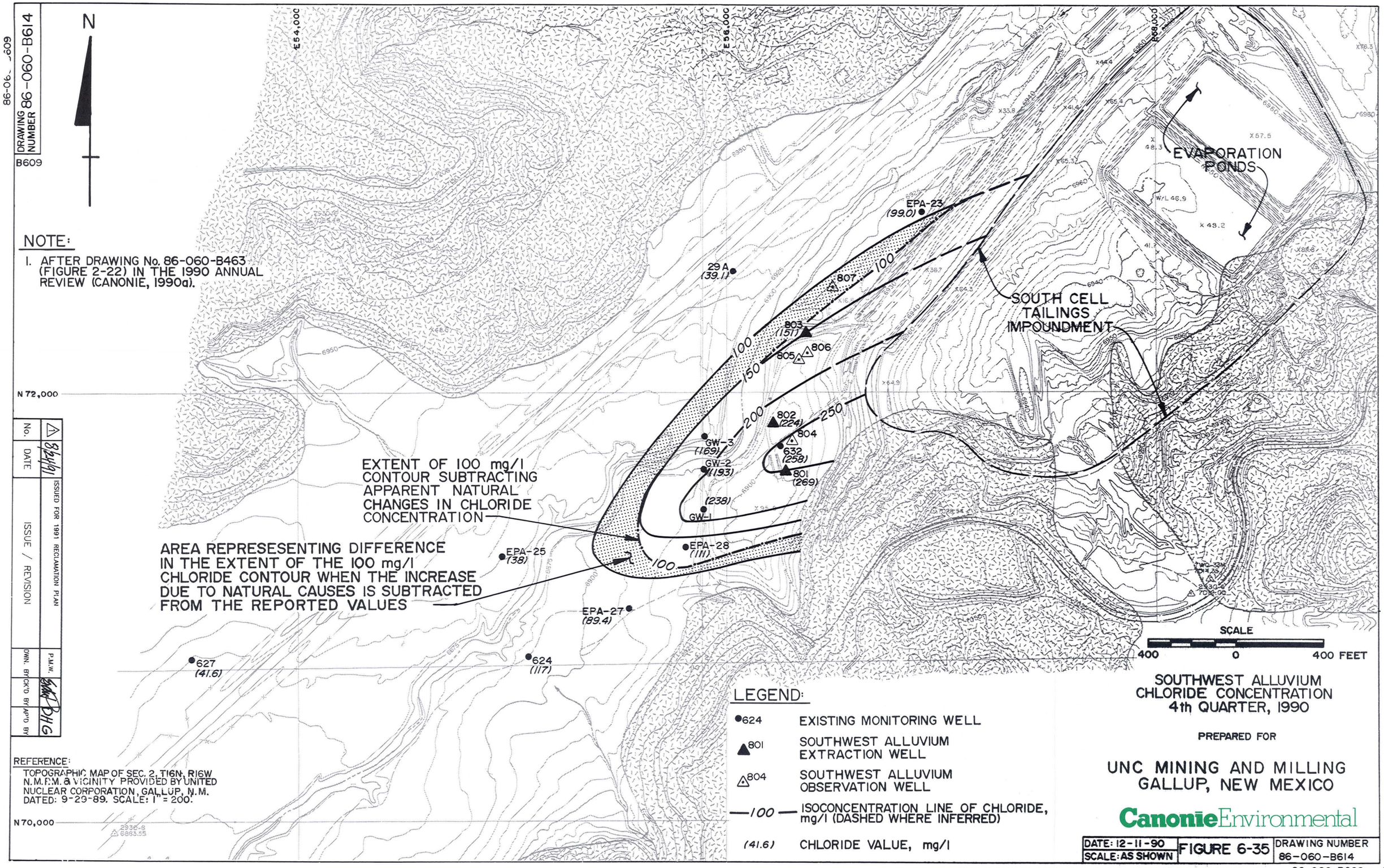
Canonie Environmental

No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY
1	8/24/91	ISSUED FOR 1991 RECLAMATION PLAN	P.M.W.	[illegible]	DHG

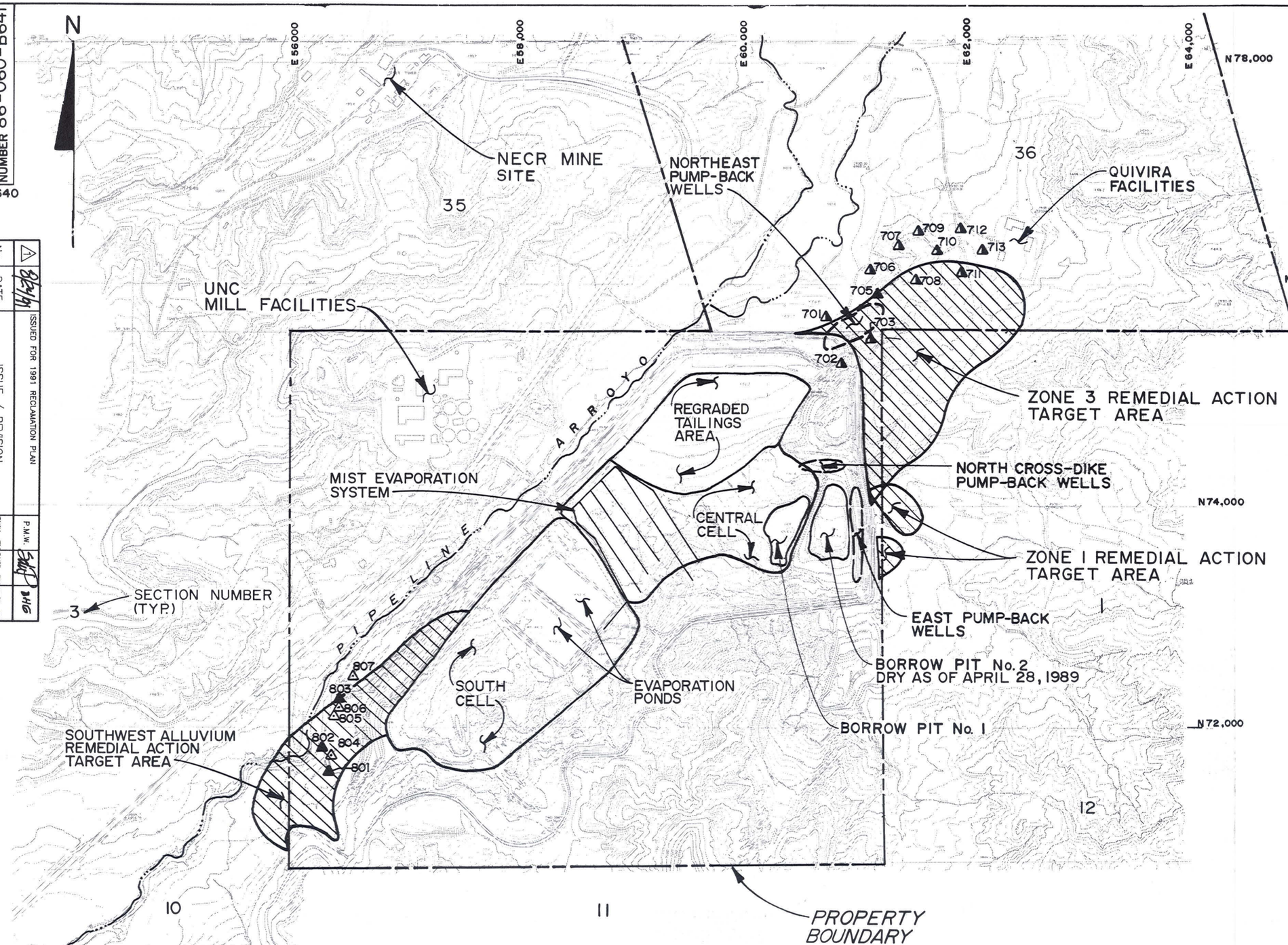
DATE: 8-12-91 SCALE: AS SHOWN	FIGURE 6-34	DRAWING NUMBER 86-060-B601

DRAWING NUMBER 86-060-B601

1



N
DRAWING NUMBER 86-060-B614
B609
86-06_ _609
NOTE:
1. AFTER DRAWING No. 86-060-B463 (FIGURE 2-22) IN THE 1990 ANNUAL REVIEW (CANONIE, 1990a).
E54,000
E56,000
E58,000
N 72,000
N 70,000
EVAPORATION PONDS
SOUTH CELL TAILINGS IMPOUNDMENT
EPA-23 (99.0)
29 A (39.1)
807
803 (151)
805
806
802 (224)
804
632 (258)
801 (269)
GW-3 (169)
GW-2 (193)
(238) GW-1
EPA-28 (111)
EPA-25 (38)
EPA-27 (89.4)
627 (41.6)
624 (117)
100
150
200
250
EXTENT OF 100 mg/l CONTOUR SUBTRACTING APPARENT NATURAL CHANGES IN CHLORIDE CONCENTRATION
AREA REPRESESENTING DIFFERENCE IN THE EXTENT OF THE 100 mg/l CHLORIDE CONTOUR WHEN THE INCREASE DUE TO NATURAL CAUSES IS SUBTRACTED FROM THE REPORTED VALUES
SCALE
400 0 400 FEET
LEGEND:
624 EXISTING MONITORING WELL
801 SOUTHWEST ALLUVIUM EXTRACTION WELL
804 SOUTHWEST ALLUVIUM OBSERVATION WELL
100 ISOCONCENTRATION LINE OF CHLORIDE, mg/l (DASHED WHERE INFERRED)
(41.6) CHLORIDE VALUE, mg/l
REFERENCE:
TOPOGRAPHIC MAP OF SEC. 2, T16N, R16W N.M.P.M. & VICINITY PROVIDED BY UNITED NUCLEAR CORPORATION, GALLUP, N.M. DATED: 9-29-89. SCALE: 1" = 200'.
SOUTHWEST ALLUVIUM CHLORIDE CONCENTRATION 4th QUARTER, 1990
PREPARED FOR
UNC MINING AND MILLING GALLUP, NEW MEXICO
Canonie Environmental
DATE: 12-11-90
SCALE: AS SHOWN
FIGURE 6-35
DRAWING NUMBER 86-060-B614
86-060-B609
1
No. DATE ISSUE / REVISION
1 8/24/91 ISSUED FOR 1991 RECLAMATION PLAN
DWN. BY P.M.W.
CK'D BY
AP'D BY DHG



LEGEND:

706▲ ZONE 3 - STAGE I EXTRACTION WELL LOCATION AND NUMBER

801▲ SOUTHWEST ALLUVIUM EXTRACTION WELL LOCATION AND NUMBER

807△ SOUTHWEST ALLUVIUM OBSERVATION WELL LOCATION AND NUMBER

NOTE:

1. AFTER DRAWING No. 86-060-B313 (FIGURE 1-1) IN THE 1989 ANNUAL REVIEW (CANONIE, 1989c).

SCALE
400 0 400 800 FEET

ACTUAL SITE CONDITIONS
4th QUARTER 1989

PREPARED FOR

UNC MINING AND MILLING
GALLUP, NEW MEXICO

Canonie Environmental

REFERENCE:

TOPOGRAPHIC MAP OF SEC. 2, T 16 N, R 16 W N.M.P.M. & VICINITY. PROVIDED BY UNITED NUCLEAR CORPORATION, GALLUP, NEW MEXICO.
DATED: 9-29-89. SCALE: 1" = 200.'

DATE: 8-14-91	FIGURE 6-36	DRAWING NUMBER
SCALE: AS SHOWN		86-060-B641

86-060-B640

DRAWING NUMBER	86-060-B641
B640	

No.	DATE	ISSUE / REVISION	DWN. BY	CK'D. BY	APP'D. BY
1	8/21/91	ISSUED FOR 1991 RECLAMATION PLAN	P.W.		

86-06. 40

DRAWING NUMBER 86-060-B639

B475

N

E 56,000 E 58,000 E 60,000 E 62,000 E 64,000

N 78,000 N 76,000 N 74,000 N 72,000

35 36 1 12 10 11

NECR MINE SITE

NORTHEAST PUMP-BACK WELLS

QUIVIRA FACILITIES

UNC MILL FACILITIES

REGRADED TAILINGS AREA

ARROYO

PIPELINE

ZONE 3 REMEDIAL ACTION TARGET AREA

NORTH CROSS-DIKE PUMP-BACK WELLS

ZONE 1 REMEDIAL ACTION TARGET AREA

SPRAY EVAPORATION SYSTEM

EAST PUMP-BACK WELLS

BORROW PIT No. 2 DRY AS OF APRIL 28, 1989

SOUTH CELL

EVAPORATION PONDS

SOUTHWEST ALLUVIUM REMEDIAL ACTION TARGET AREA

SECTION NUMBER (TYP.)

PROPERTY BOUNDARY

701 702 703 705 706 707 708 709 710 711 712 713 617 EPA-7 616 615 807 803 806 805 802 804 801

LEGEND:

706 ▲ ZONE 3 - STAGE I EXTRACTION WELL LOCATION AND NUMBER

801 ▲ SOUTHWEST ALLUVIUM EXTRACTION WELL LOCATION AND NUMBER

807 △ SOUTHWEST ALLUVIUM OBSERVATION WELL LOCATION AND NUMBER

615 ● REVISED EAST PUMP-BACK WELL LOCATION AND NUMBER

NOTE:

1. AFTER DRAWING No. 86-060-B455 (FIGURE 1-1) IN THE 1990 ANNUAL REVIEW (CANONIE, 1990a).

SCALE

400 0 400 800 FEET

ACTUAL SITE CONDITIONS
4th QUARTER 1990

PREPARED FOR

UNC MINING AND MILLING
GALLUP, NEW MEXICO

Canonie Environmental

REFERENCE:

TOPOGRAPHIC MAP OF SEC. 2, T 16 N, R 16 W N.M.P.M. & VICINITY. PROVIDED BY UNITED NUCLEAR CORPORATION, GALLUP, NEW MEXICO. DATED: 9-29-89. SCALE: 1" = 200'. PORTIONS REVISED USING PHOTOGRAPHY DATED: 8-18-90.

No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY
1	8/24/91	ISSUED FOR 1991 RECLAMATION PLAN	M.B.H.		DHG

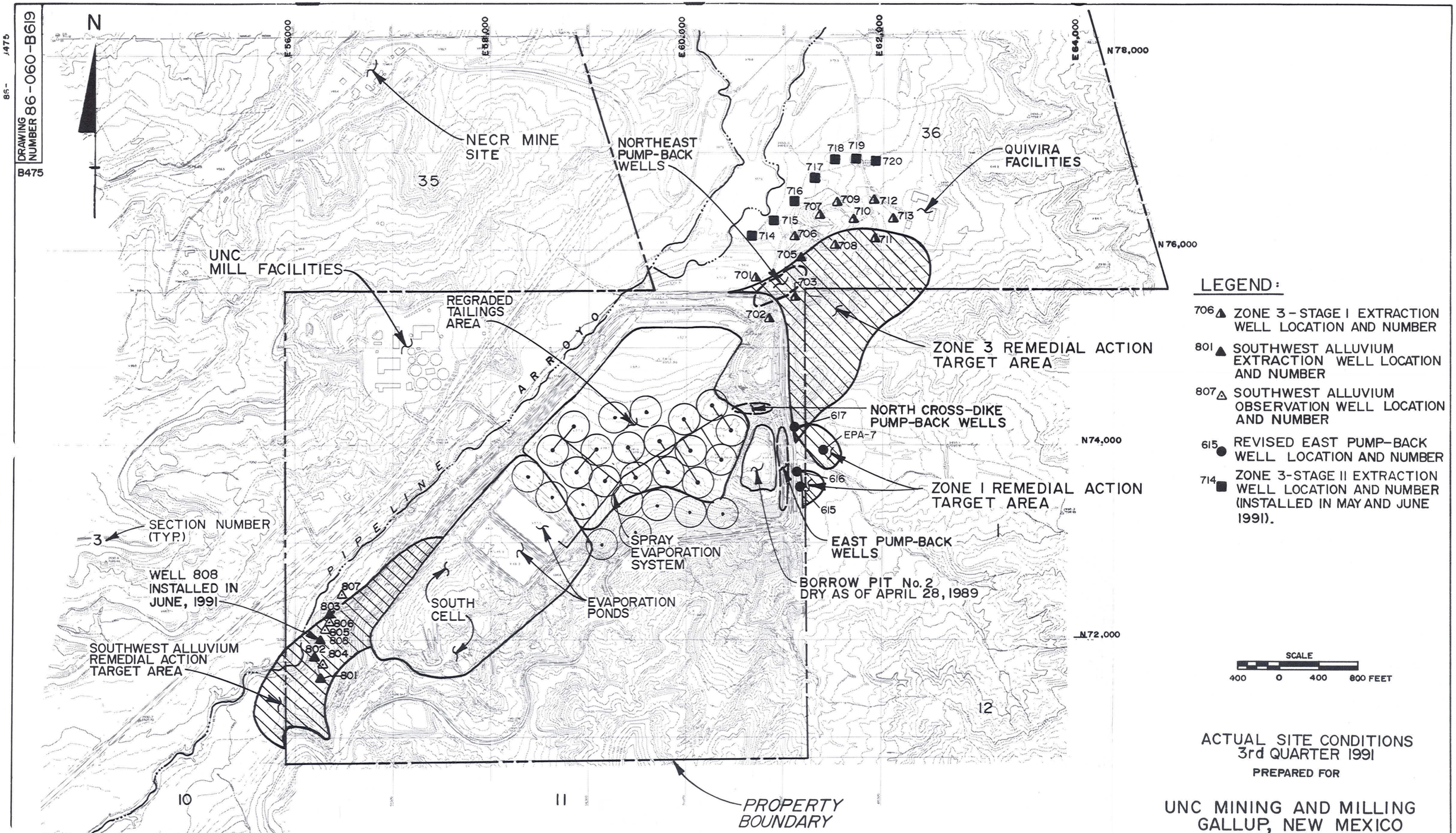
DATE: 12-6-90
SCALE: AS SHOWN

FIGURE 6-37

DRAWING NUMBER 86-060-B639

86-060-B475

1



DRAWING NUMBER 86-060-B619

B475

REFERENCE:

TOPOGRAPHIC MAP OF SEC. 2, T16N, R16W N.M.P.M. & VICINITY. PROVIDED BY UNITED NUCLEAR CORPORATION, GALLUP, NEW MEXICO. DATED: 9-29-89. SCALE: 1" = 200'. PORTIONS REVISED USING PHOTOGRAPHY DATED: 8-18-90.

No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY
1	8/24/91	ISSUED FOR 1991 RECLAMATION PLAN	M.B.H.	[illegible]	DHG

ACTUAL SITE CONDITIONS
3rd QUARTER 1991

PREPARED FOR

UNC MINING AND MILLING
GALLUP, NEW MEXICO

Canonie Environmental

DATE: 12-6-90	FIGURE 6-38	DRAWING NUMBER 86-060-B619
SCALE: AS SHOWN		

86-060-B475

1