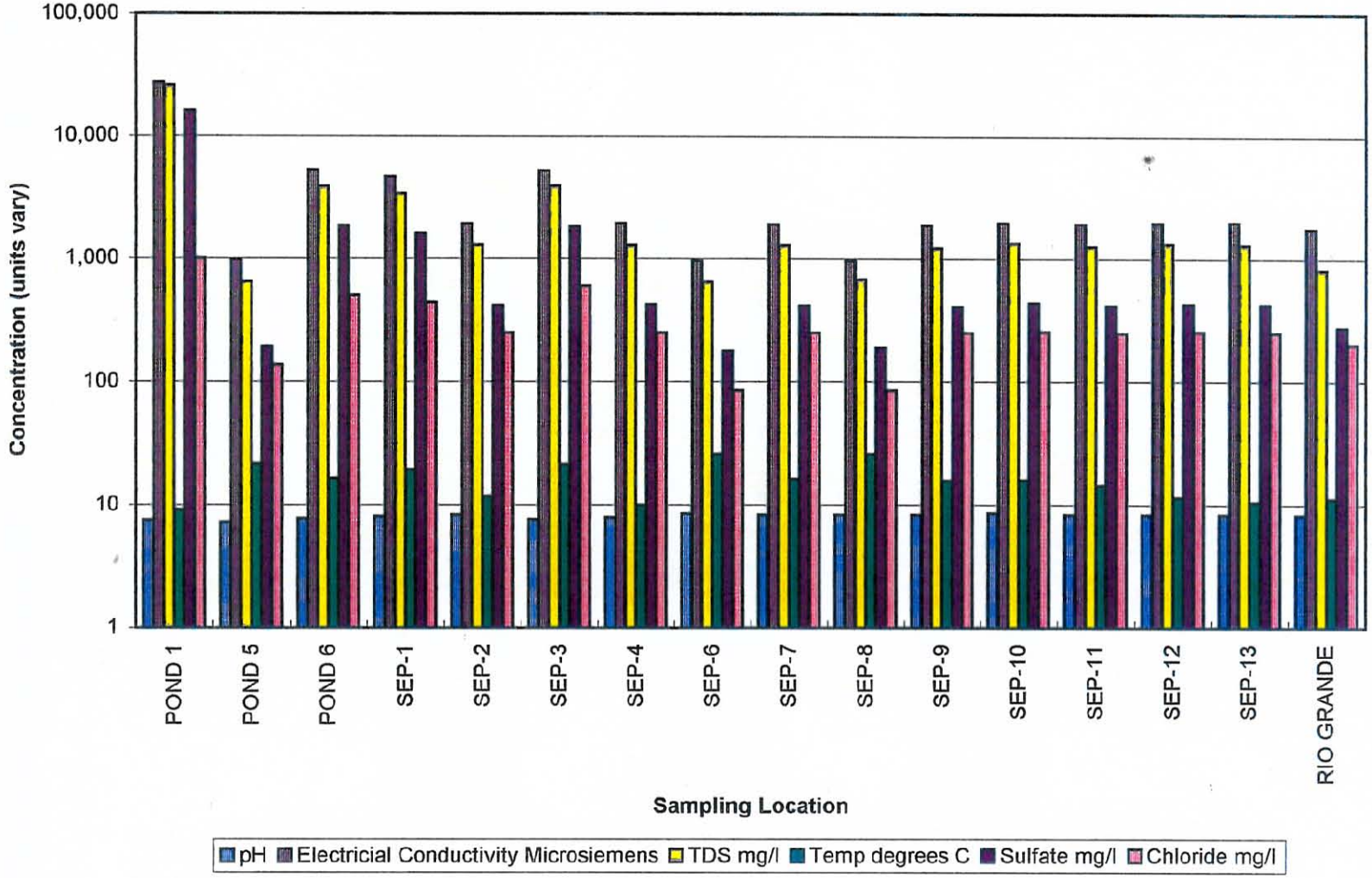
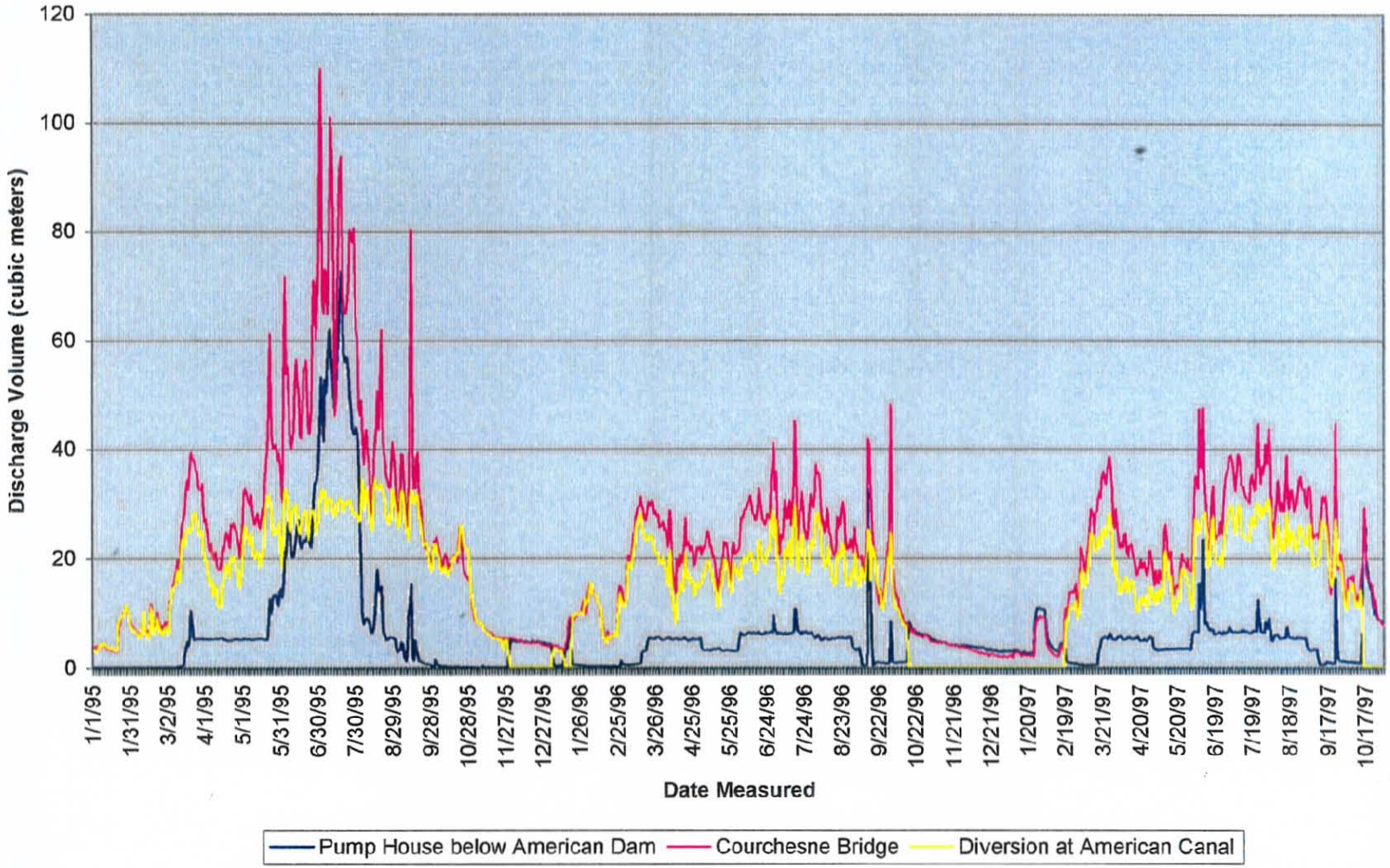
Figure 2-11. Water Quality Data for Surface Water Samples and the Rio Grande at Courchesne Bridge, November 1997



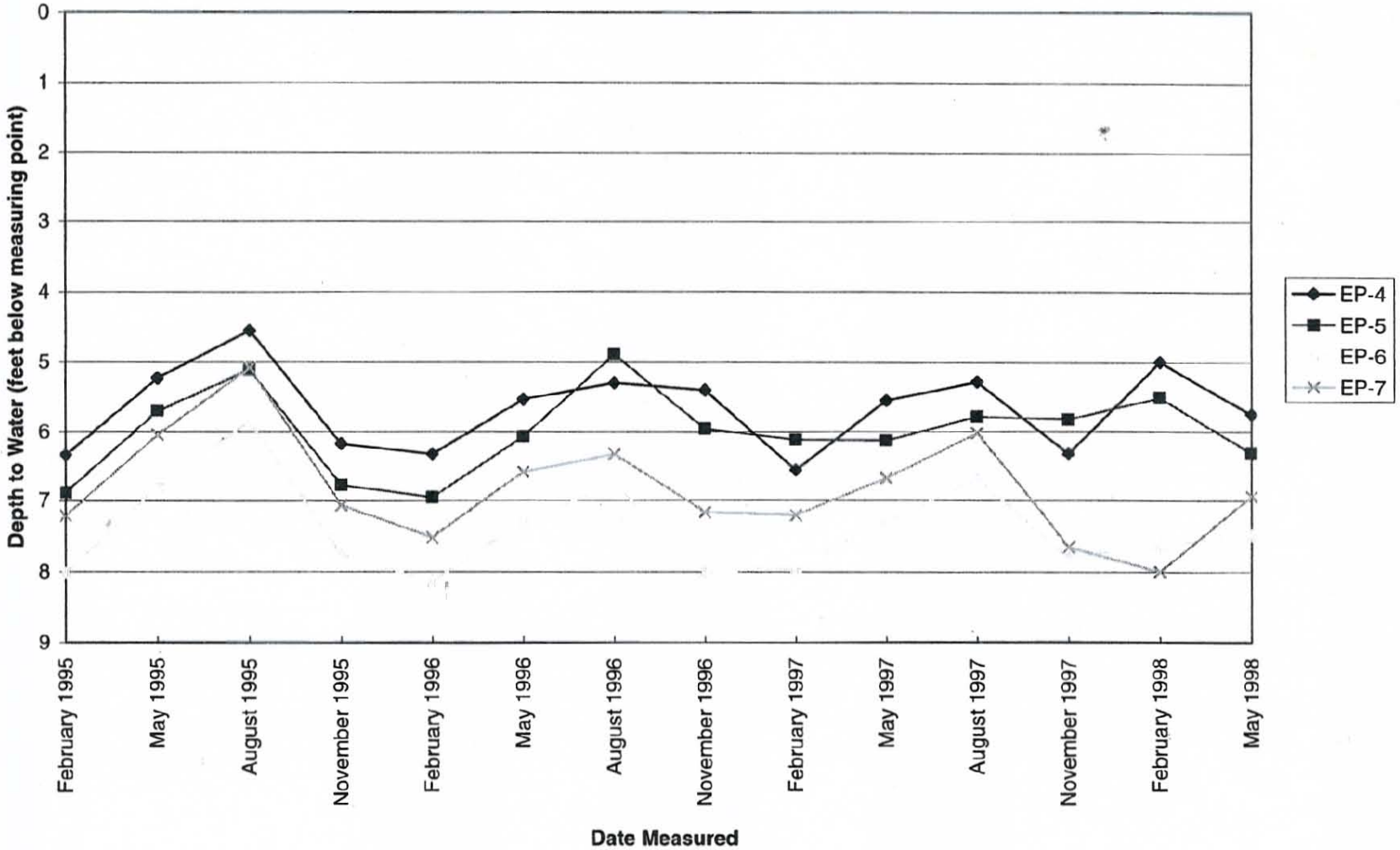
H:\FILES\126\0734\FIGURES\Riogrand\Fig.2-11WQ surf & Rio Grd., 97\TUC\9/15/98\065\

Figure 2-12. Rio Grande Daily Mean Flow Volumes at Three Measuring Locations, 1995 - 1997



H:\FILES\128\0734\RIREPORT\FIGURES\Riostuff\Fig.2-12 flow vol. 95-97\TUC\9/15/98\065

Figure 2-13. Depths to Water (feet) in Wells Located Adjacent to Rio Grande, 1995 through 1998



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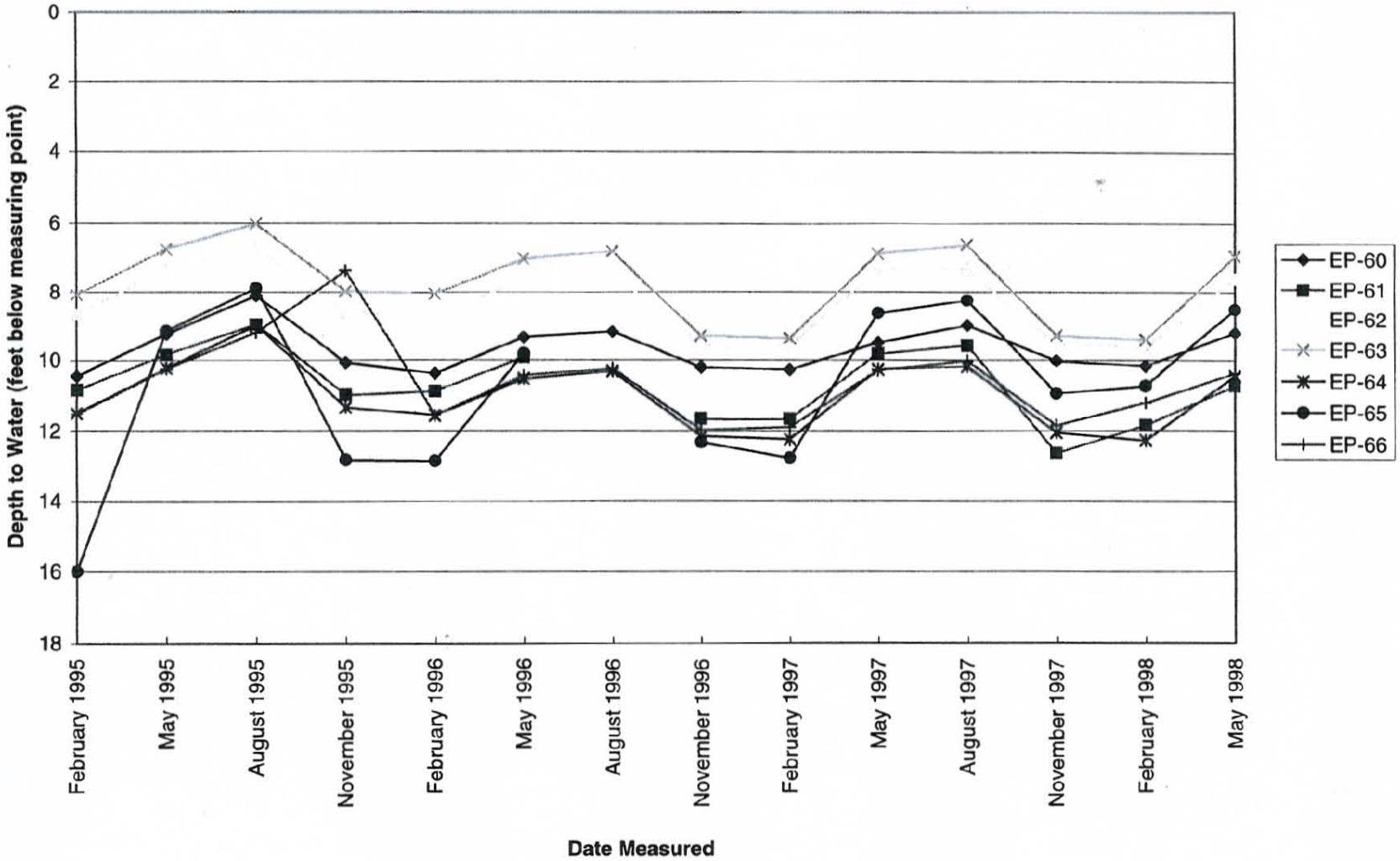
See Exhibit 1 for locations.

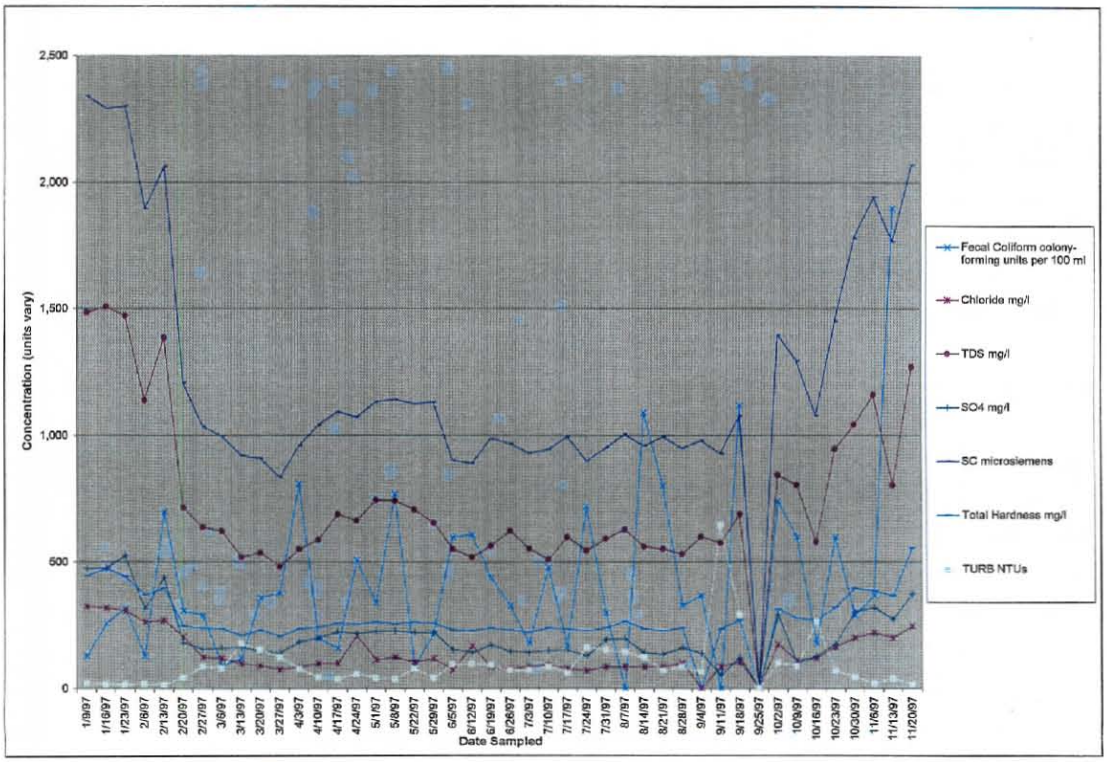
Figure 2-14. Depths to Water in Wells located in Historic Smeltertown Area, 1995 through 1998



See Exhibit 1.

Note: Depth to water are not adjusted for free-phase hydrocarbon occurrence, which depresses the water table elevation.

Figure 2-16. Water Quality Data for Rio Grande at Courchesne Bridge, 1997



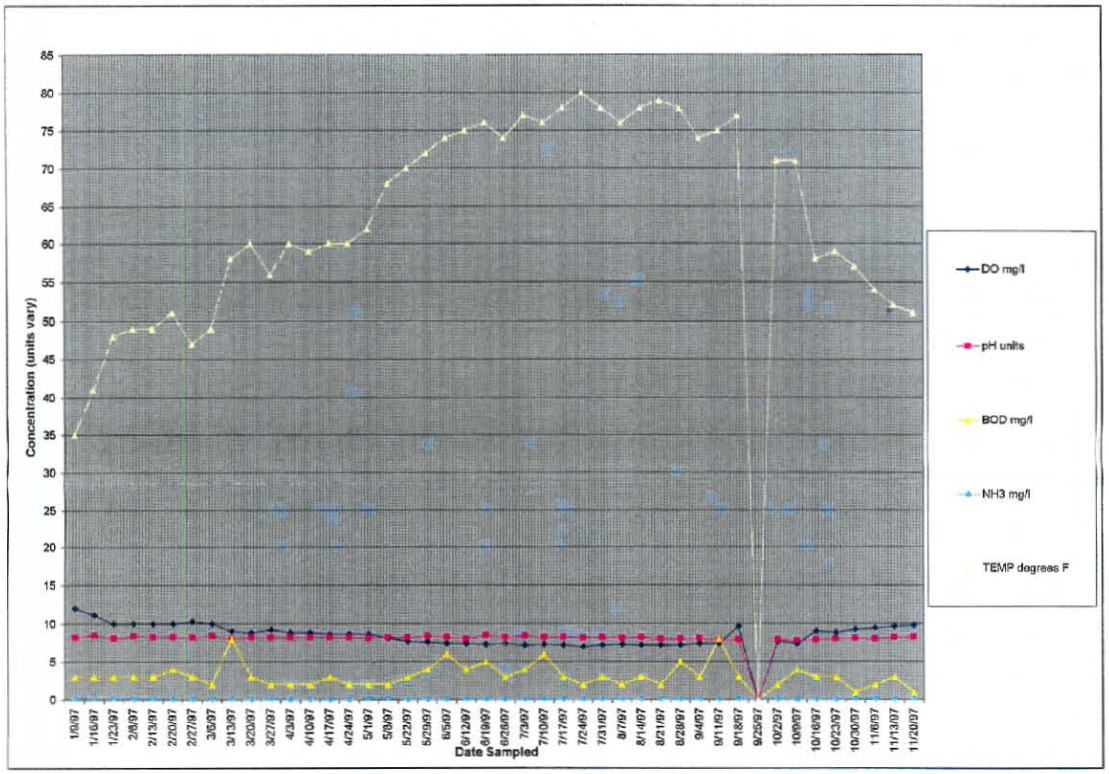
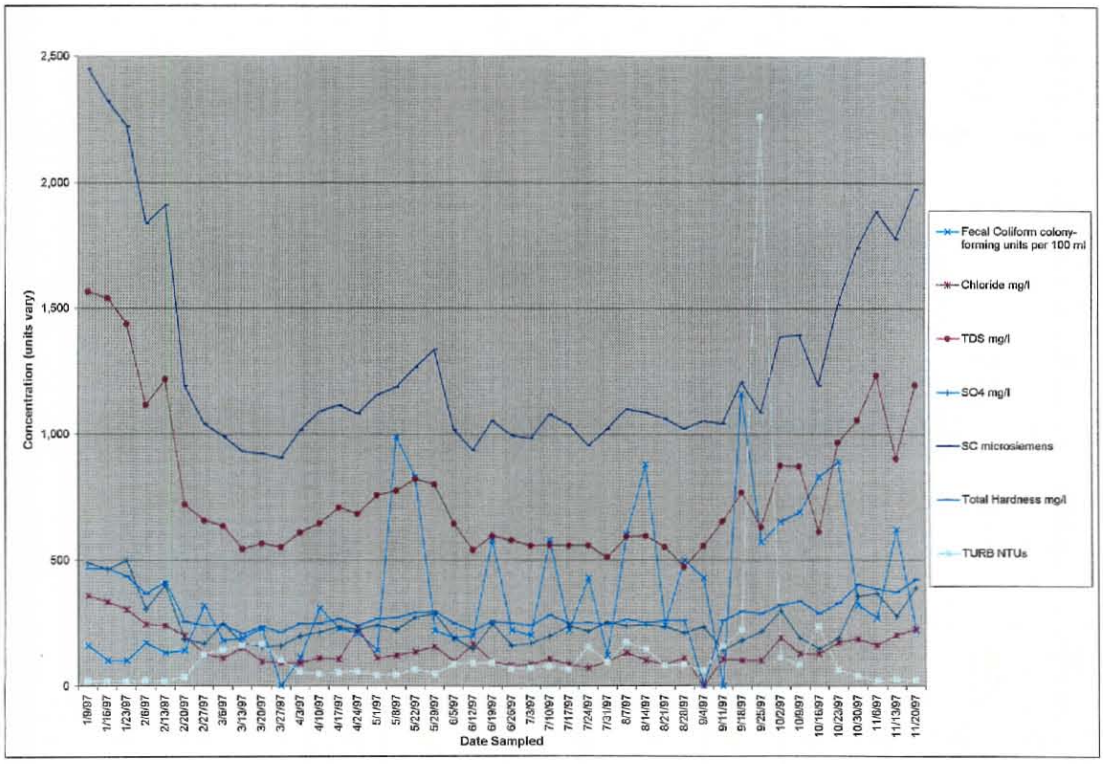
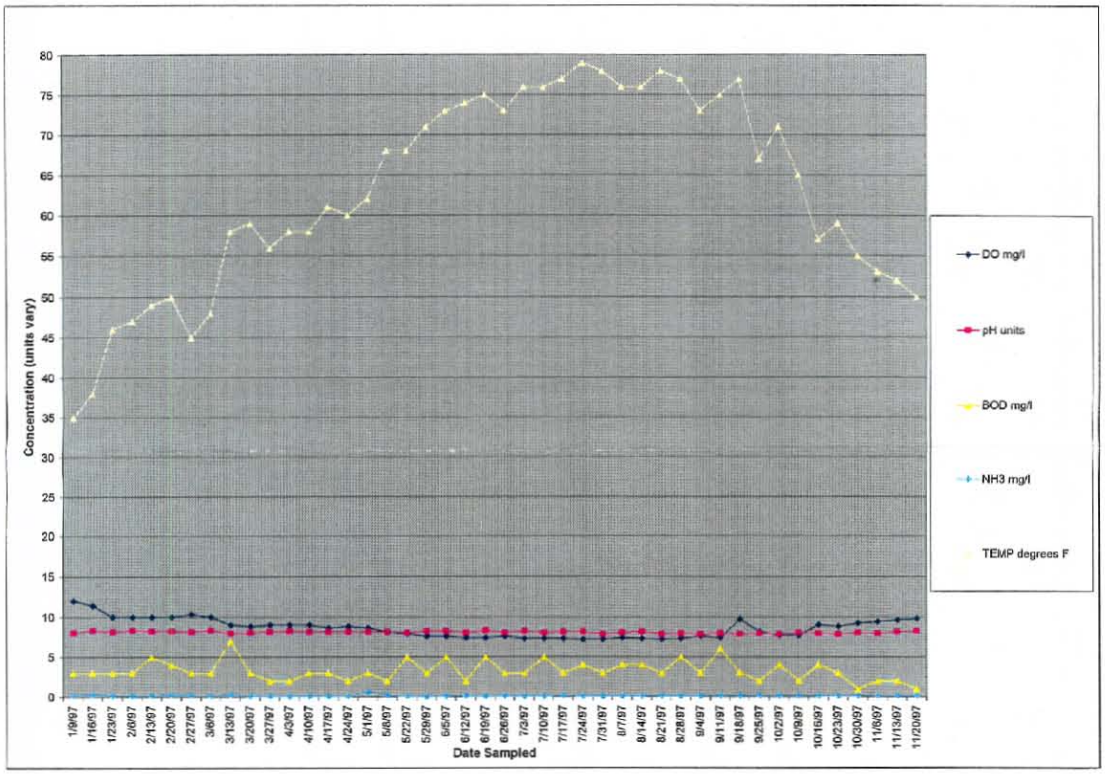
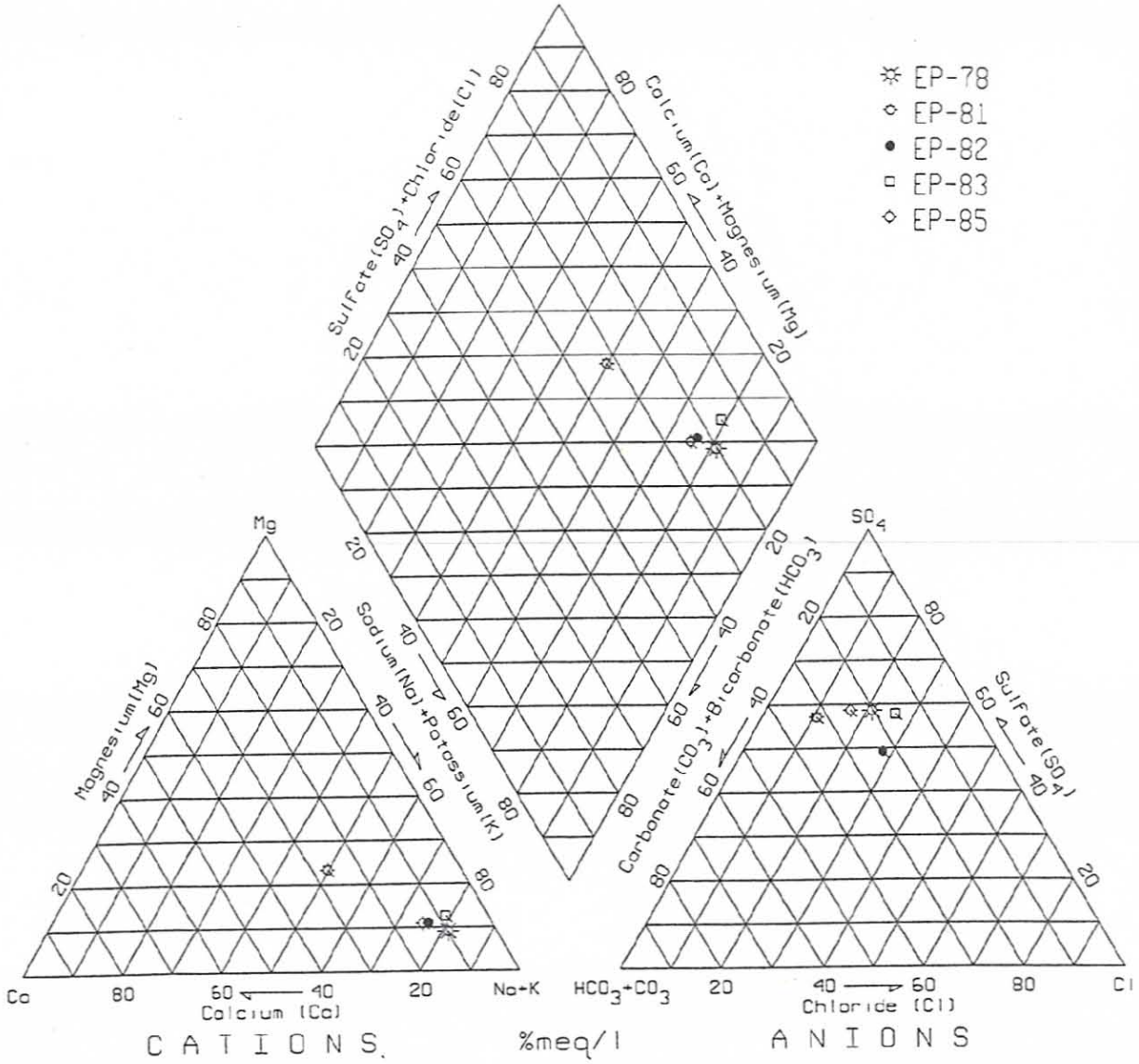


Figure 2-15. Water Quality Data for Rio Grande at Bowie High Football Stadium, 1997







SEE EXHIBIT 1 FOR SAMPLING LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	**PIPER DIAGRAM FOR GROUNDWATER SAMPLES COLLECTED AT PARKER BROTHERS ARROYO LOCATIONS, FEBRUARY 1997**	**FIGURE** **2-17**

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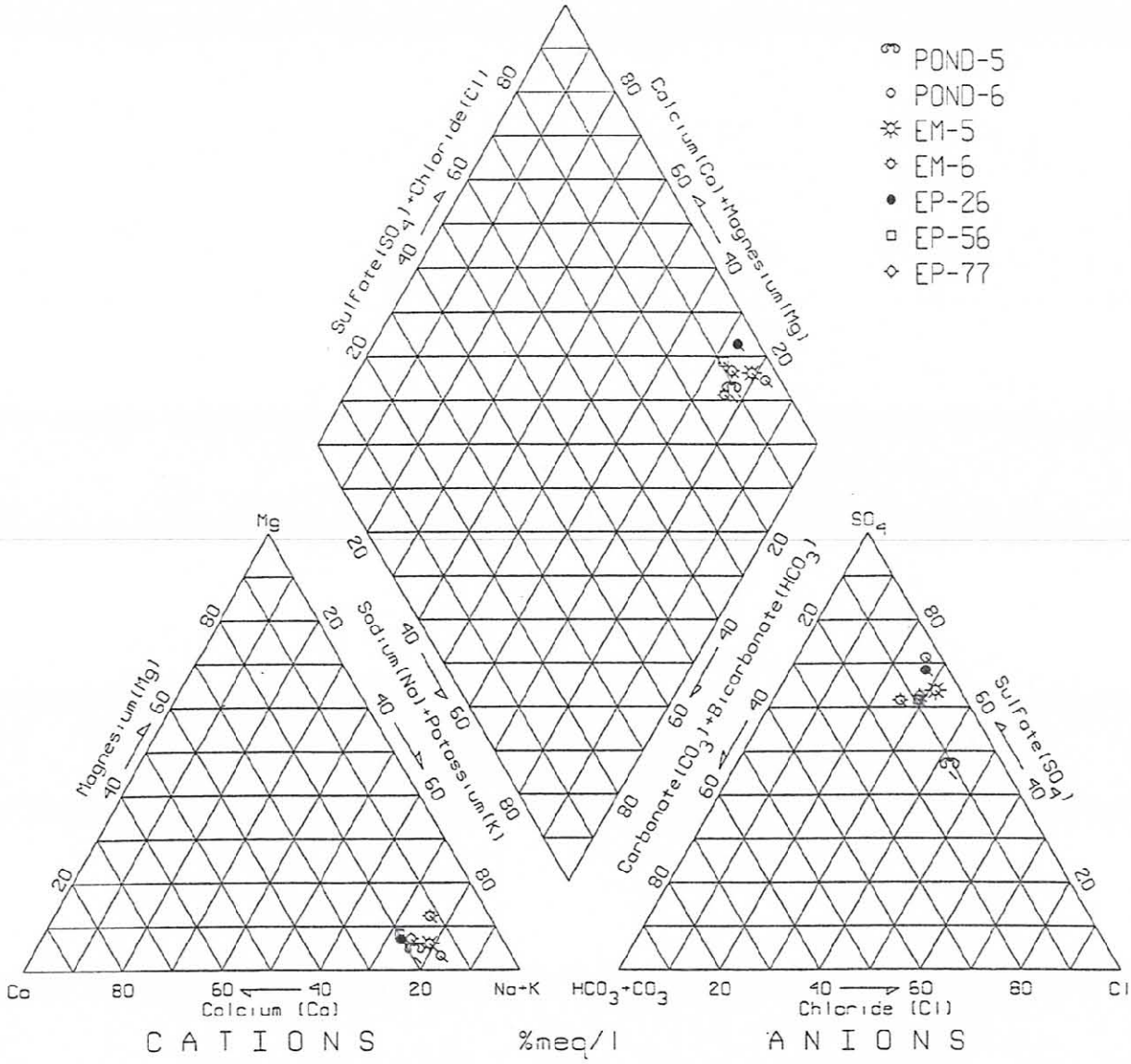

SEE EXHIBIT 1 FOR SAMPLING LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	PIPER DIAGRAM FOR WATER SAMPLES COLLECTED AT PONDS 5 AND 6 ARROYO LOCATIONS, FEBRUARY 1997	FIGURE 2-18

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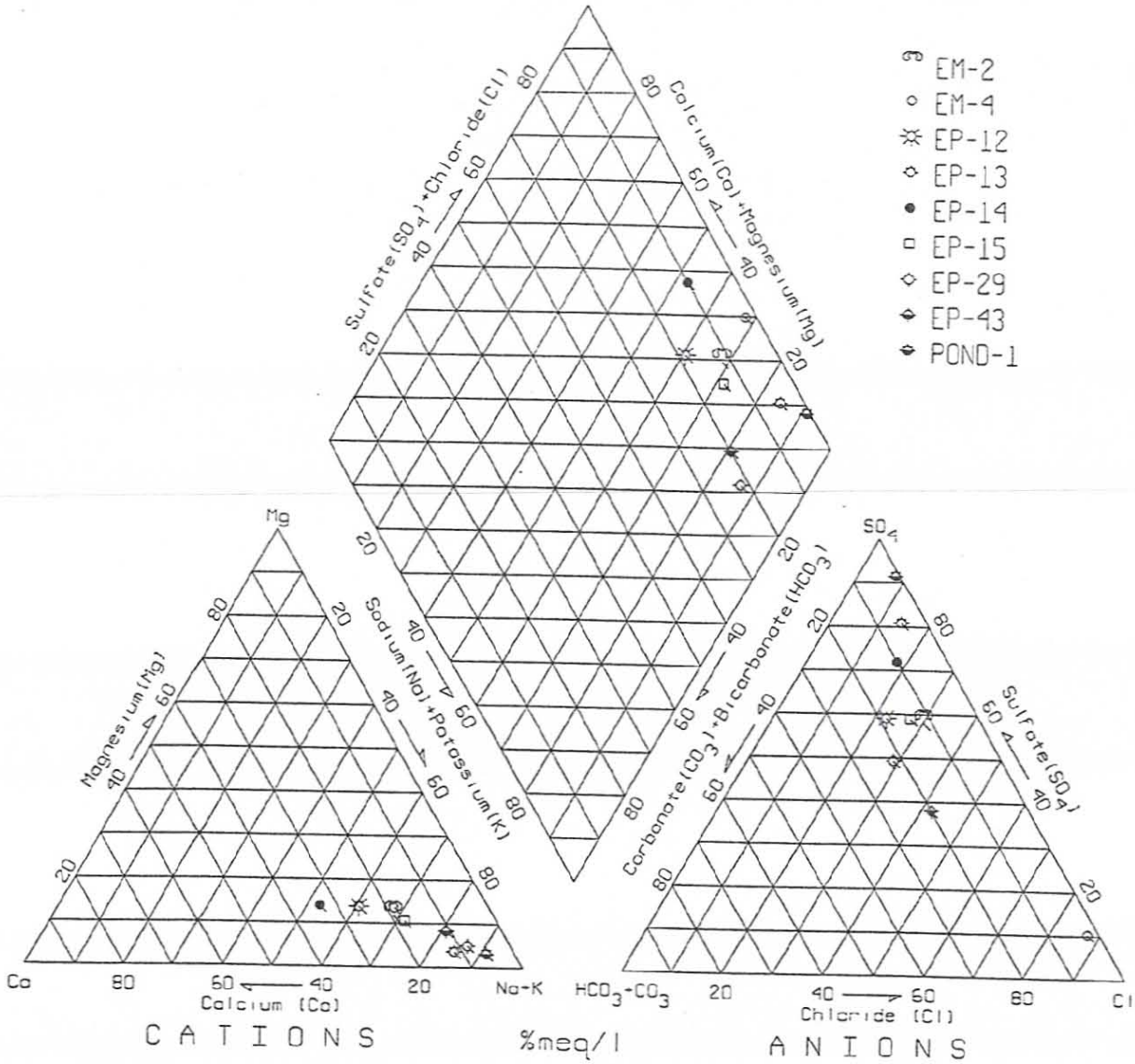
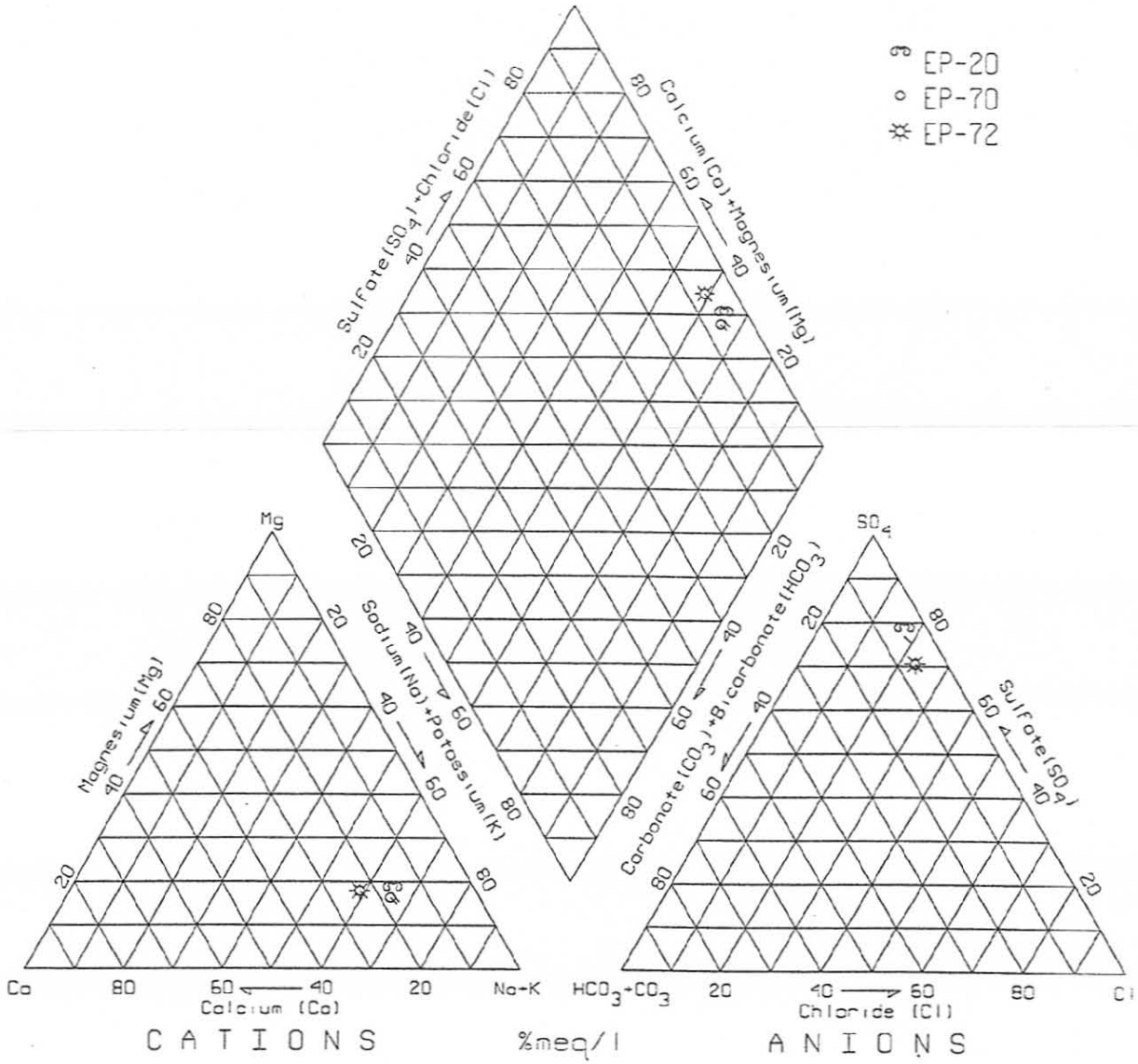


SEE EXHIBIT 1 FOR SAMPLING LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	PIPER DIAGRAM FOR WATER SAMPLES COLLECTED AT POND 1 ARROYO LOCATIONS, FEBRUARY 1997	FIGURE 2-19



SEE EXHIBIT 1 FOR WELL LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	PIPER DIAGRAM FOR GROUNDWATER SAMPLES COLLECTED AT SOUTH TERRACE AREA ARROYO LOCATIONS, FEBRUARY 1997	FIGURE 2-20

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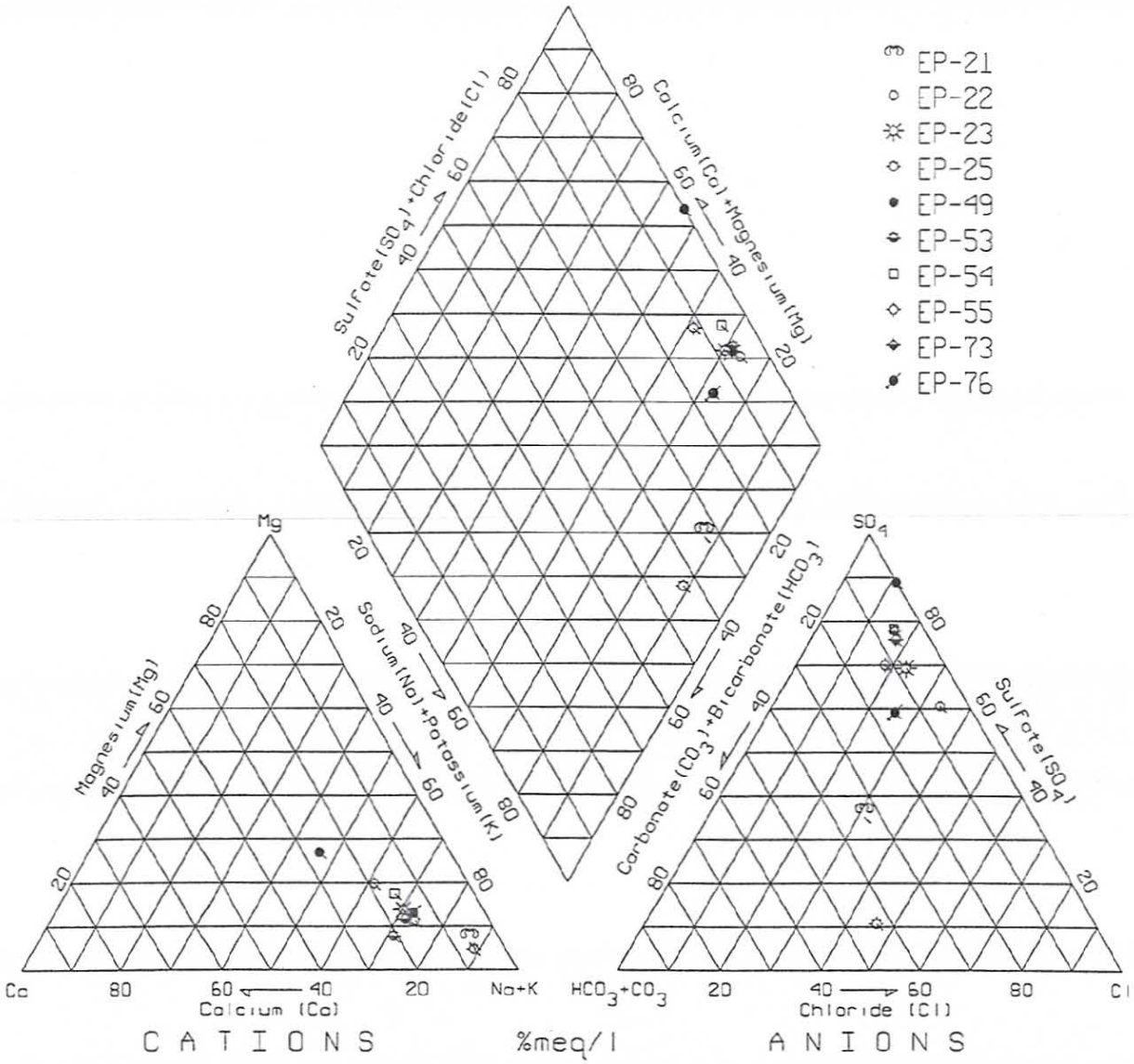

SEE EXHIBIT 1 FOR WELL LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	PIPER DIAGRAM FOR GROUNDWATER SAMPLES COLLECTED AT ACID PLANT ARROYO LOCATIONS, FEBRUARY 1997	FIGURE 2-21

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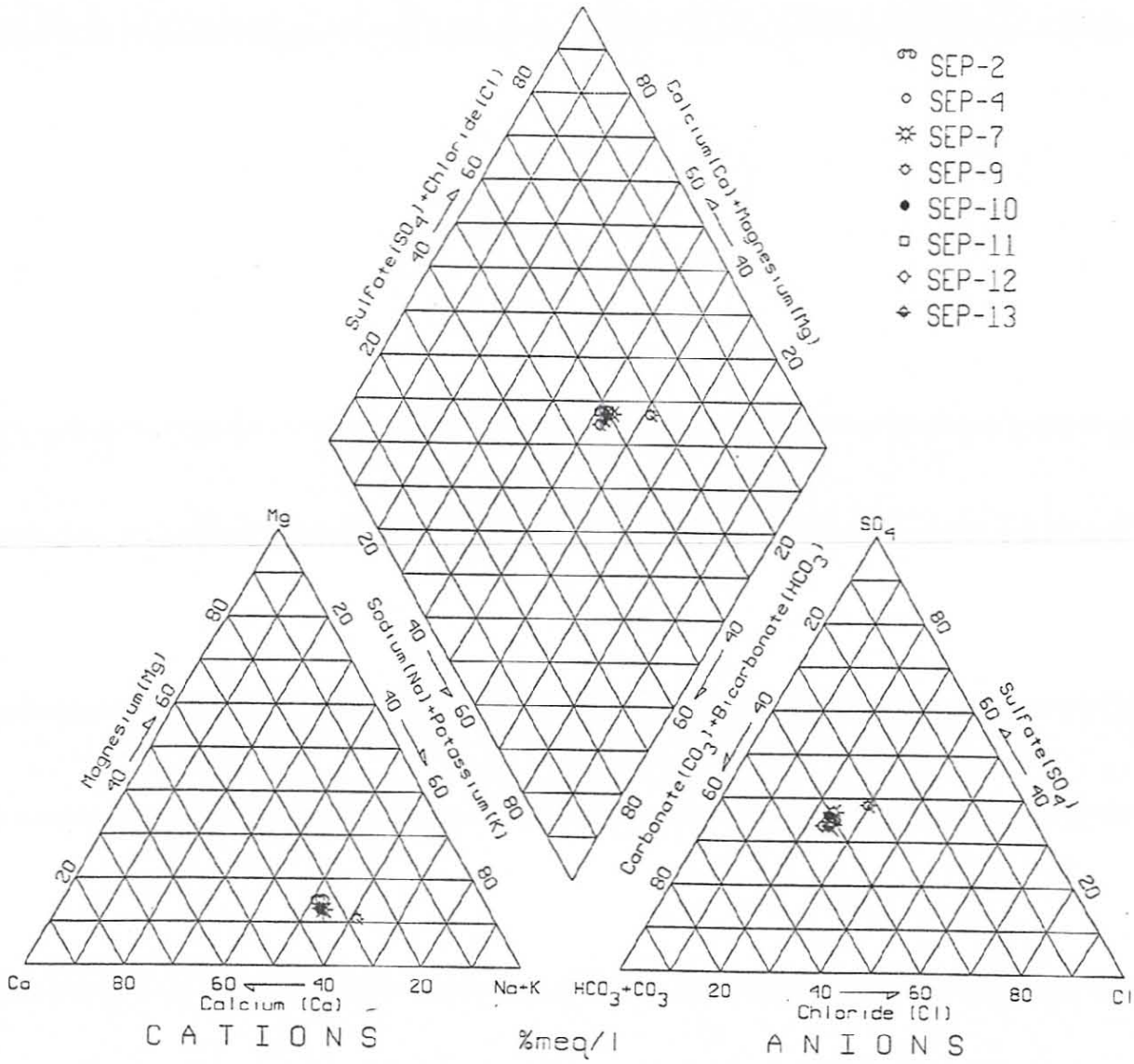

SEE EXHIBIT 1 FOR SAMPLING LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	PIPER DIAGRAM FOR SURFACE WATER SAMPLES COLLECTED IN RIO GRANDE AUGUST 1997	FIGURE 2-22

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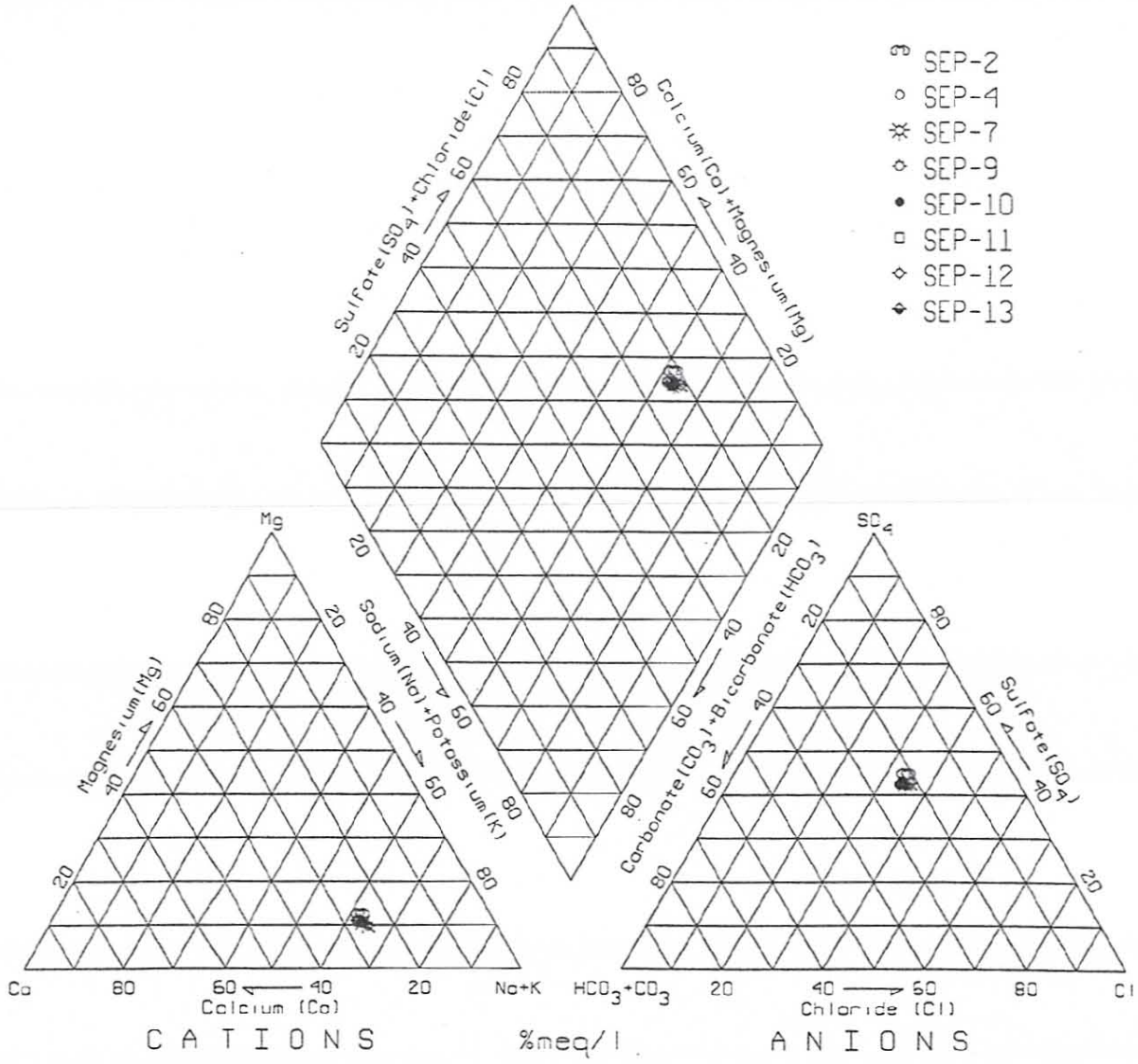

SEE EXHIBIT 1 FOR SAMPLING LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	**PIPER DIAGRAM FOR SURFACE WATER SAMPLING COLLECTED IN RIO GRANDE FEBRUARY 1998**	**FIGURE** **2-23**

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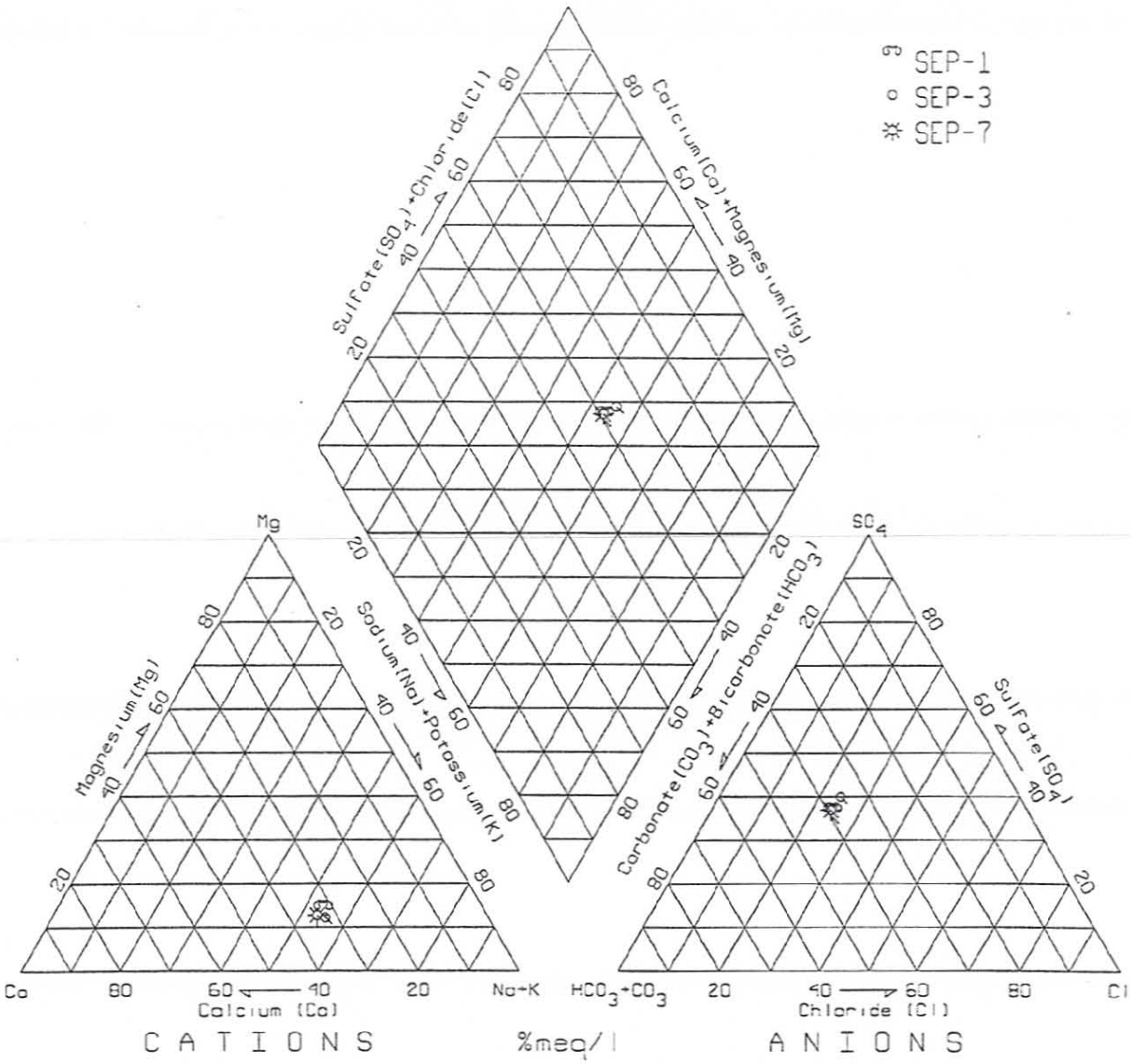

SEE EXHIBIT 1 FOR SAMPLING LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	PIPER DIAGRAM FOR SURFACE WATER SAMPLES COLLECTED IN THE AMERICAN CANAL, AUGUST 1997	FIGURE 2-24

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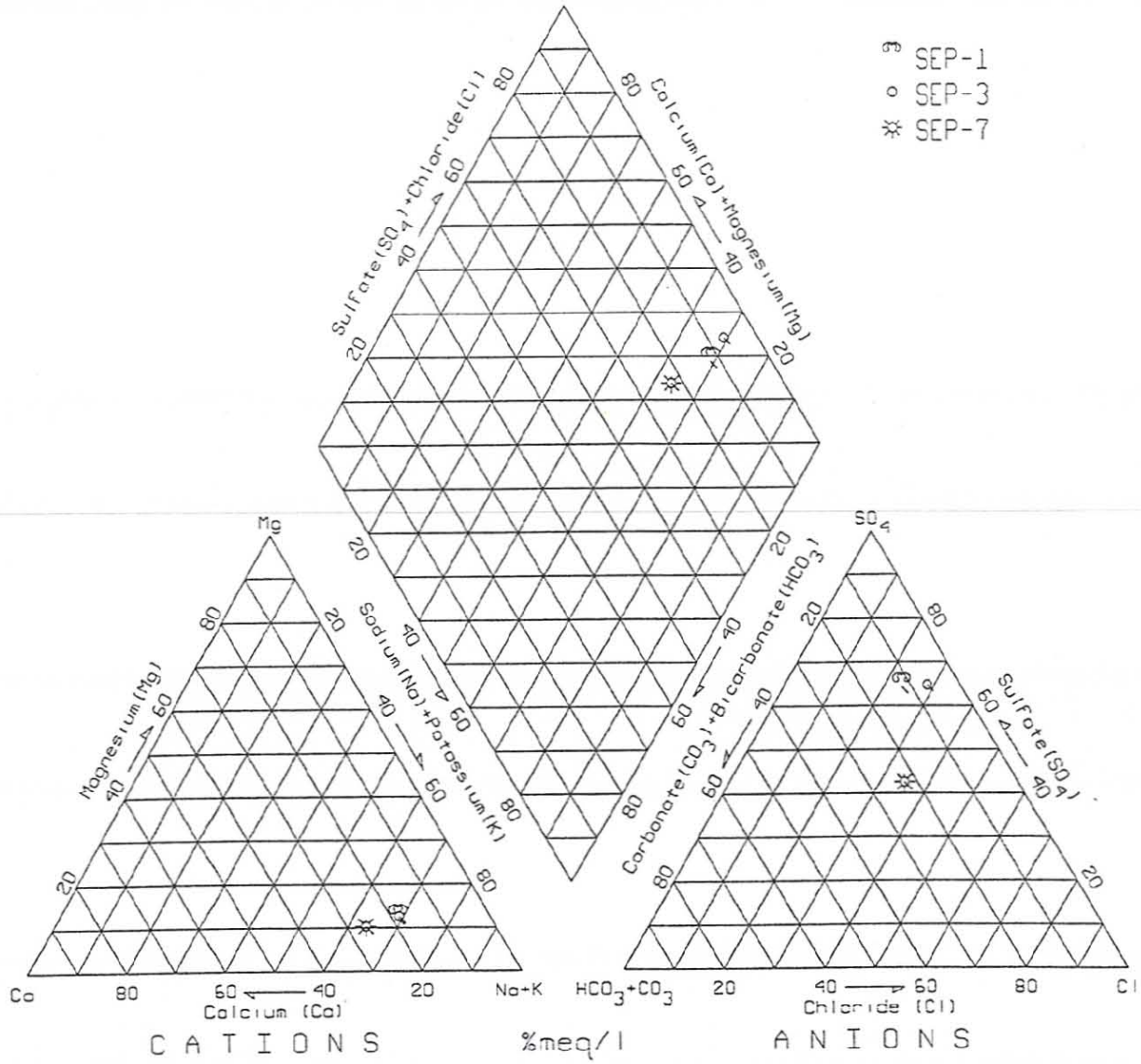

SEE EXHIBIT 1 FOR SAMPLING LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	**PIPER DIAGRAM FOR SURFACEWATER SAMPLES COLLECTED IN THE AMERICAN CANAL, FEBRUARY 1998**	**FIGURE** **2-25**

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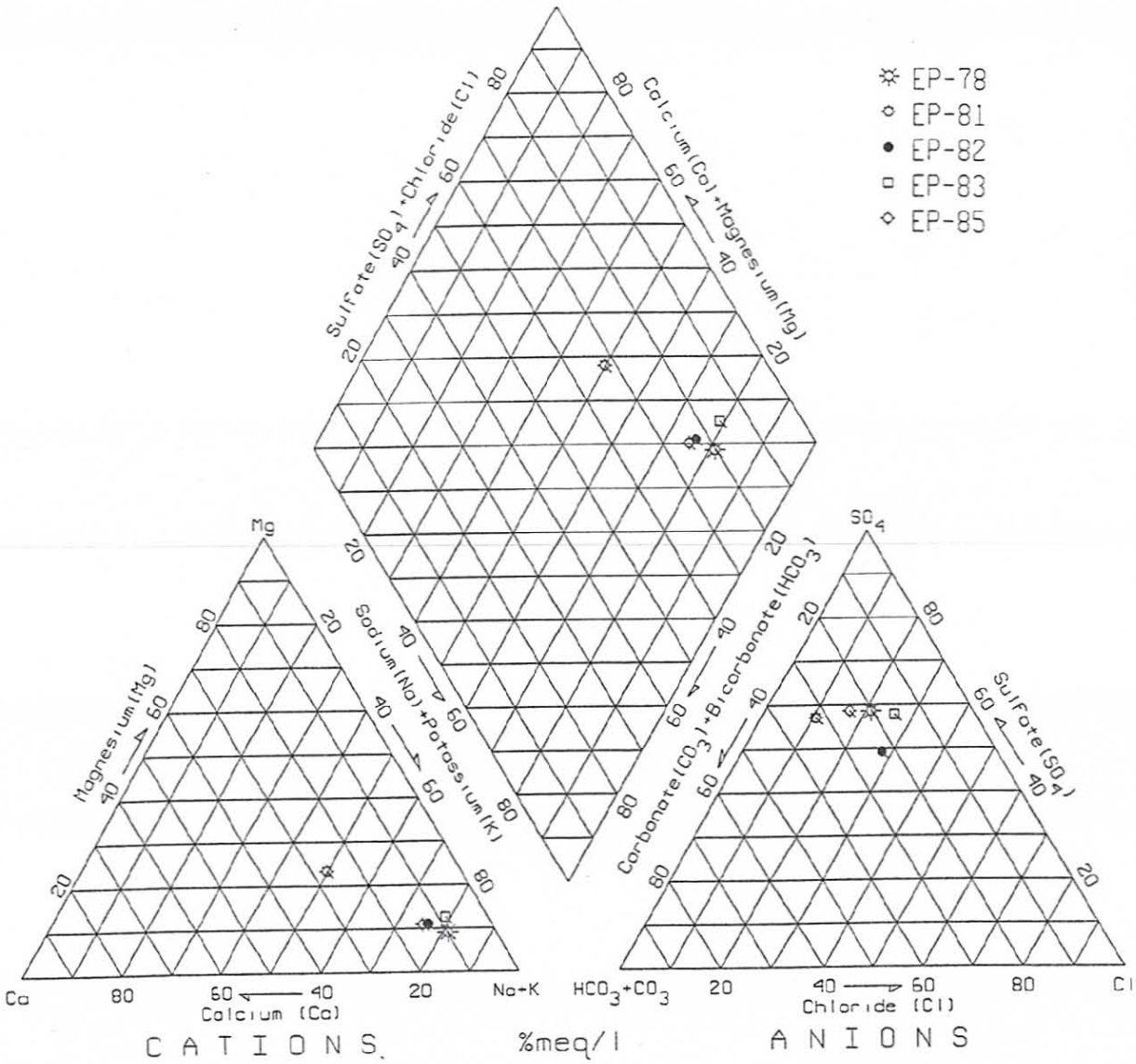

SEE EXHIBIT 1 FOR SAMPLING LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	**PIPER DIAGRAM FOR GROUNDWATER SAMPLES COLLECTED AT PARKER BROTHERS ARROYO LOCATIONS, FEBRUARY 1997**	**FIGURE** **2-17**

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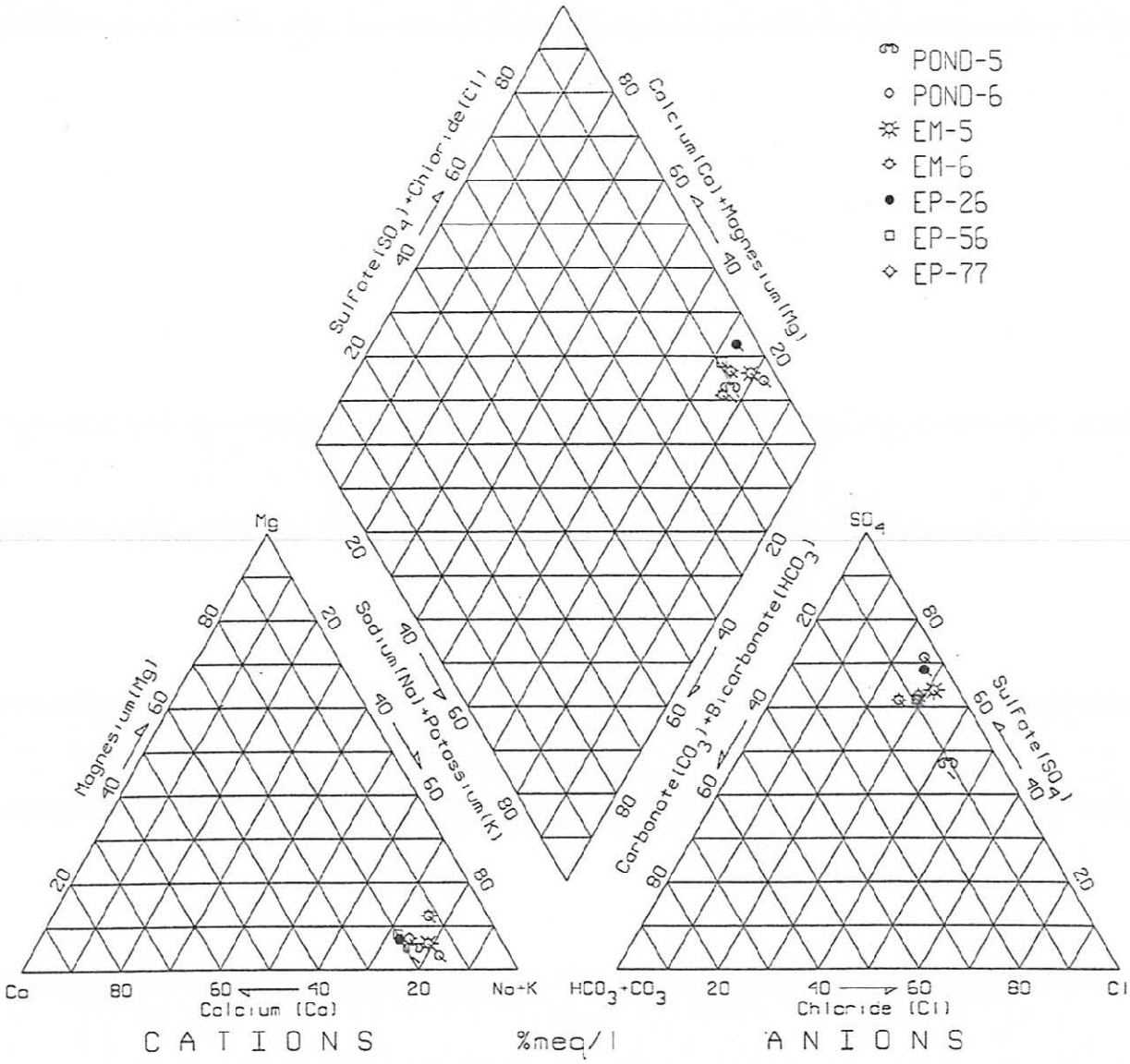

SEE EXHIBIT 1 FOR SAMPLING LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	**PIPER DIAGRAM FOR WATER SAMPLES COLLECTED AT PONDS 5 AND 6 ARROYO LOCATIONS, FEBRUARY 1997**	**FIGURE** **2-18**

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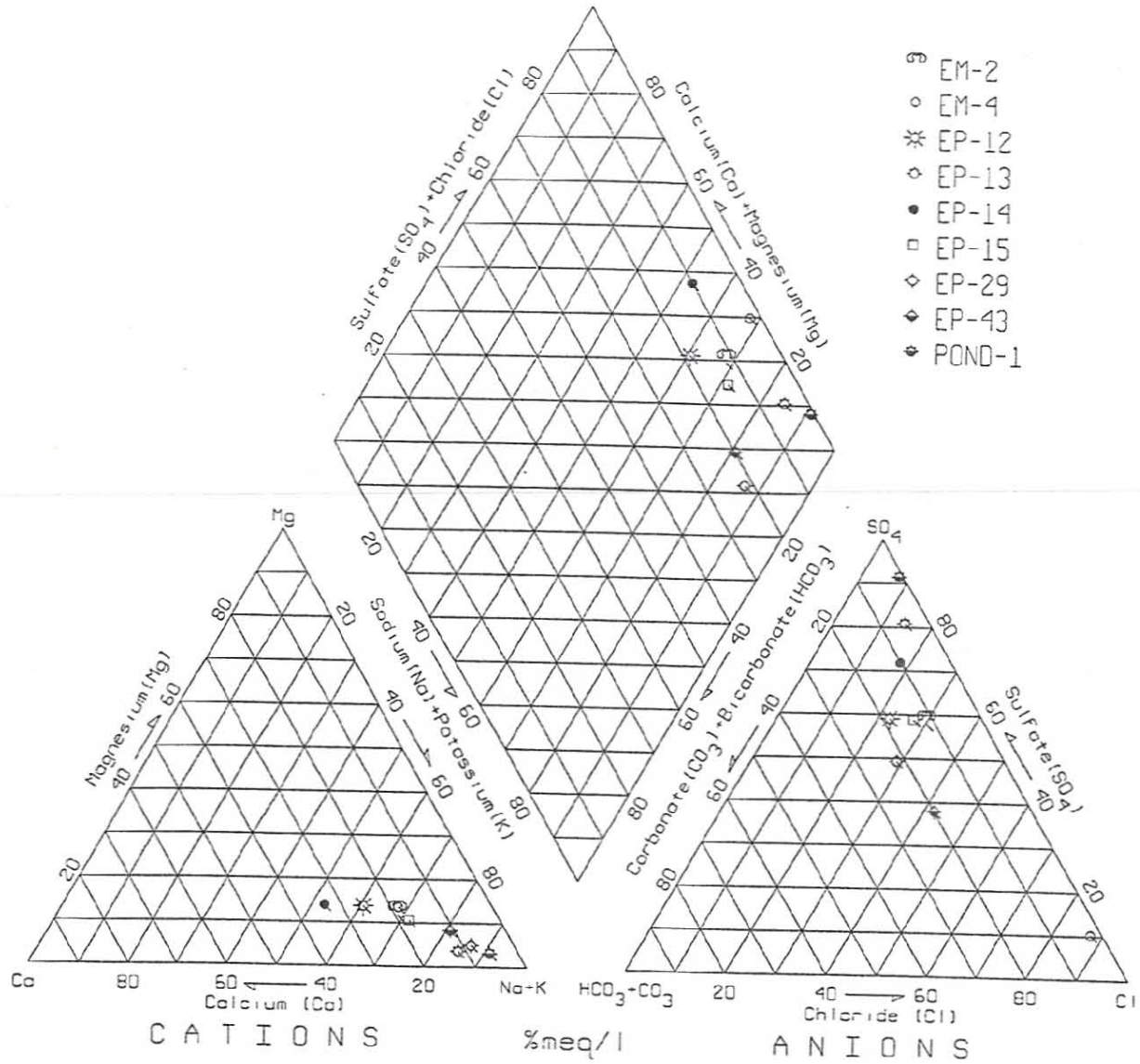

SEE EXHIBIT 1 FOR SAMPLING LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	PIPER DIAGRAM FOR WATER SAMPLES COLLECTED AT POND 1 ARROYO LOCATIONS, FEBRUARY 1997	FIGURE 2-19

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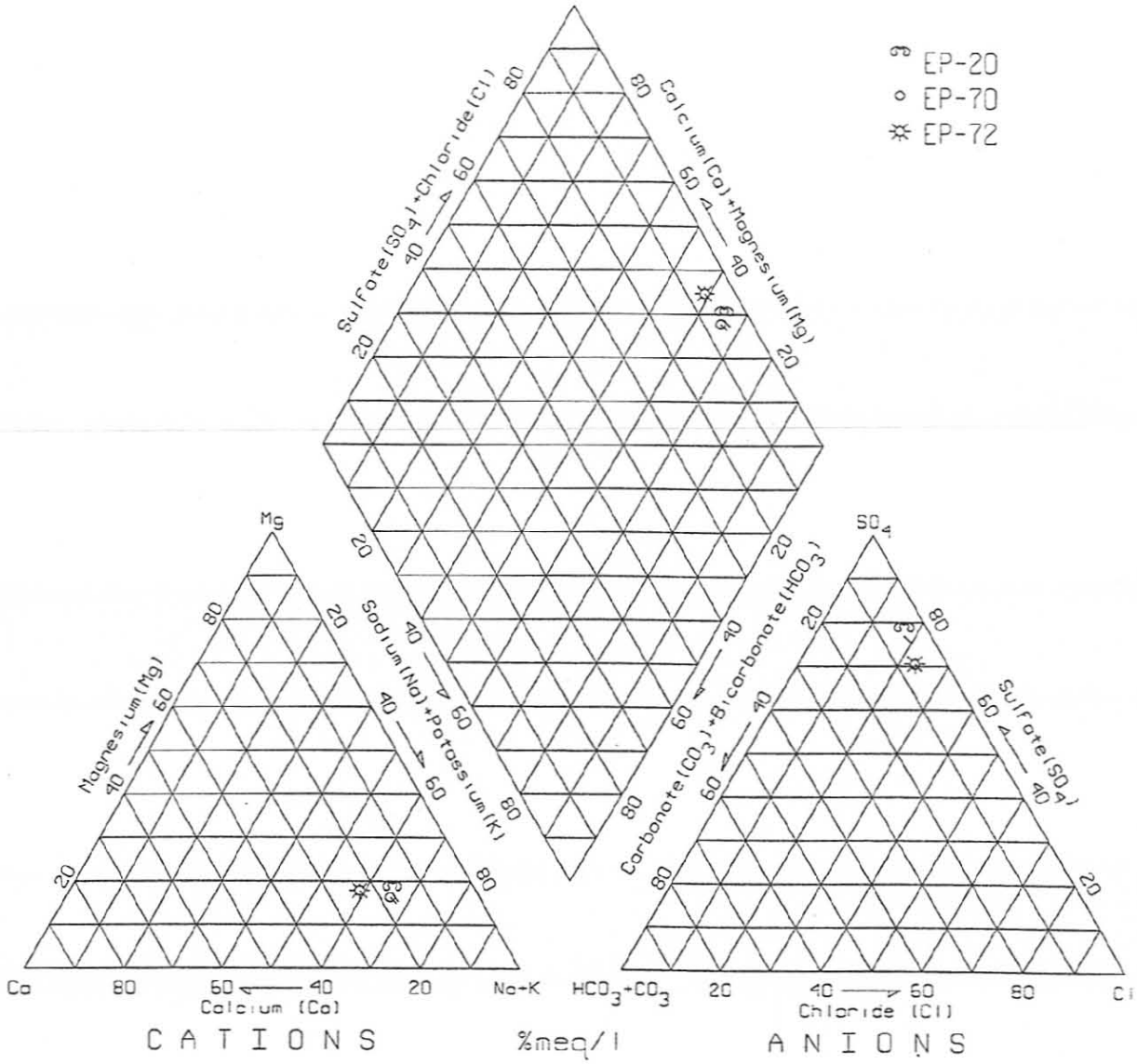

SEE EXHIBIT 1 FOR WELL LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	PIPER DIAGRAM FOR GROUNDWATER SAMPLES COLLECTED AT SOUTH TERRACE AREA ARROYO LOCATIONS, FEBRUARY 1997	FIGURE 2-20

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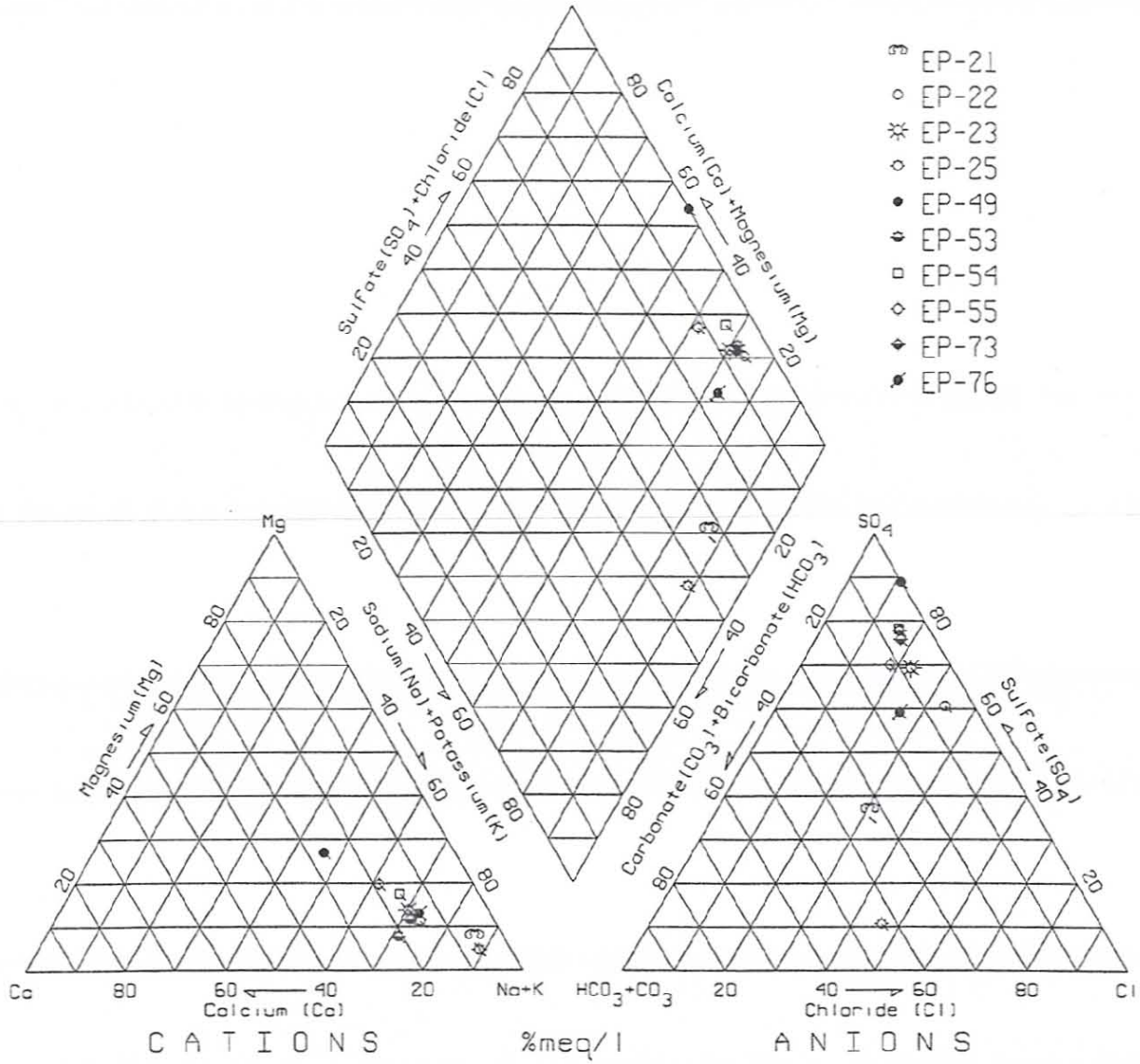

SEE EXHIBIT 1 FOR WELL LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	PIPER DIAGRAM FOR GROUNDWATER SAMPLES COLLECTED AT ACID PLANT ARROYO LOCATIONS, FEBRUARY 1997	FIGURE 2-21

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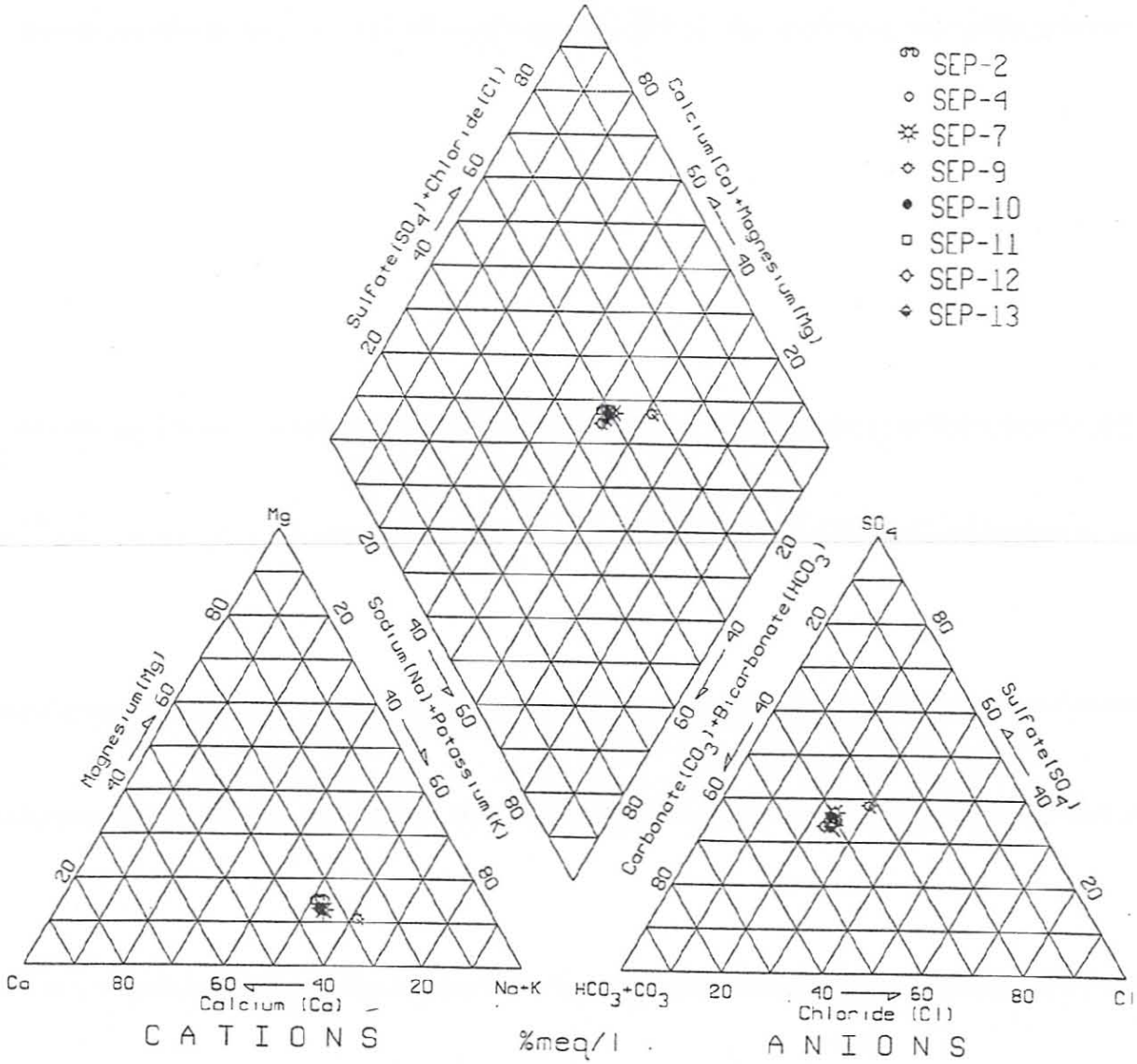

SEE EXHIBIT 1 FOR SAMPLING LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	**PIPER DIAGRAM FOR SURFACE WATER SAMPLES COLLECTED IN RIO GRANDE AUGUST 1997**	FIGURE **2-22**

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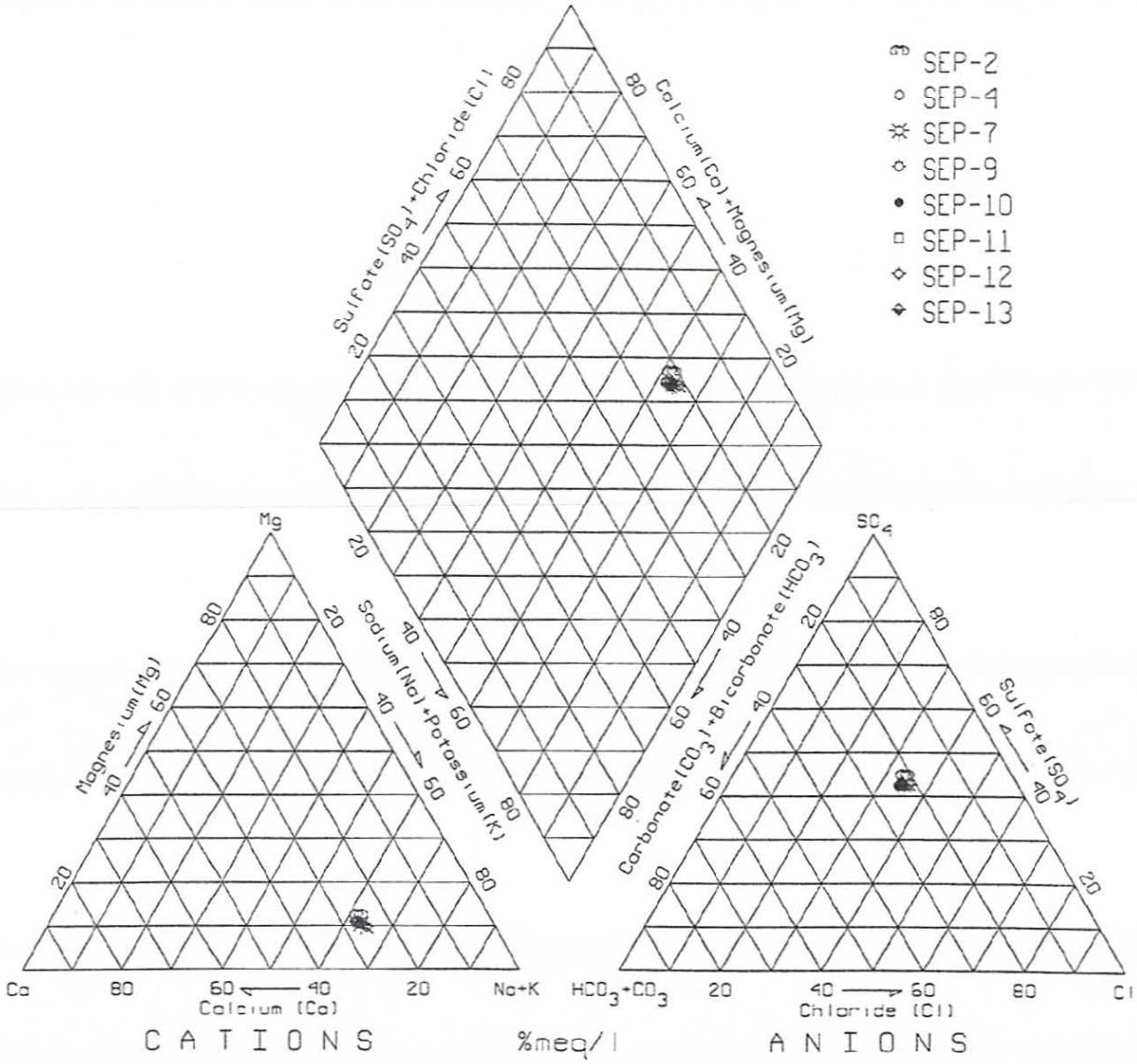

SEE EXHIBIT 1 FOR SAMPLING LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	PIPER DIAGRAM FOR SURFACE WATER SAMPLING COLLECTED IN RIO GRANDE FEBRUARY 1998	FIGURE 2-23

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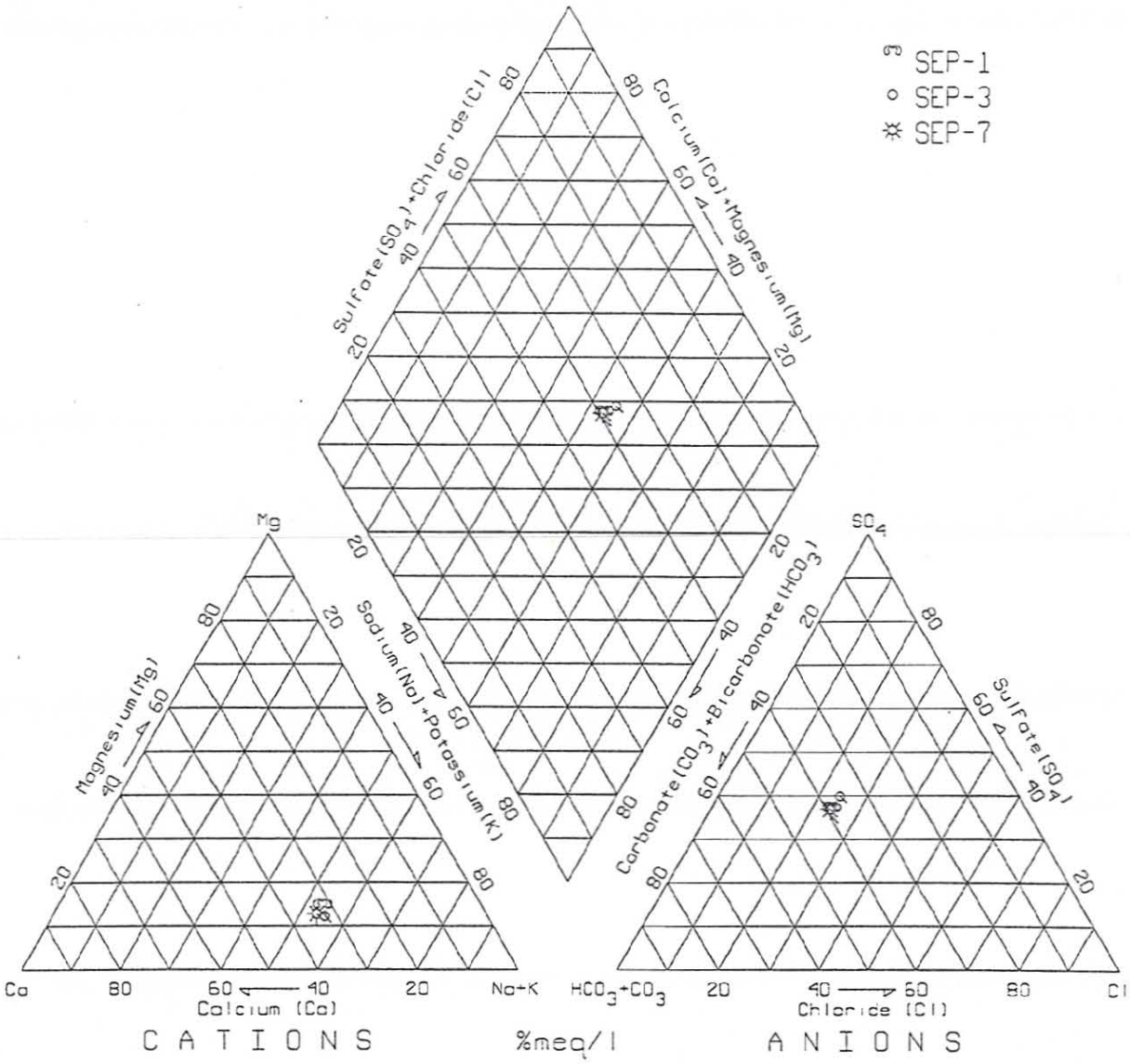

SEE EXHIBIT 1 FOR SAMPLING LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	PIPER DIAGRAM FOR SURFACE WATER SAMPLES COLLECTED IN THE AMERICAN CANAL, AUGUST 1997	FIGURE 2-24

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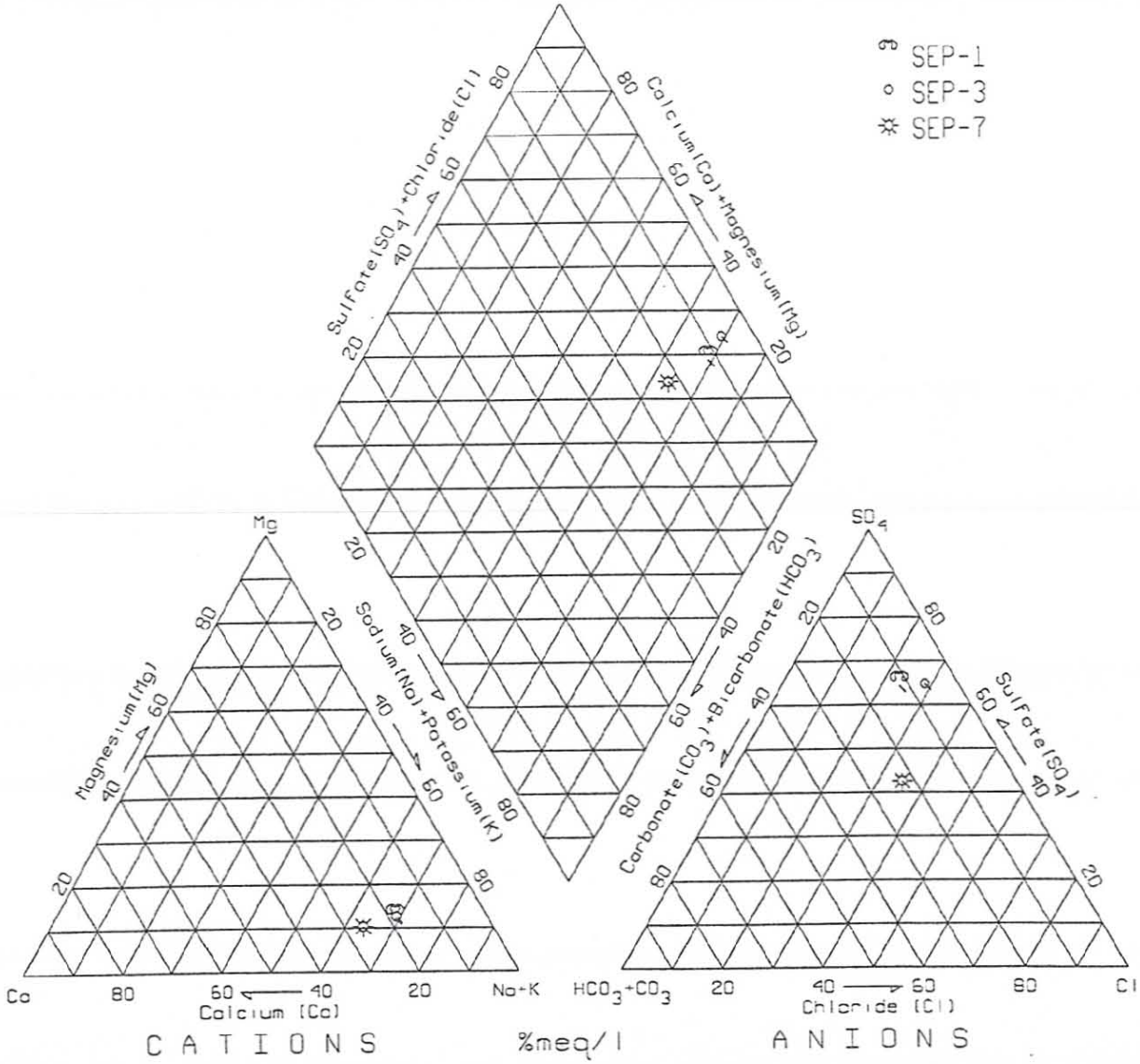

SEE EXHIBIT 1 FOR SAMPLING LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	PIPER DIAGRAM FOR SURFACEWATER SAMPLES COLLECTED IN THE AMERICAN CANAL, FEBRUARY 1998	FIGURE 2-25

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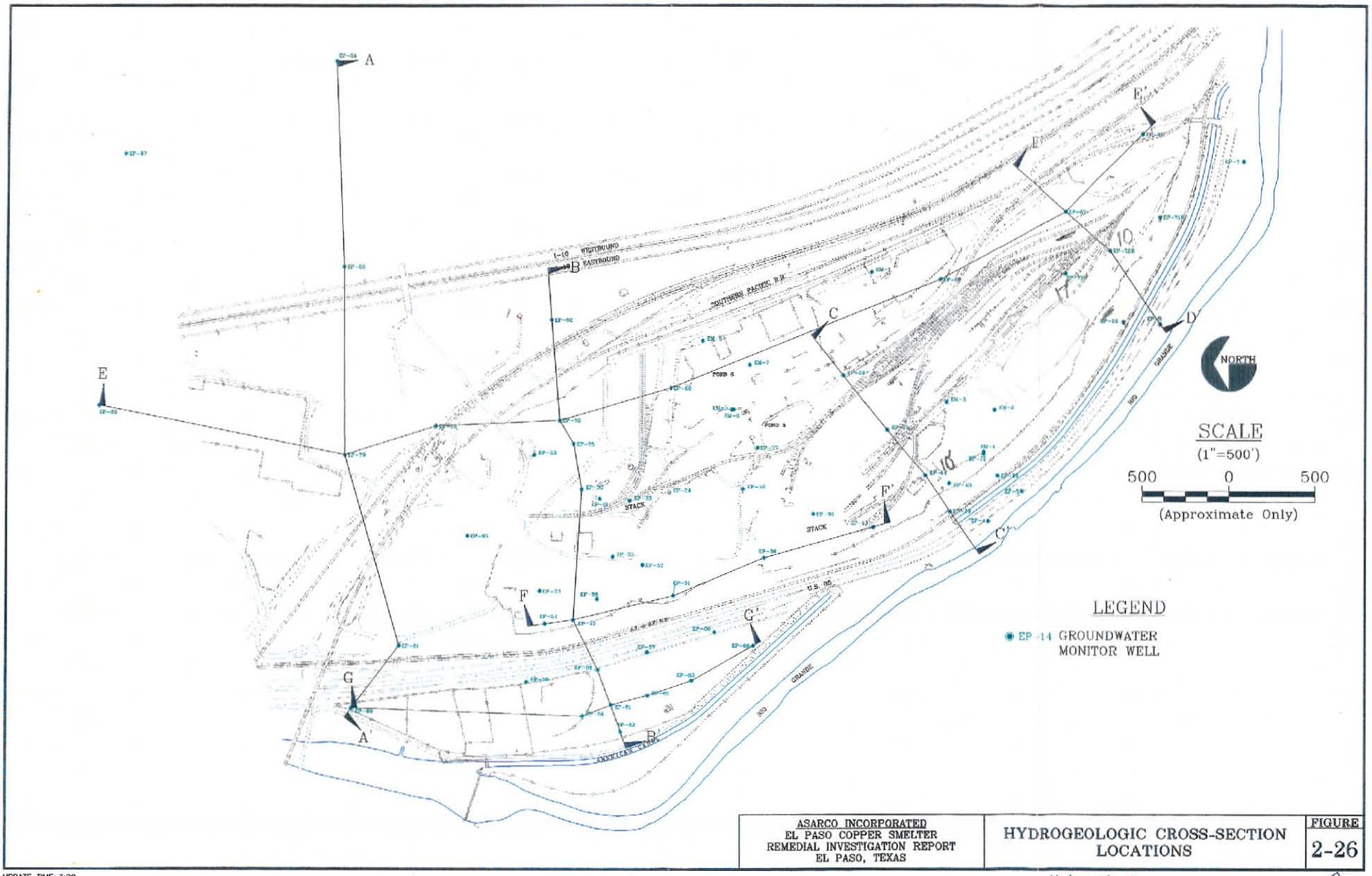

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

HYDROGEOLOGIC CROSS-SECTION LOCATIONS

FIGURE 2-26

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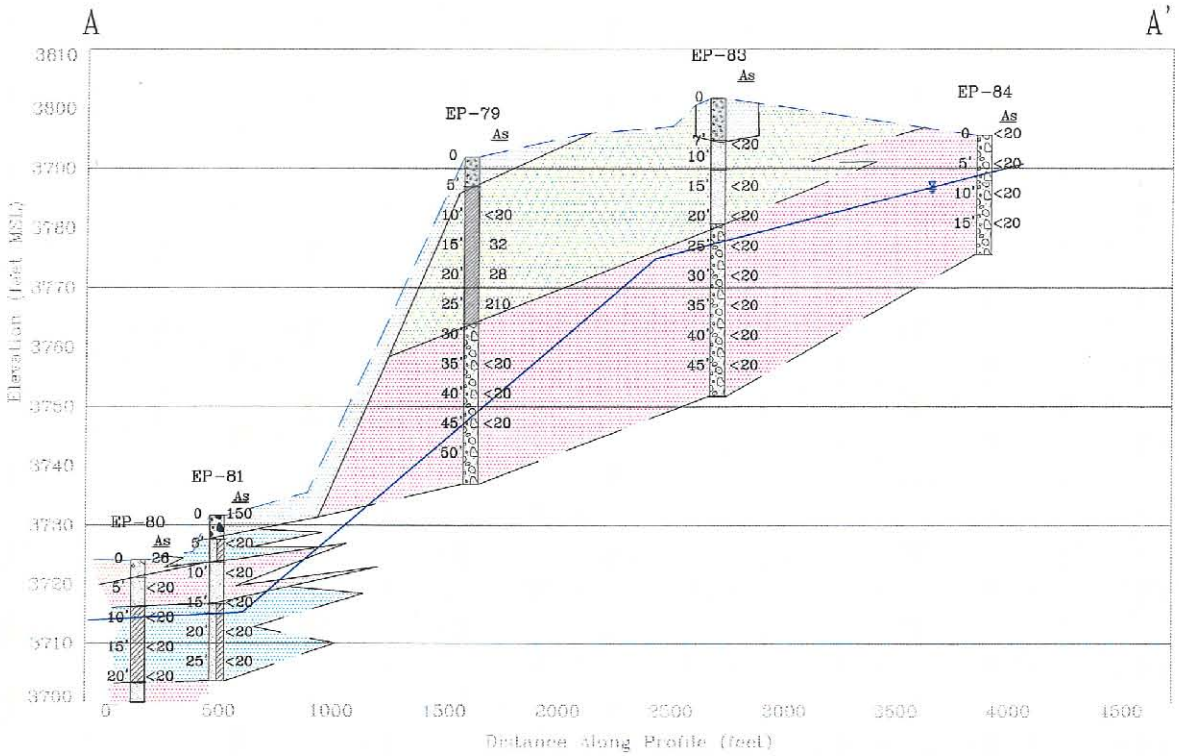

HYDROGEOLOGIC CROSS-SECTION A – A'

(LOOKING NORTH)
HORIZONTAL: 1"=500'
VERTICAL: 1"=20'

LEGEND

- SLAG
- GRAVELLY material, including gravelly silt, gravelly sand, and silty to sandy gravel
- SANDY material, including fine- to coarse-grained sand, silty sand and clayey sand
- SILTY material, including sandy silt, clayey silt, and organic silt
- CLAYEY material, including gravelly clay, sandy clay, and silty clay
- EXISTING GROUND
- WATER TABLE LEVEL
- EP-84 BORING LOCATION

NOTES:

1. ALL CONTACT POINTS INFERRED.
2. WATER TABLE CALCULATED FROM FEB. 1998 DATA.
3. As = ARSENIC CONCENTRATION(mg/kg) IN SOIL SAMPLE COLLECTED AT DEPTH INDICATED.
4. CROSS SECTION LOCATION SHOWN ON FIG 2-26.

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	HYDROGEOLOGIC CROSS-SECTION A - A'	FIGURE 2-27

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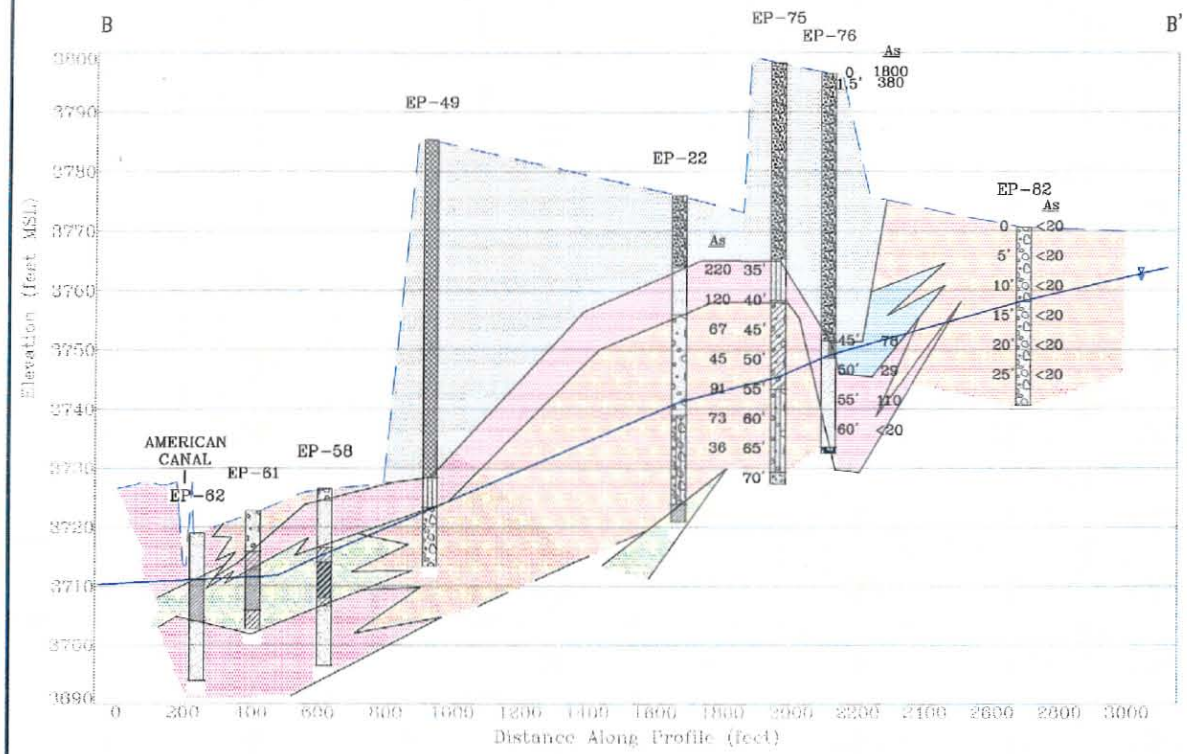

HYDROGEOLOGIC CROSS-SECTION B – B'

(LOOKING NORTH)
HORIZONTAL: 1"=350'
VERTICAL: 1"=20'

LEGEND

- SLAG
- GRAVELLY material, including gravelly silt, gravelly sand, and silty to sandy gravel
- SANDY material, including fine- to coarse-grained sand, silty sand and clayey sand
- SILTY material, including sandy silt, clayey silt, and organic silt
- CLAYEY material, including gravelly clay, sandy clay, and silty clay
- EXISTING GROUND
- WATER TABLE LEVEL
- EP-84 BORING LOCATION

NOTES:

1. ALL CONTACT POINTS INFERRED.
2. WATER TABLE CALCULATED FROM FEB. 1998 DATA.
3. As = ARSENIC CONCENTRATION(mg/kg) IN SOIL SAMPLE COLLECTED AT DEPTH INDICATED.
4. CROSS SECTION LOCATION SHOWN ON FIG 2-26.
5. SOIL SAMPLE ANALYSED IN WELLS EP-22, EP-49, EP-58, EP-61 AND EP-62.

ASARCO INCOPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	HYDROGEOLOGIC CROSS-SECTION B - B'	FIGURE 2-28

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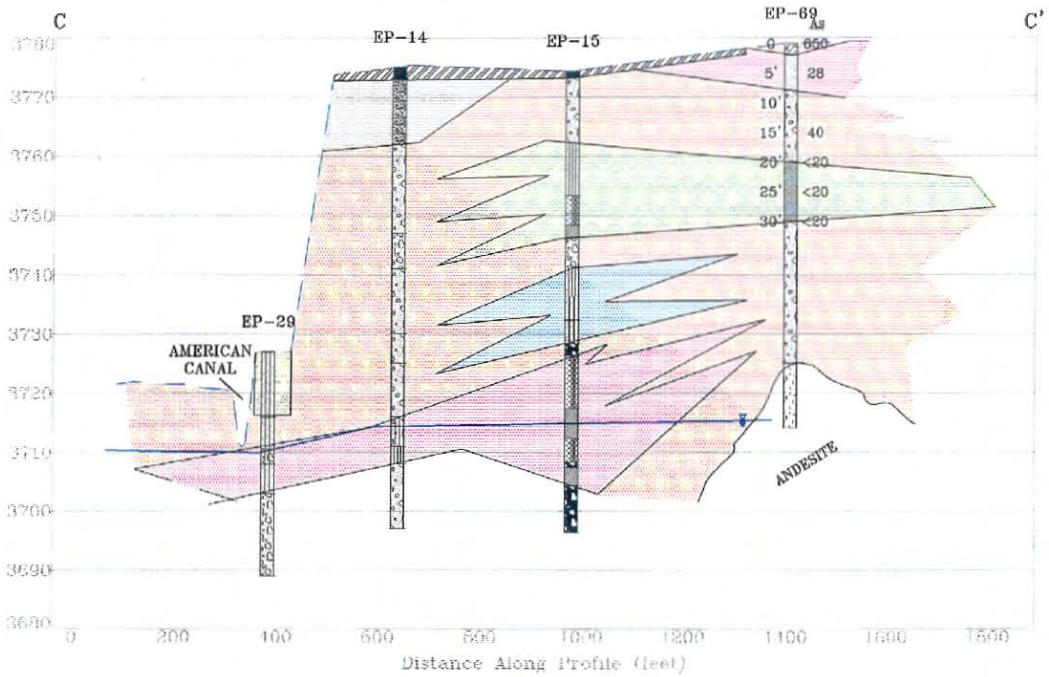

HYDROGEOLOGIC CROSS-SECTION C – C'

(LOOKING NORTH)
HORIZONTAL: 1"=230'
VERTICAL: 1"=20'

LEGEND

- ASPHALT
- SLAG
- FILL
- GRAVELLY material, including gravelly silt, gravelly sand, and silty to sandy gravel
- SANDY material, including fine- to coarse-grained sand, silty sand and clayey sand
- SILTY material, including sandy silt, clayey silt, and organic silt
- CLAYEY material, including gravelly clay, sandy clay, and silty clay
- EXISTING GROUND
- WATER TABLE LEVEL
- EP-84 BORING LOCATION

NOTES:

1. ALL CONTACT POINTS INFERRED.
2. WATER TABLE CALCULATED FROM FEB. 1998 DATA.
3. As = ARSENIC CONCENTRATION (mg/kg) IN SOIL SAMPLE COLLECTED AT DEPTH INDICATED.
4. WELL EP-69 ABANDONED DUE TO INSUFFICIENT WATER ENCOUNTERED IN WELL.
5. CROSS SECTION LOCATION SHOWN ON FIG 2-26.
6. NO SOIL SAMPLES ANALYZED IN WELLS EP-14, EP-15, AND EP-29.

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	HYDROGEOLOGIC CROSS-SECTION C - C'	FIGURE 2-29

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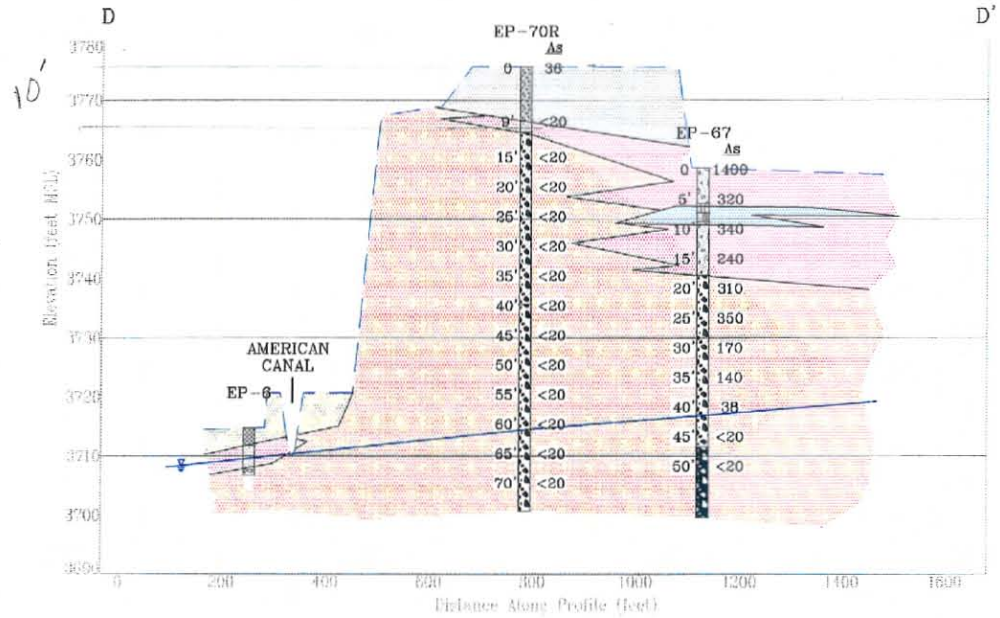

HYDROGEOLOGIC CROSS-SECTION D – D'

(LOOKING NORTH)
HORIZONTAL: 1"=225'
VERTICAL: 1"=20'

LEGEND

- SLAG
- FILL
- GRAVELLY material, including gravelly silt, gravelly sand, and silty to sandy gravel
- SANDY material, including fine- to coarse-grained sand, silty sand and clayey sand
- SILTY material, including sandy silt, clayey silt, and organic silt
- CLAYEY material, including gravelly clay, sandy clay, and silty clay
- EXISTING GROUND
- WATER TABLE LEVEL
- EP-67 BORING LOCATION

NOTES:

1. ALL CONTACT POINTS INFERRED.
2. WATER TABLE CALCULATED FROM FEB. 1998 DATA.
3. As = ARSENIC CONCENTRATION(mg/kg) IN SOIL SAMPLE COLLECTED AT DEPTH INDICATED.
4. CROSS SECTION LOCATION SHOWN ON FIG 2-26.
5. NO SOIL SAMPLES ANALYSED IN WELL EP-6.

ASARCO INCORPORATED EL PASO PLANT REMEDIAL INVESTIGATION EL PASO, TEXAS	HYDROGEOLOGIC CROSS-SECTION D - D'	FIGURE 2-30

UPDATE TIME: 11:00
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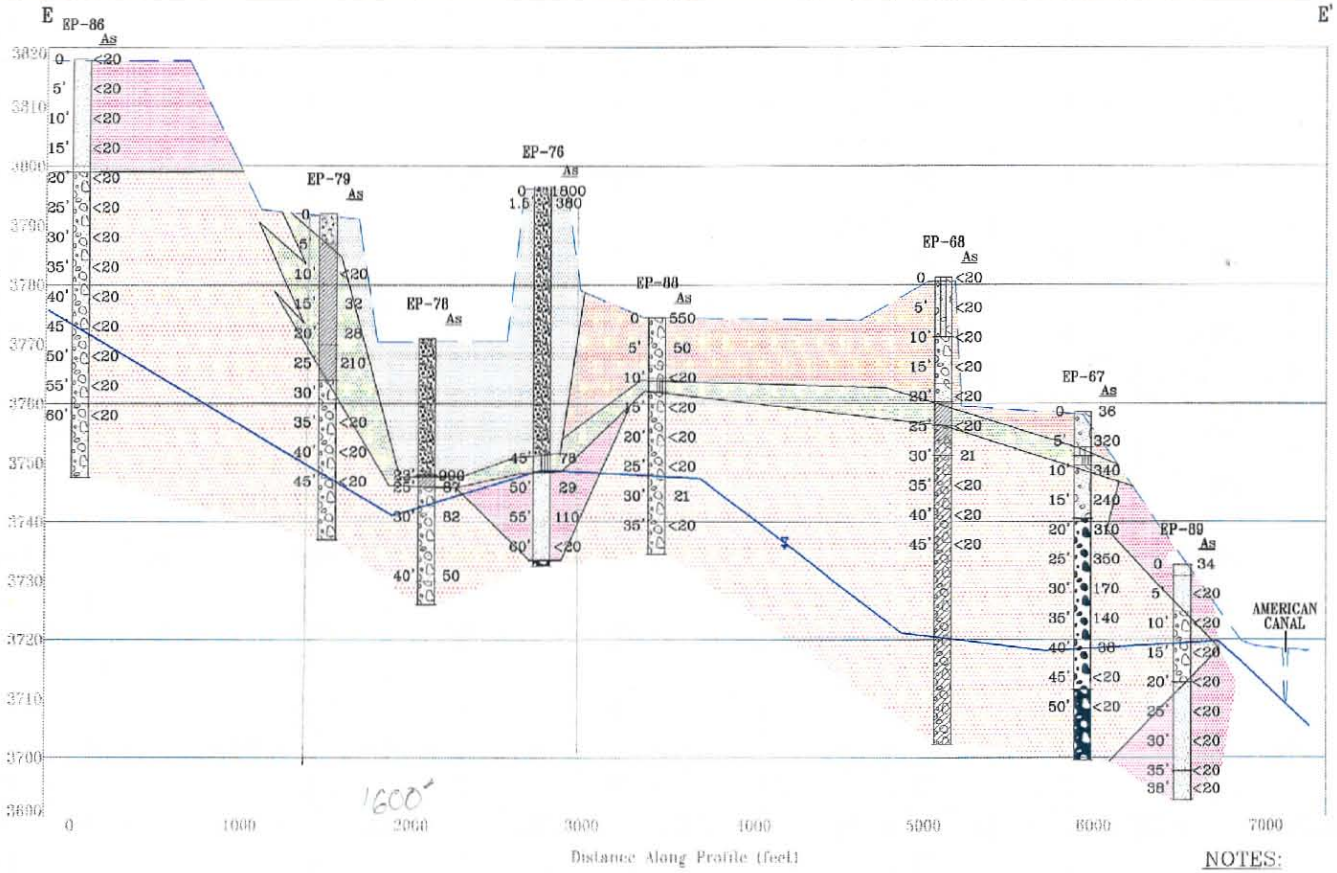

GEOLOGIC CROSS-SECTION E – E'

(LOOKING NORTHEAST)
HORIZONTAL: 1"=700'
VERTICAL: 1"=20'

LEGEND

- SLAG
- GRAVELLY material, including gravelly silt, gravelly sand, and silty to sandy gravel
- SANDY material, including fine- to coarse-grained sand, silty sand and clayey sand
- SILTY material, including sandy silt, clayey silt, and organic silt
- CLAYEY material, including gravelly clay, sandy clay, and silty clay
- EXISTING GROUND
- WATER TABLE LEVEL
- EP-89 BORING LOCATION

NOTES:

1. ALL CONTACT POINTS INFERRED.
2. WATER TABLE CALCULATED FROM FEB. 1998 DATA.
3. As = ARSENIC CONCENTRATION(mg/kg) IN SOIL SAMPLE COLLECTED AT DEPTH INDICATED.
4. CROSS SECTION LOCATION SHOWN ON FIG 2-26.

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	HYDROGEOLOGIC CROSS-SECTION E - E'	FIGURE 2-31

UPDATE TIME: 11:00
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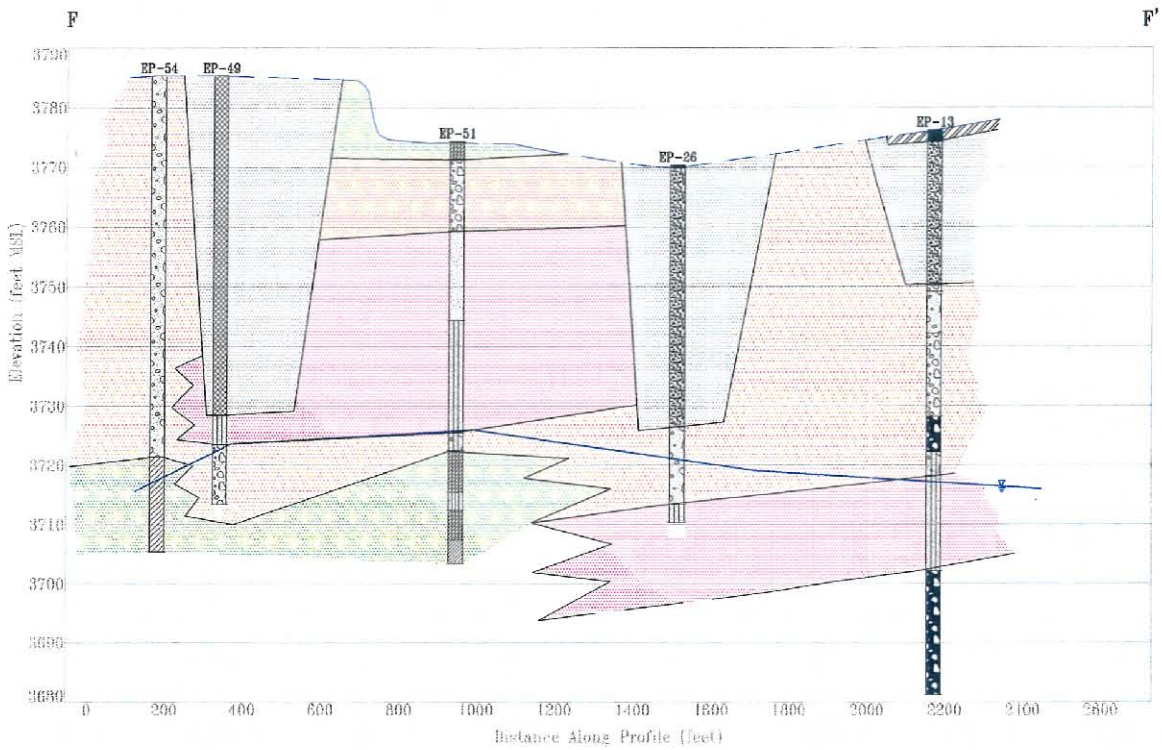

LEGEND

- ASPHALT
- SLAG
- GRAVELLY material, including gravelly silt, gravelly sand, and silty to sandy gravel
- SANDY material, including fine- to coarse-grained sand, silty sand and clayey sand
- SILTY material, including sandy silt, clayey silt, and organic silt
- CLAYEY material, including gravelly clay, sandy clay, and silty clay
- EXISTING GROUND
- WATER TABLE LEVEL
- EP-13 BORING LOCATION

HYDROGEOLOGIC CROSS-SECTION F – F'

(LOOKING WEST)
HORIZONTAL: 1"=300'
VERTICAL: 1"=20'

NOTES:

1. ALL CONTACT POINTS INFERRED.
2. WATER TABLE CALCULATED FROM FEB. 1998 DATA.

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	HYDROGEOLOGIC CROSS-SECTION F - F'	FIGURE 2-32

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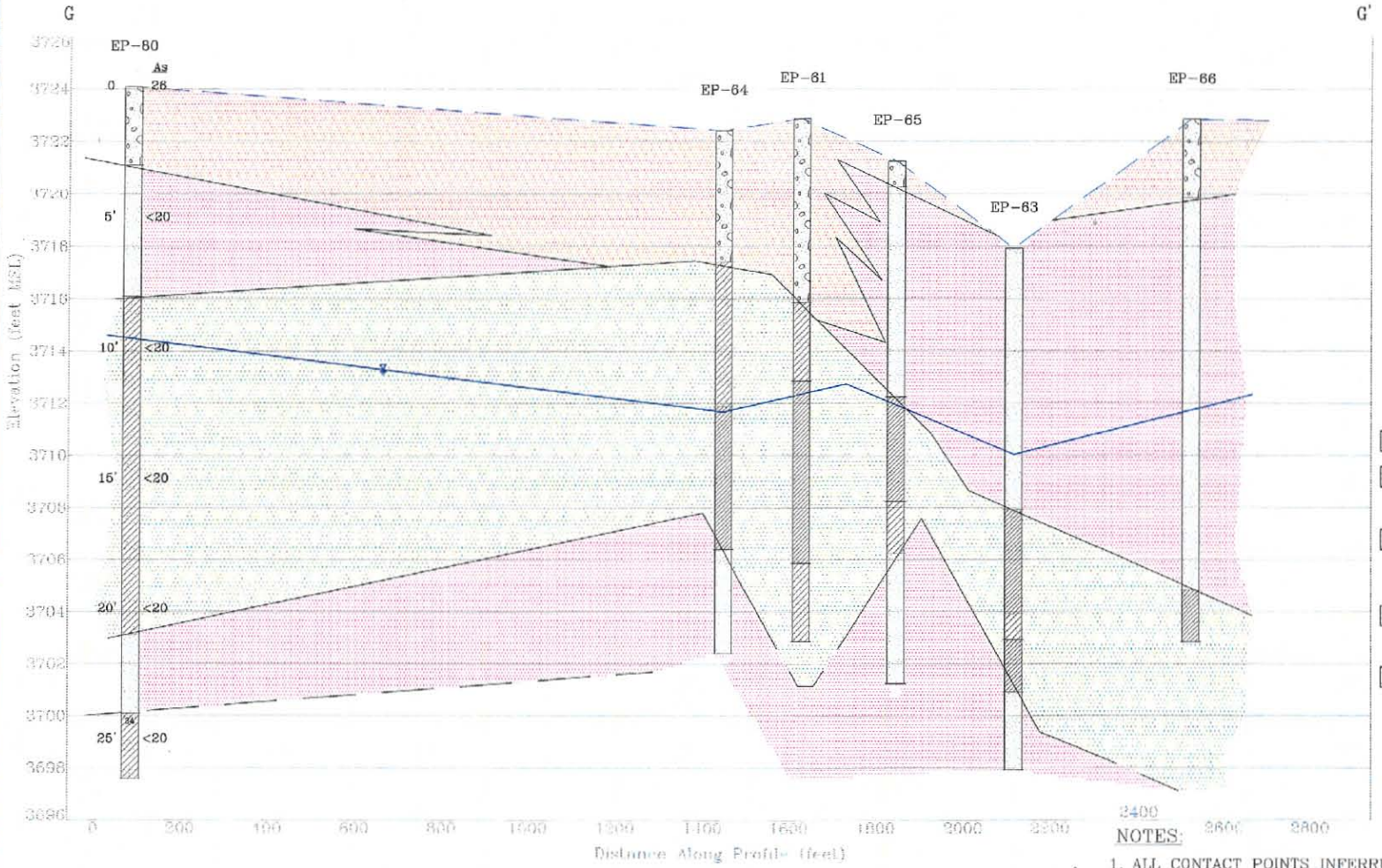

GEOLOGIC CROSS-SECTION G – G'

(LOOKING WEST)
HORIZONTAL: 1"=240'
VERTICAL: 1"=4'

LEGEND

- SLAG
- GRAVELLY material, including gravelly silt, gravelly sand, and silty to sandy gravel
- SANDY material, including fine- to coarse-grained sand, silty sand and clayey sand
- SILTY material, including sandy silt, clayey silt, and organic silt
- CLAYEY material, including gravelly clay, sandy clay, and silty clay

NOTES:

1. ALL CONTACT POINTS INFERRED.
2. WATER TABLE CALCULATED FROM FEB. 1998 DATA.
3. As = ARSENIC CONCENTRATION IN SOIL SAMPLE COLLECTED AT DEPTH INDICATED.

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	HYDROGEOLOGIC CROSS-SECTION G - G'	FIGURE 2-33

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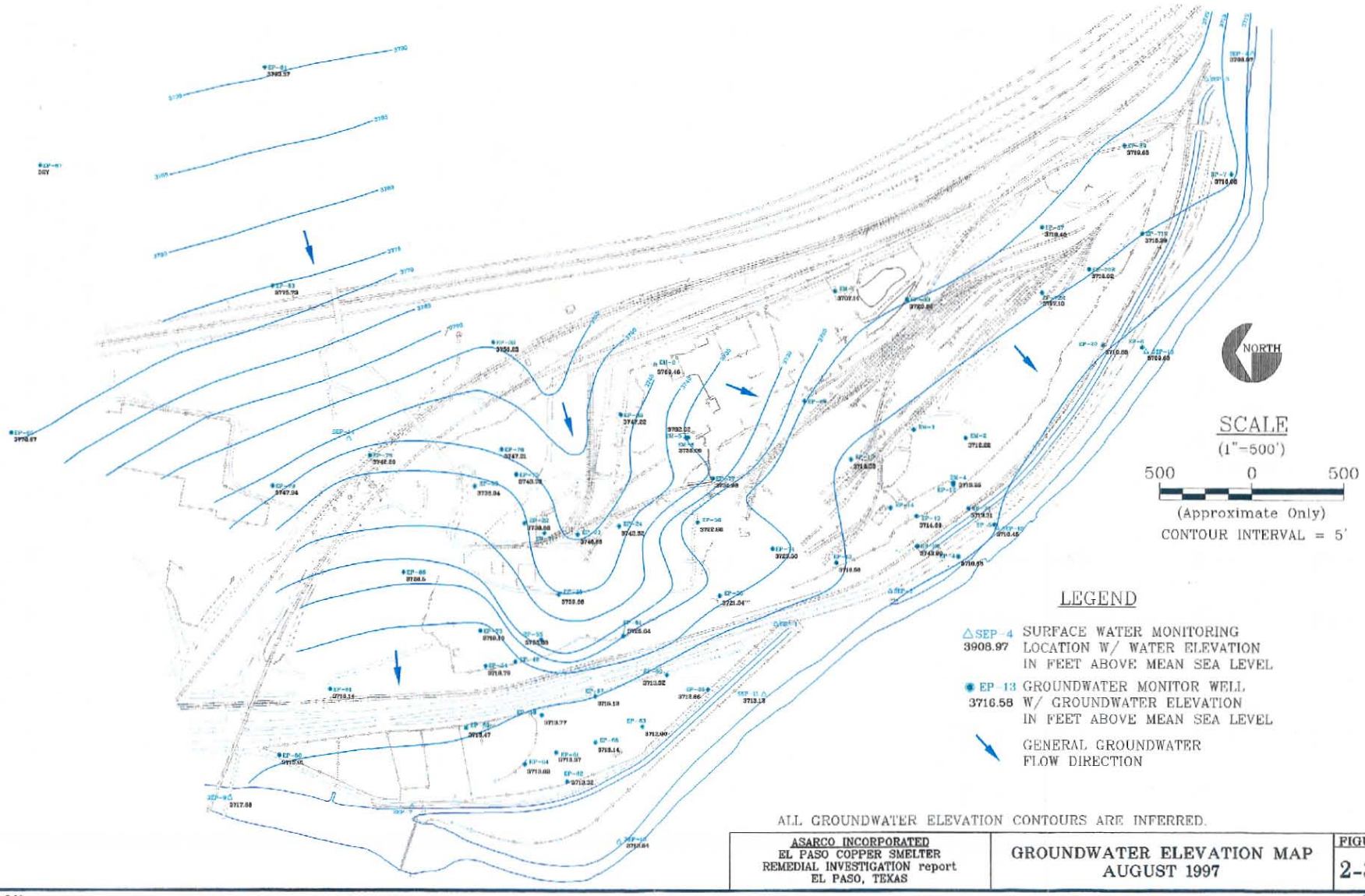

ALL GROUNDWATER ELEVATION CONTOURS ARE INFERRED.

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION report EL PASO, TEXAS	GROUNDWATER ELEVATION MAP AUGUST 1997	FIGURE 2-34

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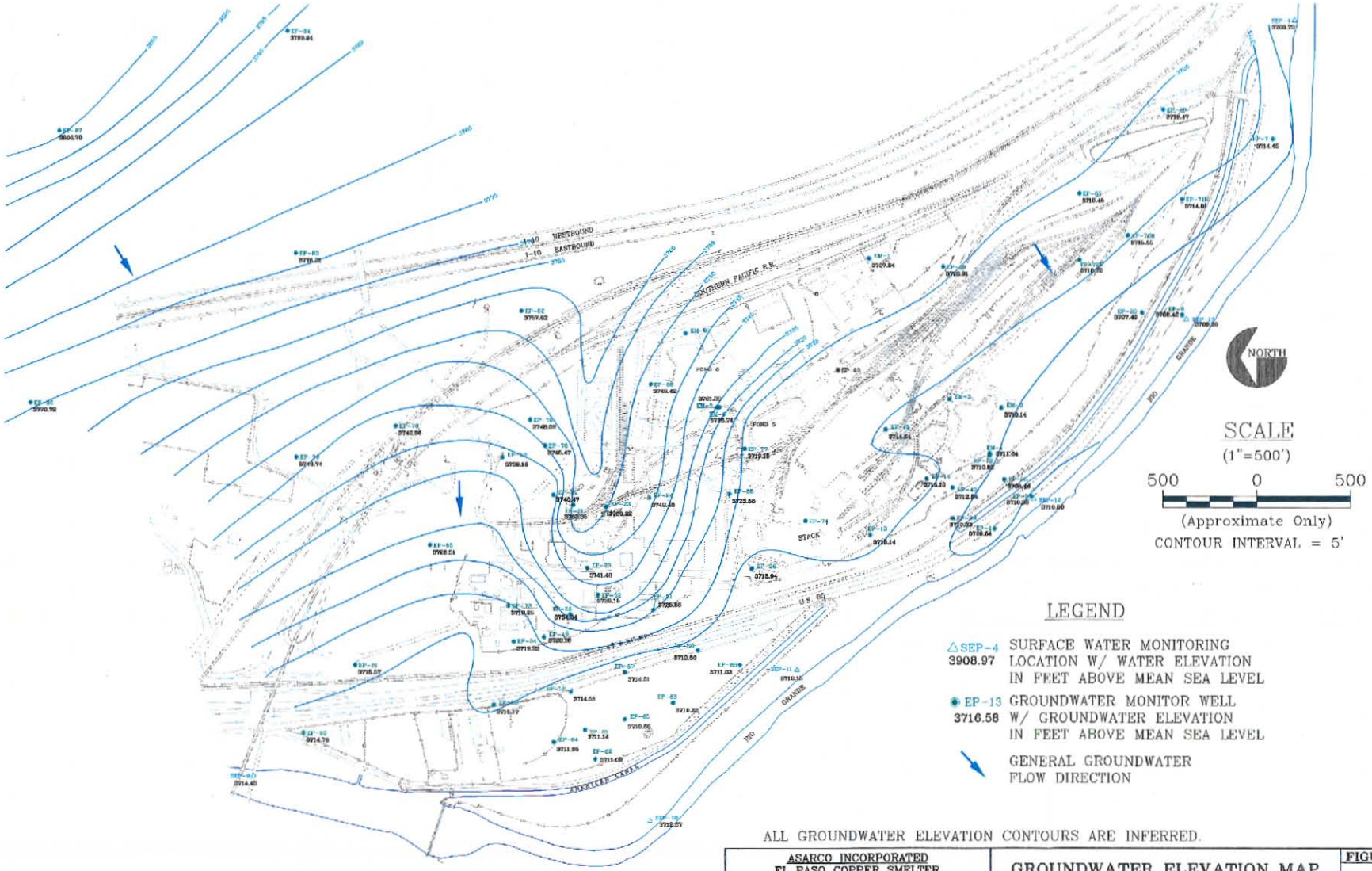

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

GROUNDWATER ELEVATION MAP
NOVEMBER 1997

FIGURE
2-35

UPDATE TIME: 3:00
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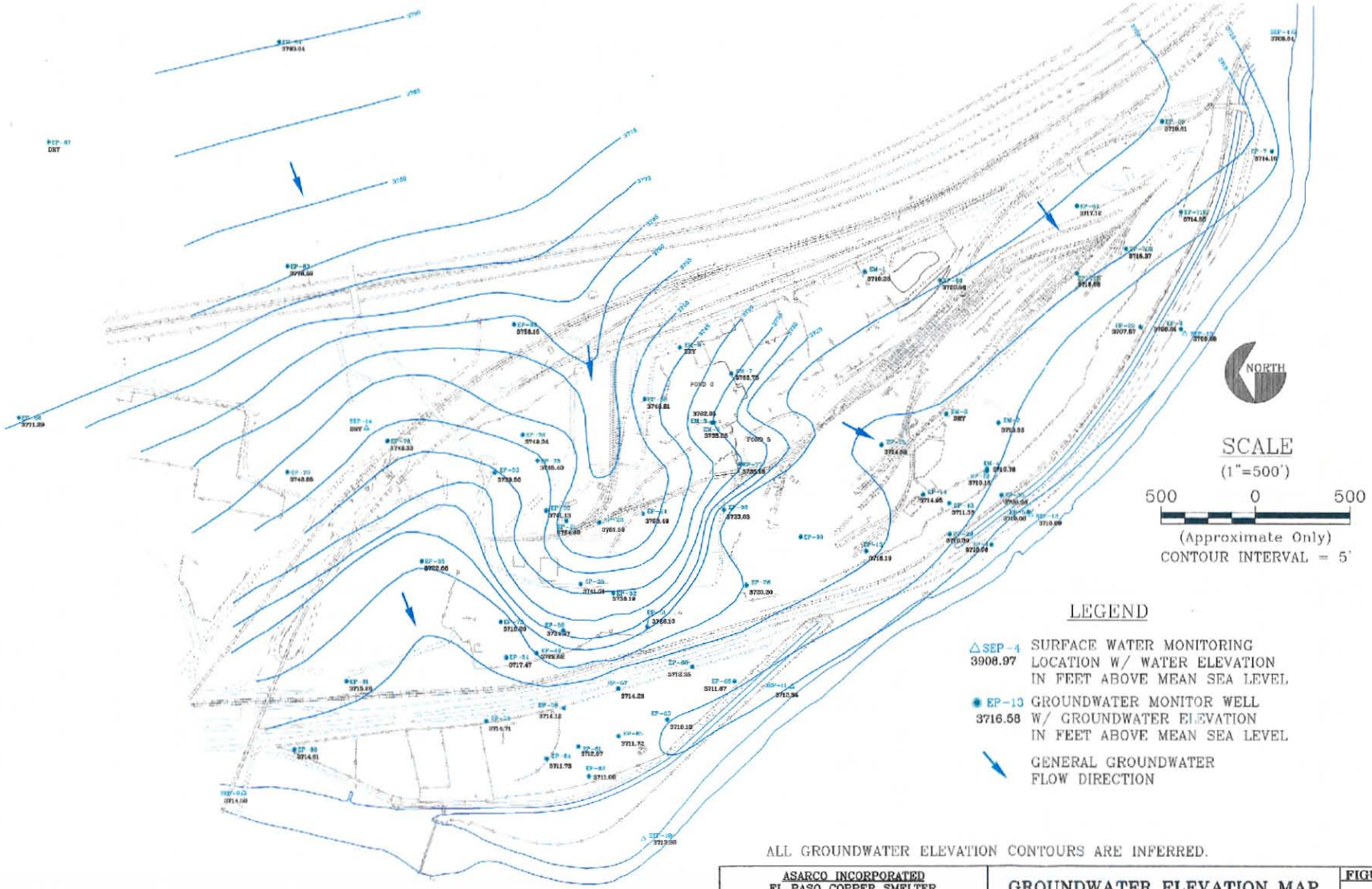

ALL GROUNDWATER ELEVATION CONTOURS ARE INFERRED.

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	GROUNDWATER ELEVATION MAP FEBRUARY 1998	FIGURE 2-36

UPDATE TIME: 3:00
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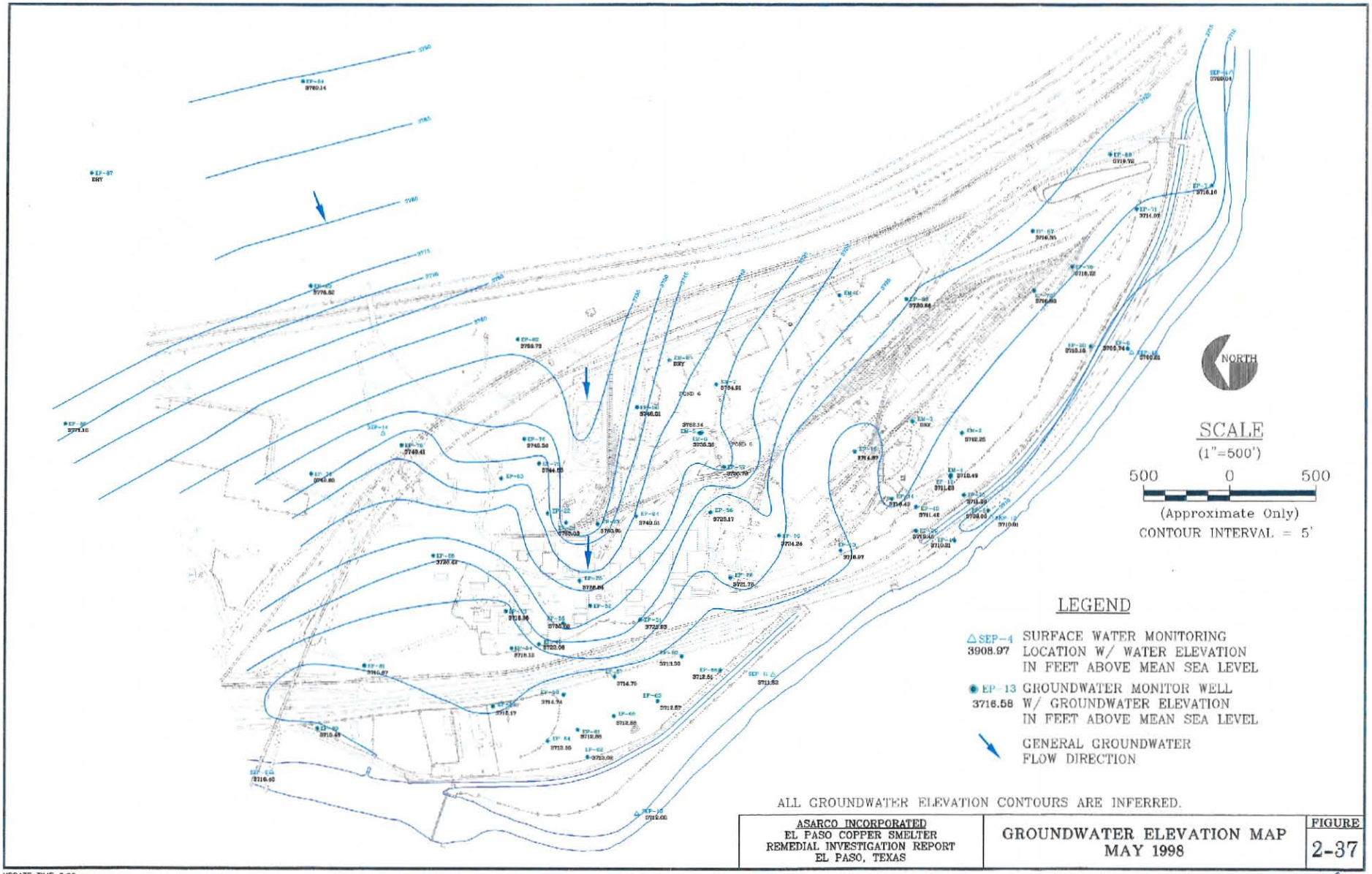

ALL GROUNDWATER ELEVATION CONTOURS ARE INFERRED.

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	GROUNDWATER ELEVATION MAP MAY 1998	FIGURE 2-37

UPDATE TIME: 3:00
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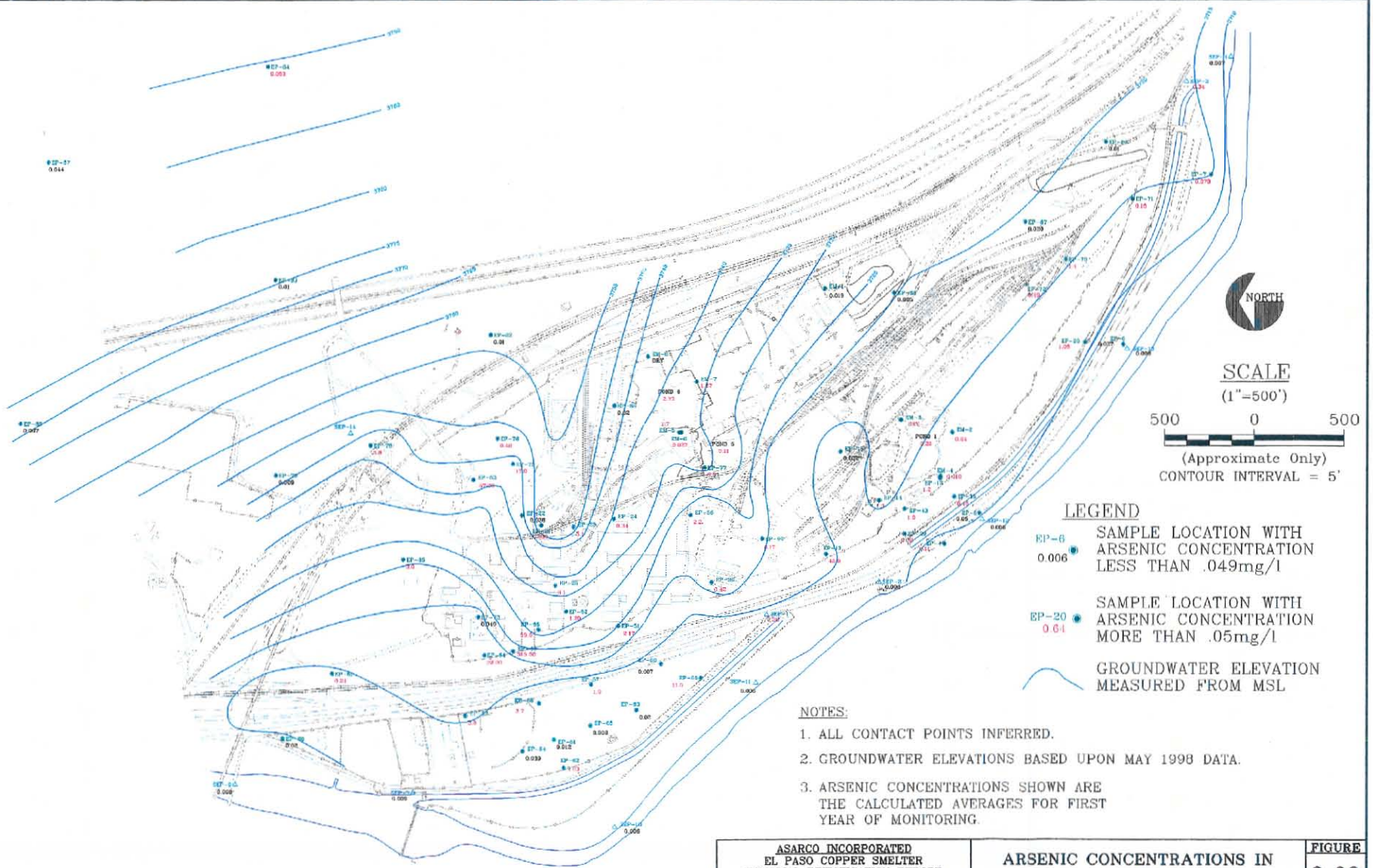

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	ARSENIC CONCENTRATIONS IN WATER	FIGURE 2-38

UPDATE TIME: 2:00
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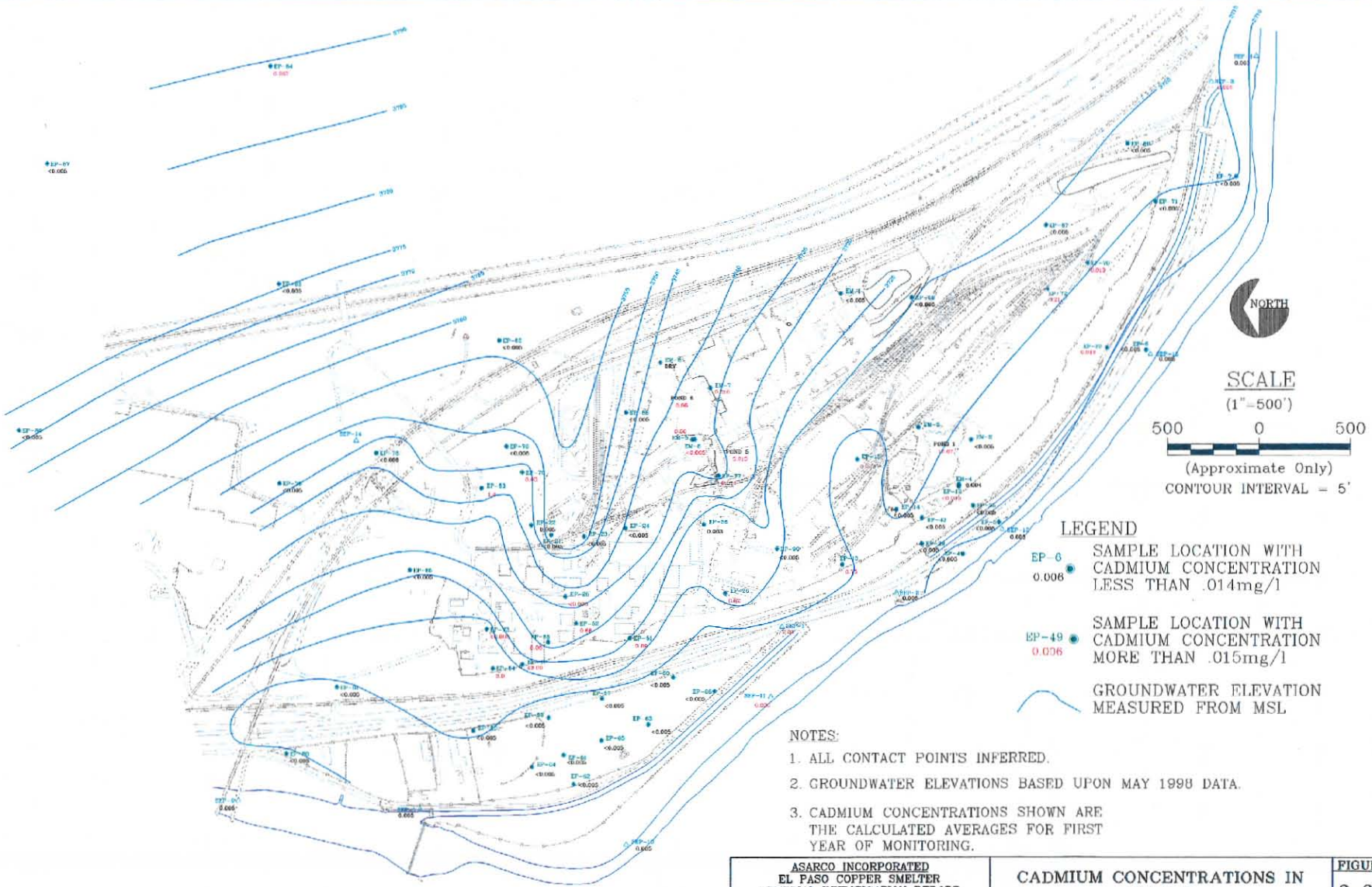

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	CADMIUM CONCENTRATIONS IN WATER	FIGURE 2-39

UPDATE TIME: 2:00
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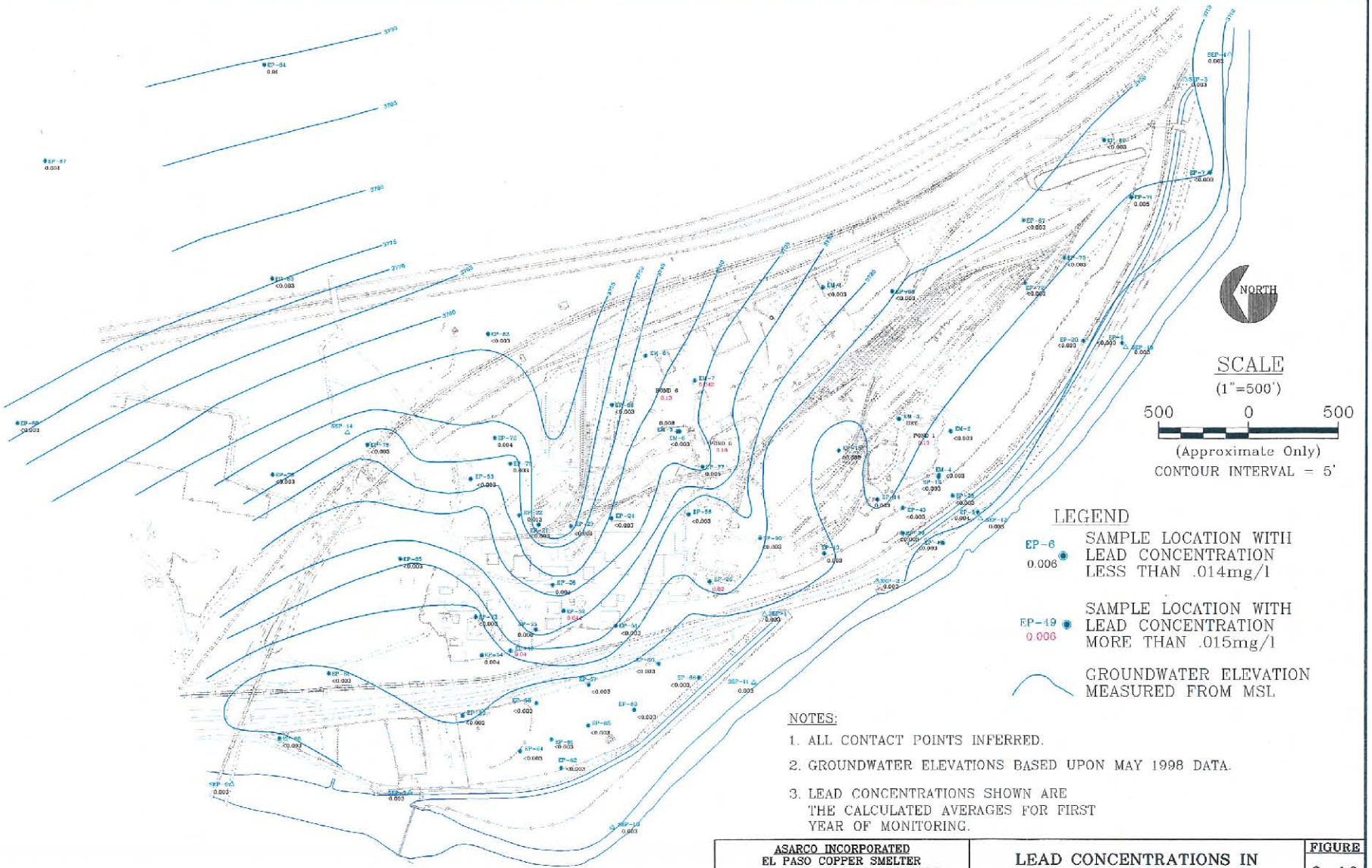

NOTES:

1. ALL CONTACT POINTS INFERRED.
2. GROUNDWATER ELEVATIONS BASED UPON MAY 1998 DATA.
3. LEAD CONCENTRATIONS SHOWN ARE THE CALCULATED AVERAGES FOR FIRST YEAR OF MONITORING.

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	LEAD CONCENTRATIONS IN WATER	FIGURE 2-40

UPDATE TIME: 2:00
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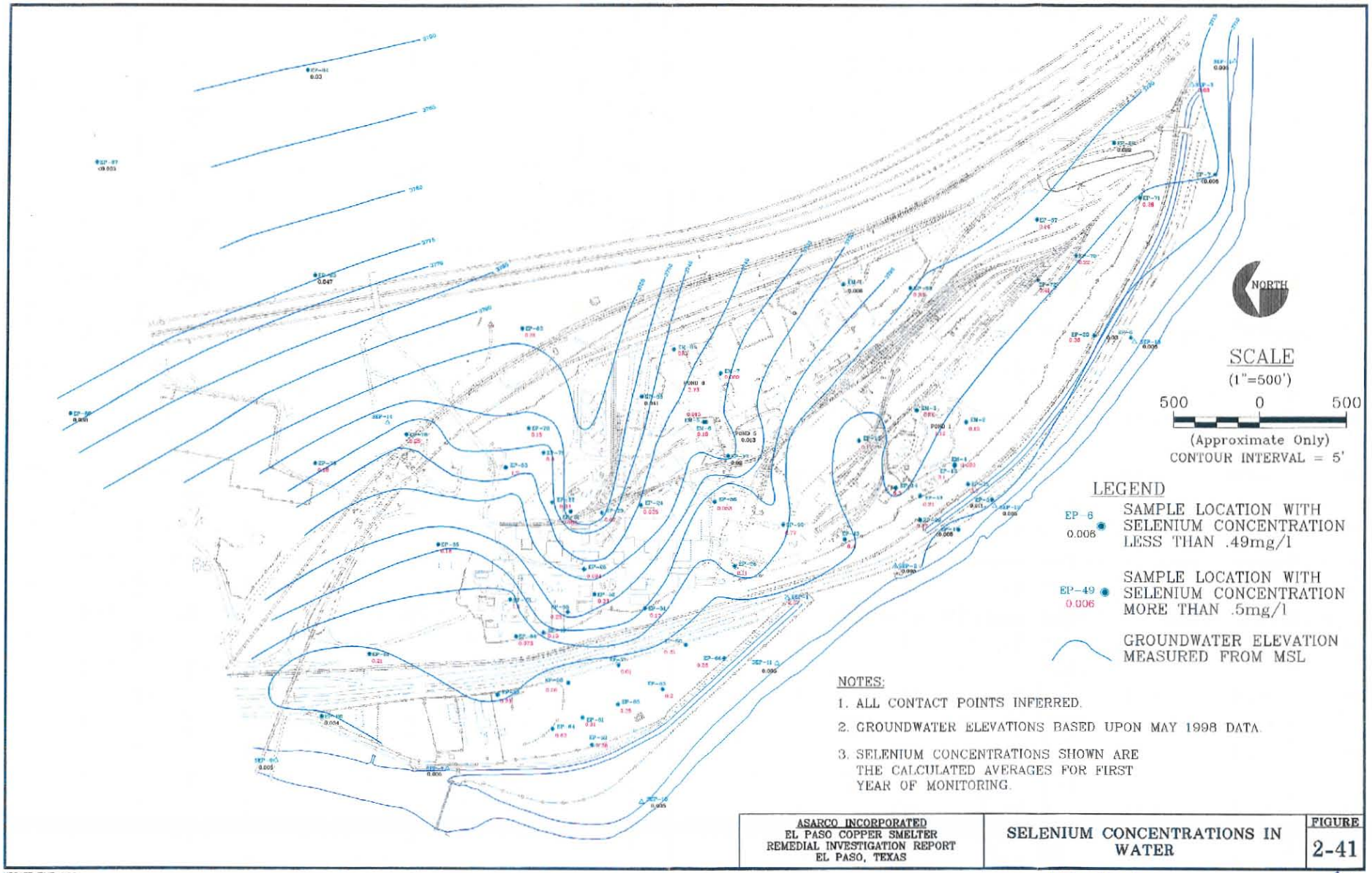

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

SELENIUM CONCENTRATIONS IN WATER

FIGURE
2-41

UPDATE TIME: 2:00
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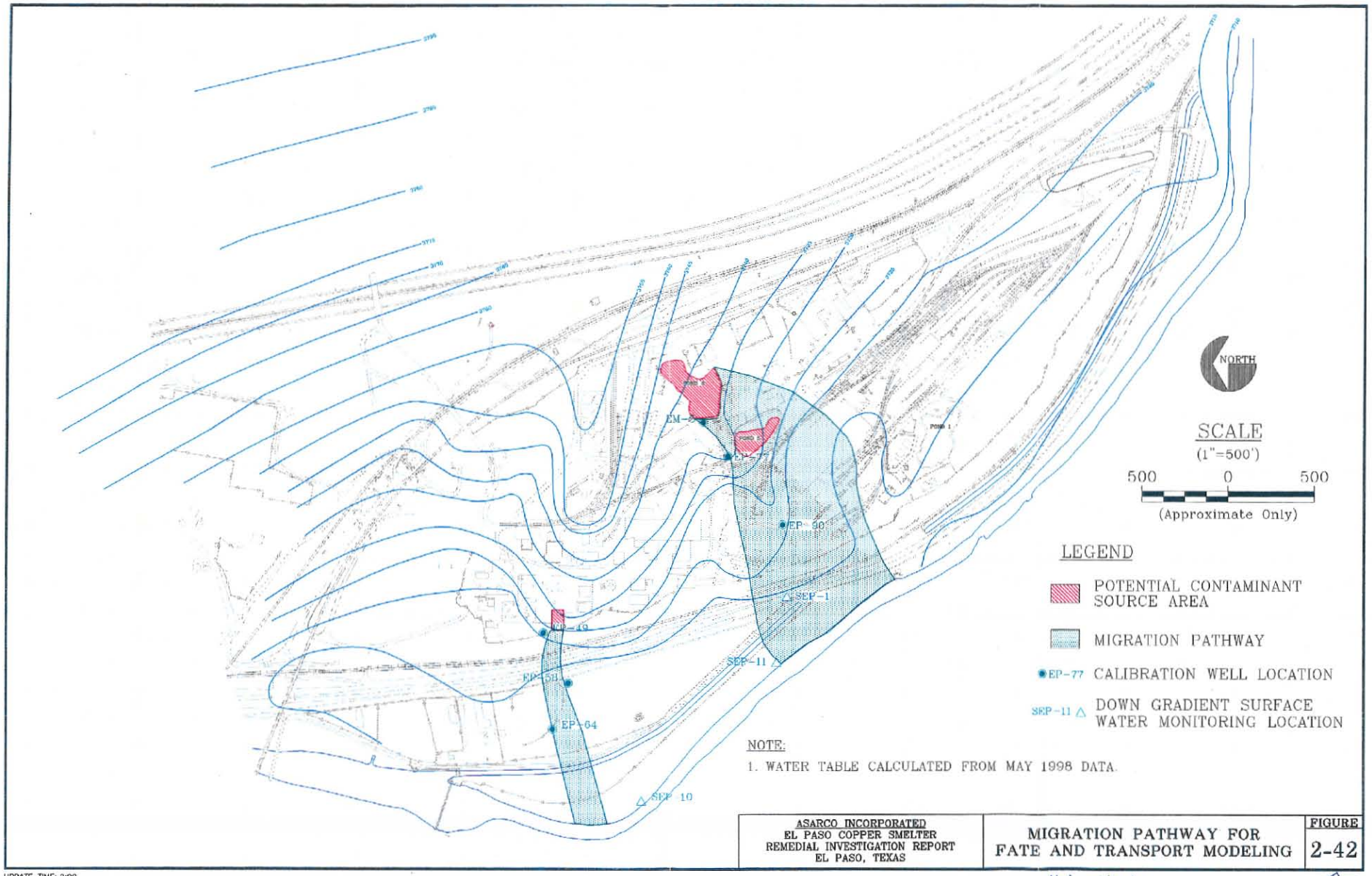

NOTE:

1. WATER TABLE CALCULATED FROM MAY 1998 DATA.

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	MIGRATION PATHWAY FOR FATE AND TRANSPORT MODELING	FIGURE 2-42

UPDATE TIME: 2:00
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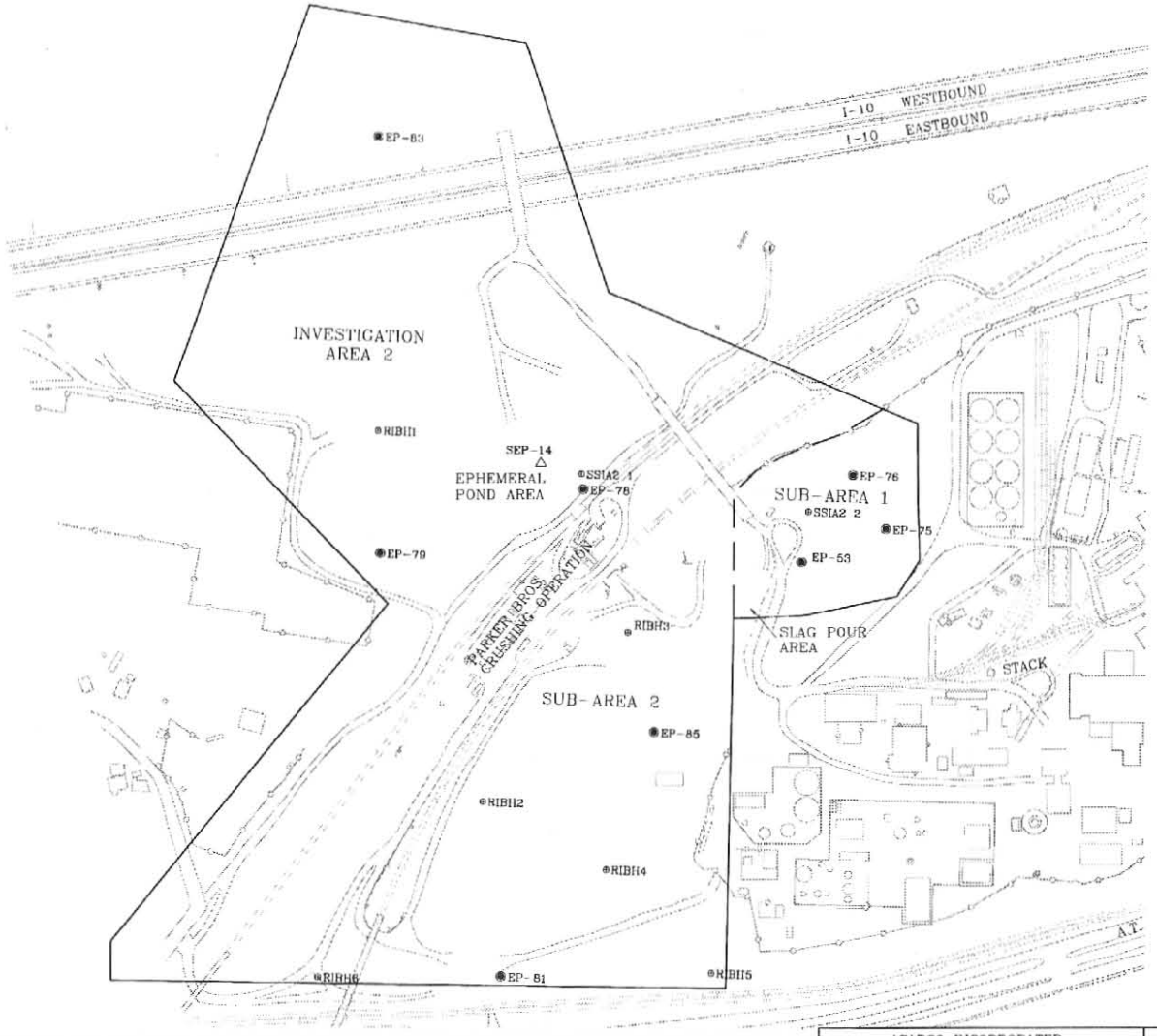

LEGEND

⊕RIBH3	SOIL BORING LOCATION
◉ EP-14	EXISTING GROUNDWATER MONITORING WELLS
⊕SSIA2 1	SOIL SAMPLING LOCATIONS
———	INVESTIGATION AREA BOUNDARY
— — —	SUB-AREA BOUNDARY

NORTH

SCALE
(1"=300')
300 0 300
(Approximate Only)

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

INVESTIGATION AREA 2

FIGURE 3-2

UPDATE TIME: 11:31
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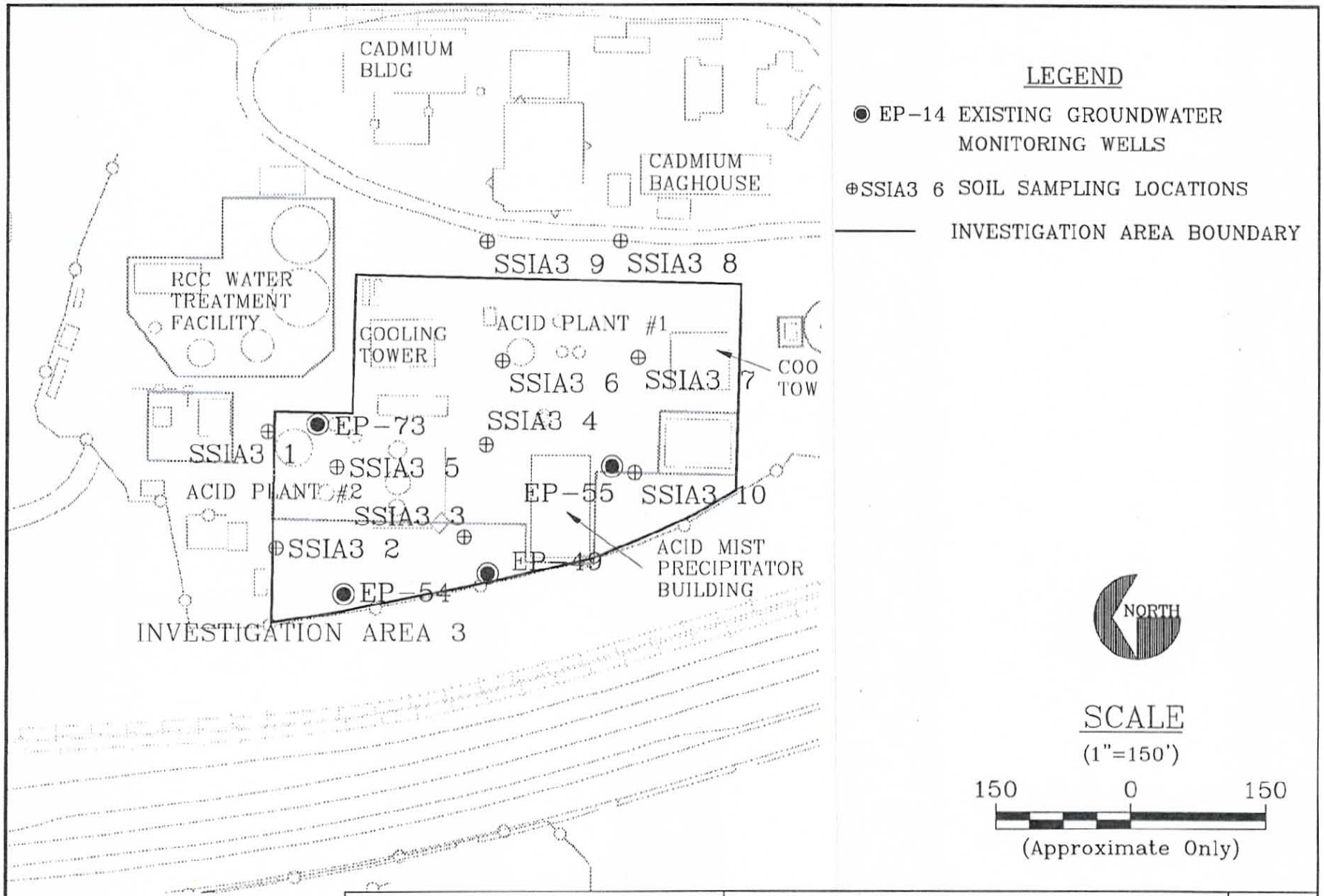

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

INVESTIGATION AREA 3

FIGURE 3-3

UPDATE TIME: 11:00
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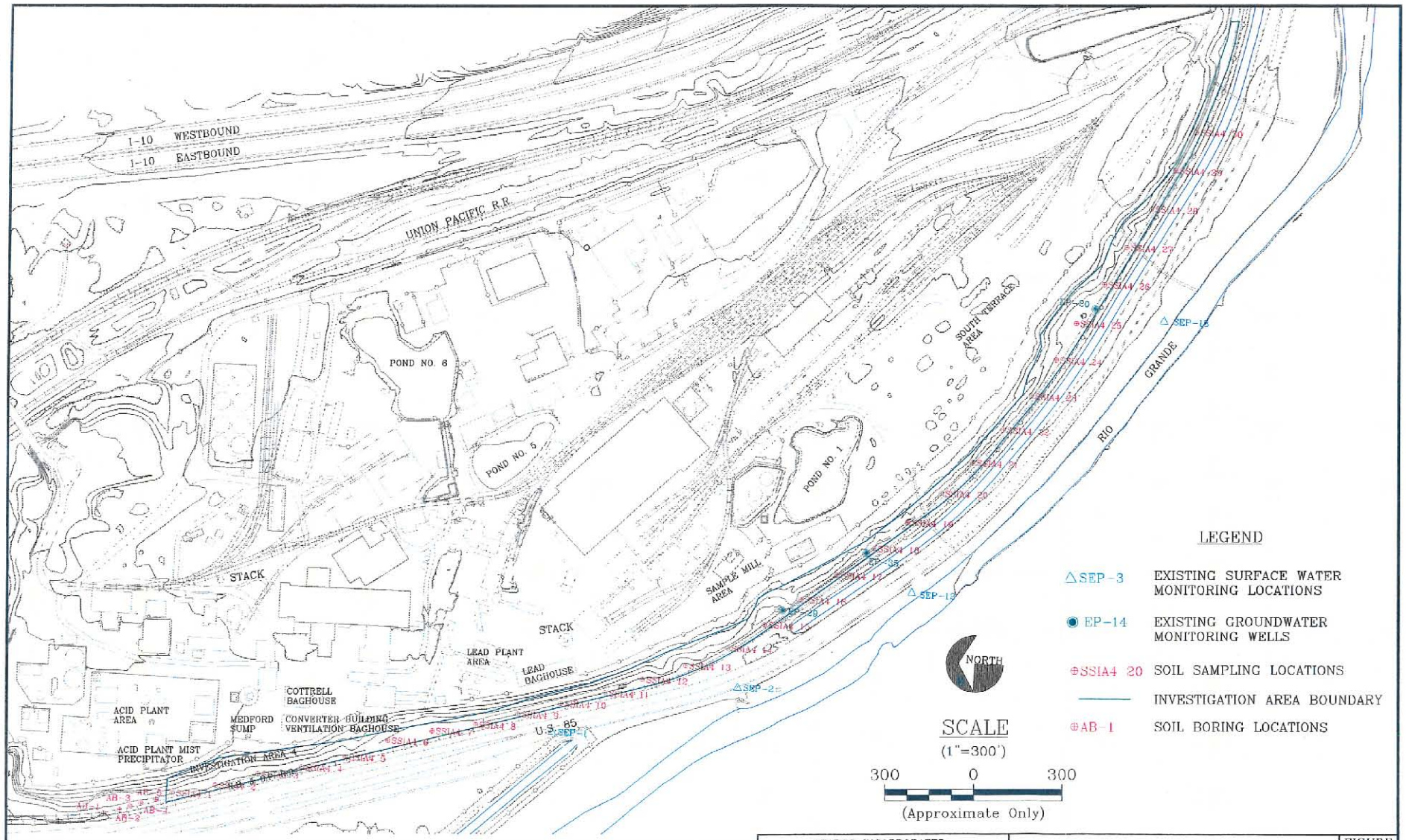

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

INVESTIGATION AREA 4

FIGURE 3-4

UPDATE TIME: 11:00
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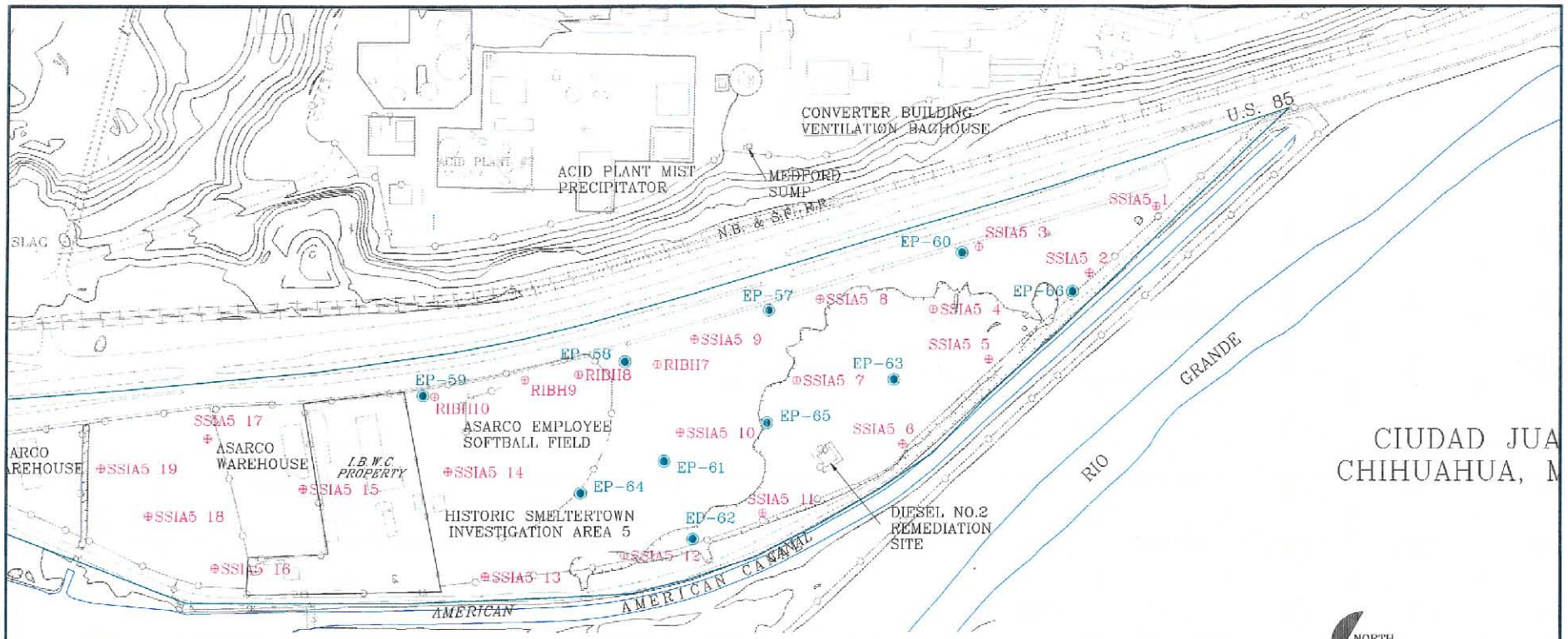

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	INVESTIGATION AREA 5	FIGURE 3-5

UPDATE TIME: 11:00
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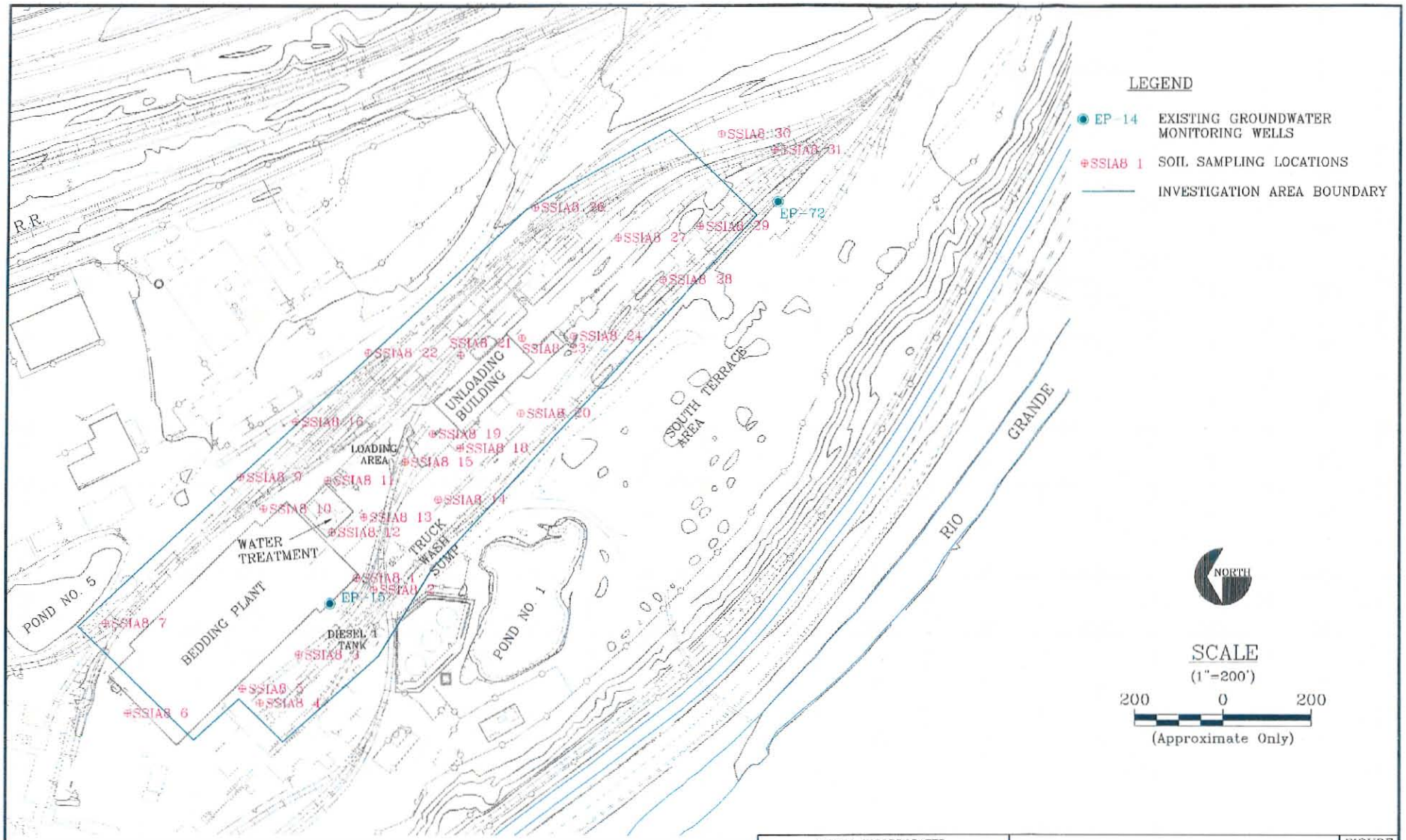

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

INVESTIGATION AREA 8

FIGURE 3-6

UPDATE TIME: 11:00
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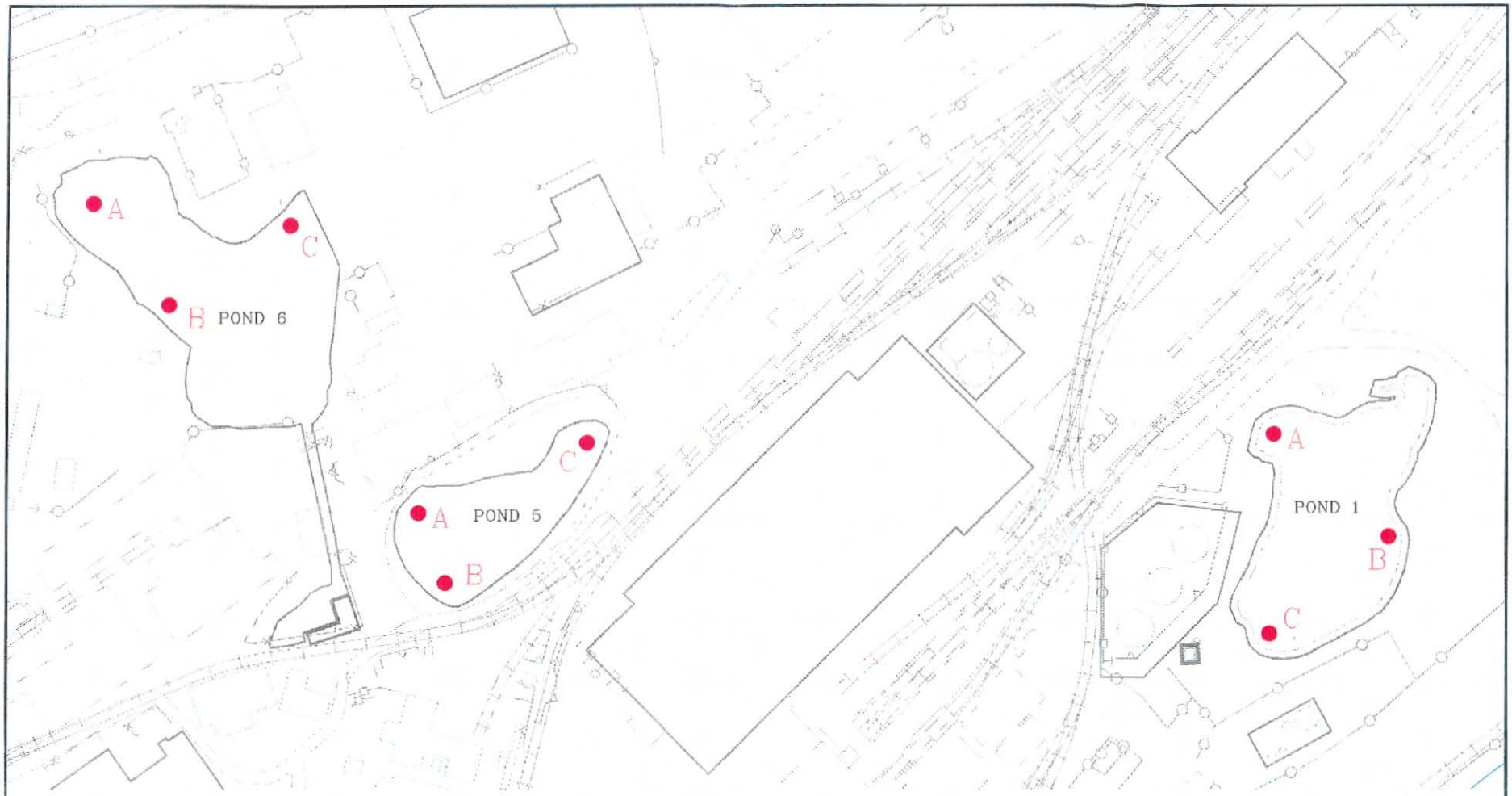

NORTH

SCALE
(In Feet)
120 0 120
(Approximate Only)

LEGEND

A SEDIMENT SAMPLE LOCATION

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

POND SEDIMENT SAMPLE LOCATIONS

FIGURE 3-8

UPDATE TIME: 9:00
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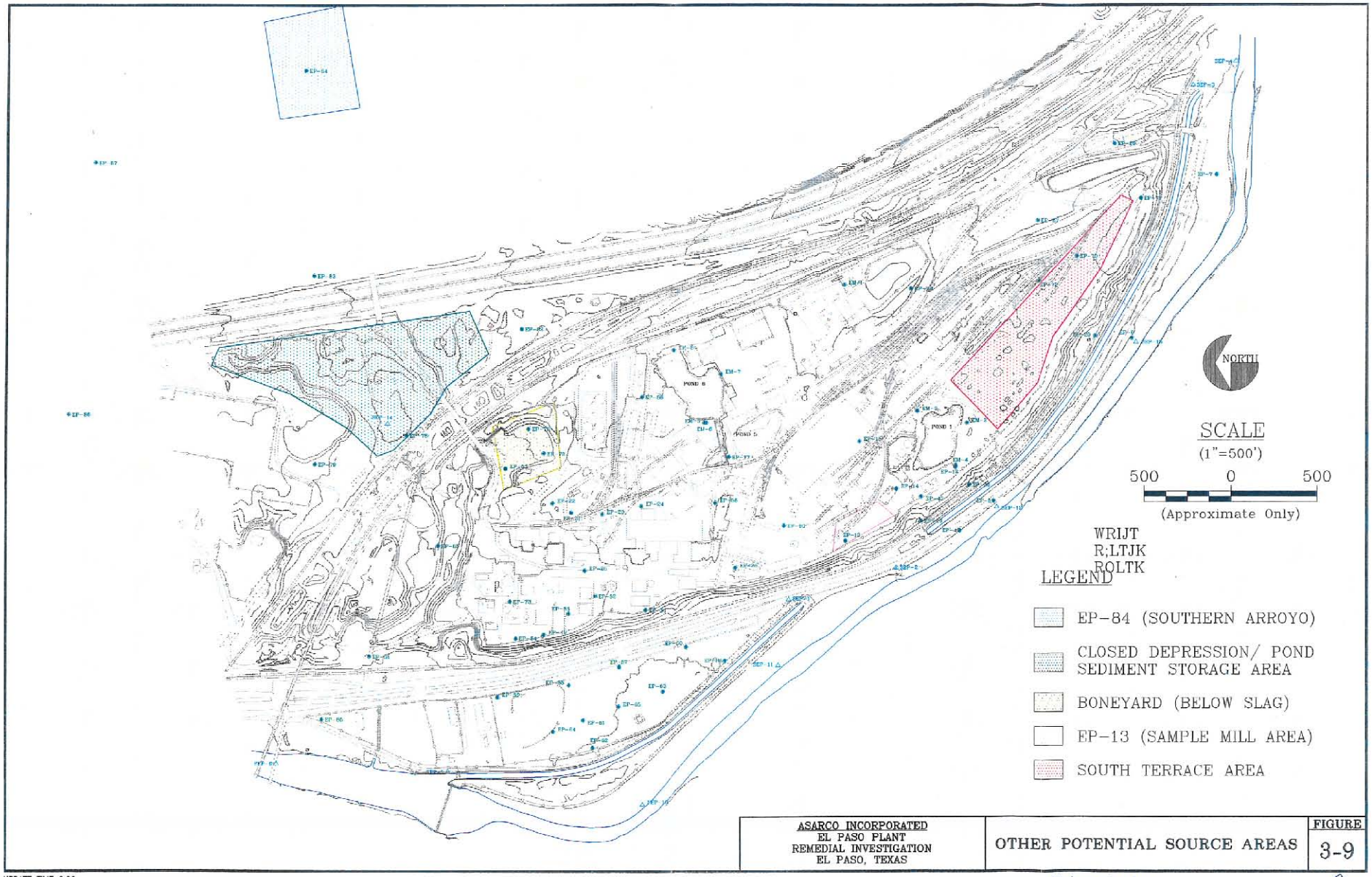

ASARCO INCORPORATED EL PASO PLANT REMEDIAL INVESTIGATION EL PASO, TEXAS	OTHER POTENTIAL SOURCE AREAS	FIGURE 3-9

UPDATE TIME: 2:00
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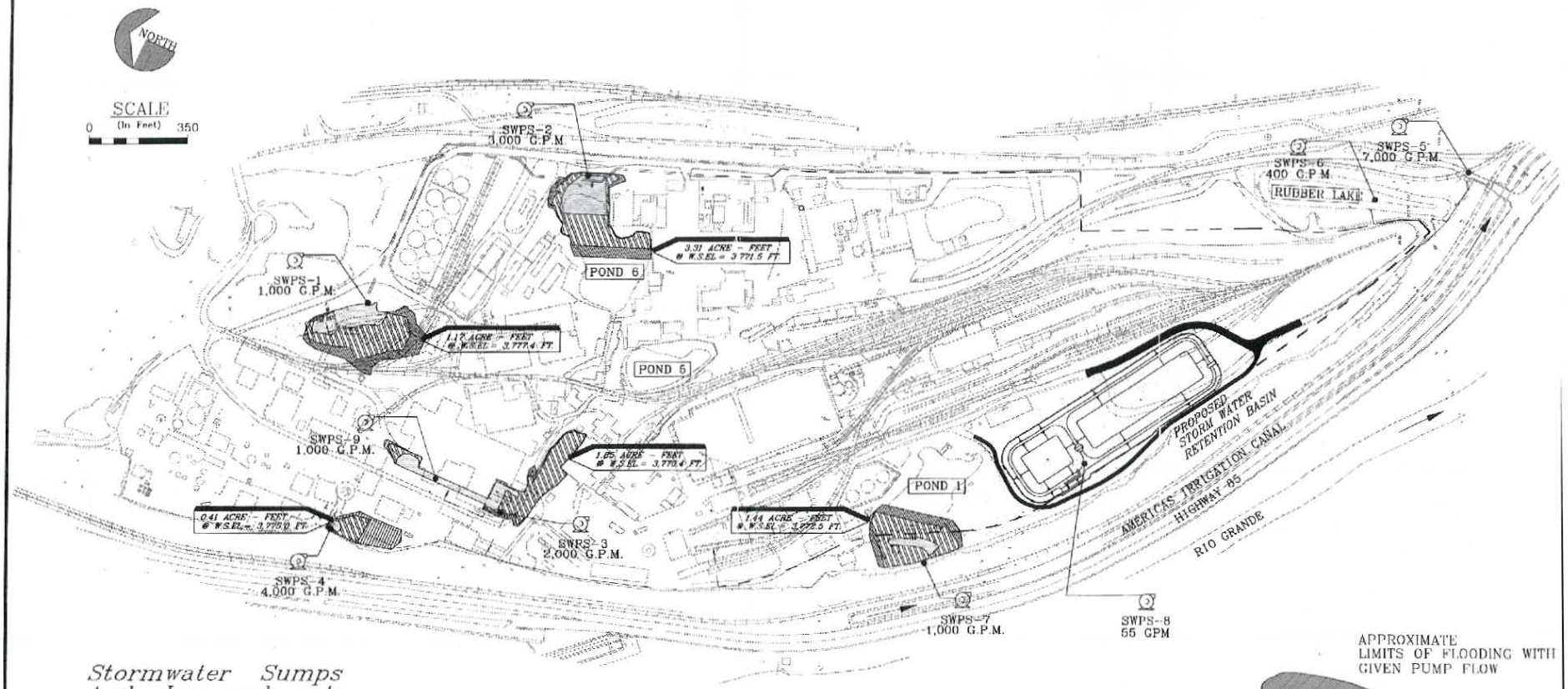

Stormwater Sumps And Impoundments

STATION	DIMENSIONS (FT.)	CAPACITY (GAL.)
SWPS-1	8' x 7' x 6'	2,513
SWPS-2	12' x 10' x 7'	6,283
SWPS-3	10' x 8' x 8'	4,787
SWPS-4	21' x 10' x 10'	15,708
SWPS-5	24' x 10' x 10'	17,952
SWPS-6	19' x 9' x 14'	17,907
SWPS-7	8' x 7' x 6'	2,513
SWPS-8	8' x 6' x 15'	5,386
Rubber Lake	660' x 100' x 12'	2.25 MG
Storm Water Retention Basin	654' x 115' x 12'	7.5 MG

NOTES

1. THE PREDICTED FUTURE FLOODING LIMITS AROUND SWPS-2 AND SWPS-7 ASSUME THAT THE ADJACENT PONDS ONE AND SIX ARE FILLED IN. POND ONE IS ASSUMED TO BE FILLED IN TO ELEVATION 3772 FT AT THE WEST END AND GRADED AT A CONSTANT SLOPE TO ELEVATION 3774 FT AT THE EAST END. POND SIX IS ASSUMED TO BE FILLED TO ELEVATION 3766 FT AT THE EAST END AND GRADED AT A CONSTANT SLOPE TO ELEVATION 3776 FT AT THE WEST END.

LEGEND

SWPS-2 3,000 G.P.M. — PROPOSED STORM WATER PUMP

ABOVE GROUND PIPE

BELOW GROUND PIPE

3.31 ACRE - FEET @ W.S.EL = 3,774.2 FT. — 24-HOUR, 100 YEAR FLOODING INFORMATION

APPROXIMATE LIMITS OF FLOODING WITH GIVEN PUMP FLOW

2 YEAR FLOODING LIMITS

25 YEAR FLOODING LIMITS

100 YEAR FLOODING LIMITS

W.S.EL. = WATER SURFACE ELEVATION

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

STORMWATER COLLECTION AND REUSE PROJECT CONSTRUCTION DESIGN

FIGURE 4-1

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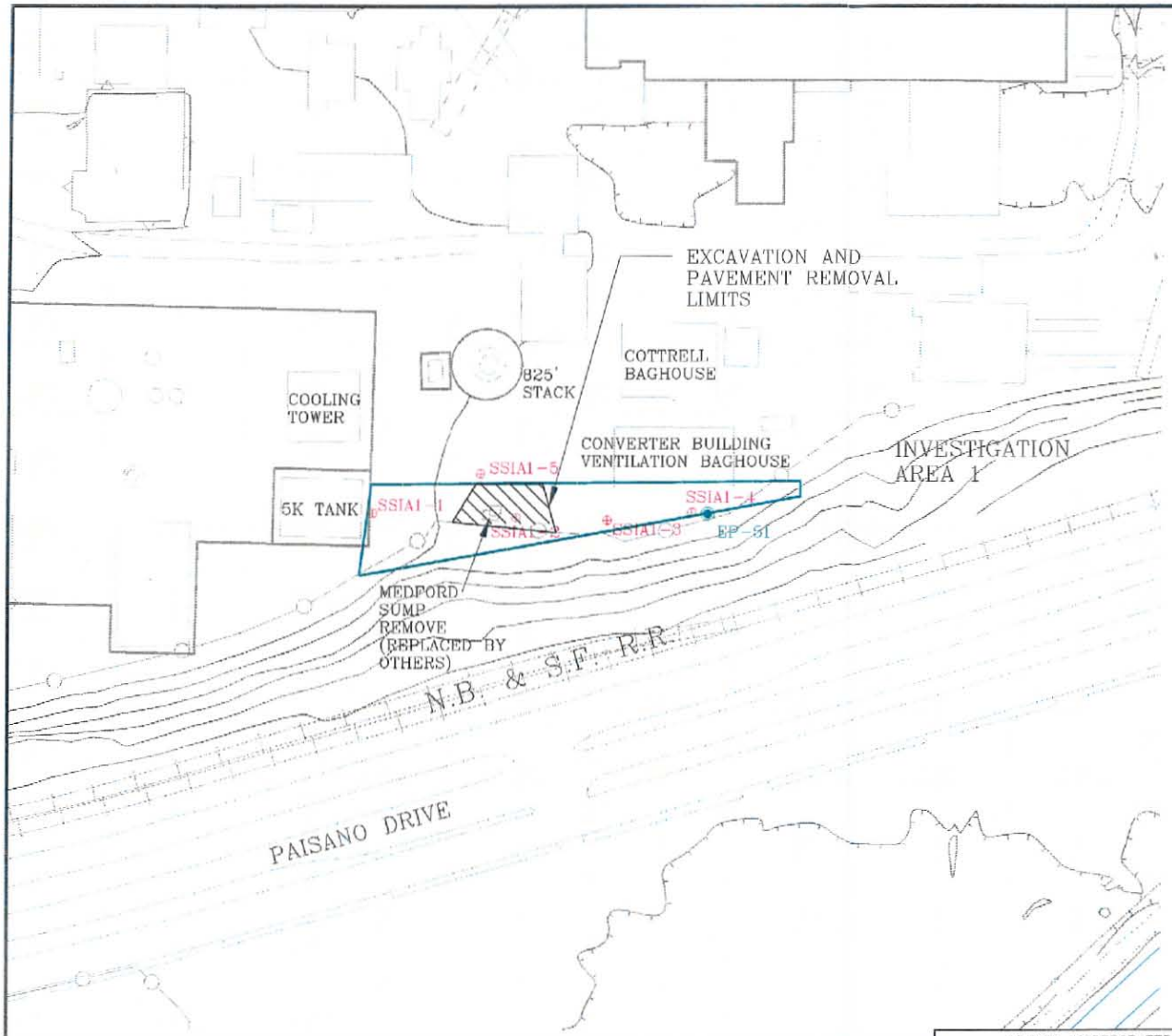

NORTH

SCALE
(1"=100')
100 0 100
(Approximate Only)

NOTES:

1. REMOVE EXISTING PAVEMENT AND SUMP.
2. CRUSH AND HAUL TO ON SITE REPOSITORY.
3. EXCAVATE TO REMOVE CATEGORY I SOILS (APPROXIMATELY 15').
4. HAUL EXCAVATED SOILS TO ON SITE REPOSITORY.
5. BACKFILL WITH ACCEPTABLE SOIL. PLACE, COMPACT AND GRADE BACKFILL.
6. INSTALL ASPHALT CAP.
7. MEDFORD SUMP REPLACEMENT BY OTHERS.

LEGEND

- EP-14 EXISTING GROUNDWATER MONITORING WELLS
- SSIA1 1 SOIL SAMPLING LOCATIONS
- INVESTIGATION AREA BOUNDARY

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	INVESTIGATION AREA 1 REMEDIAL ACTIVITIES	FIGURE 4-2

UPDATE TIME: 3:00
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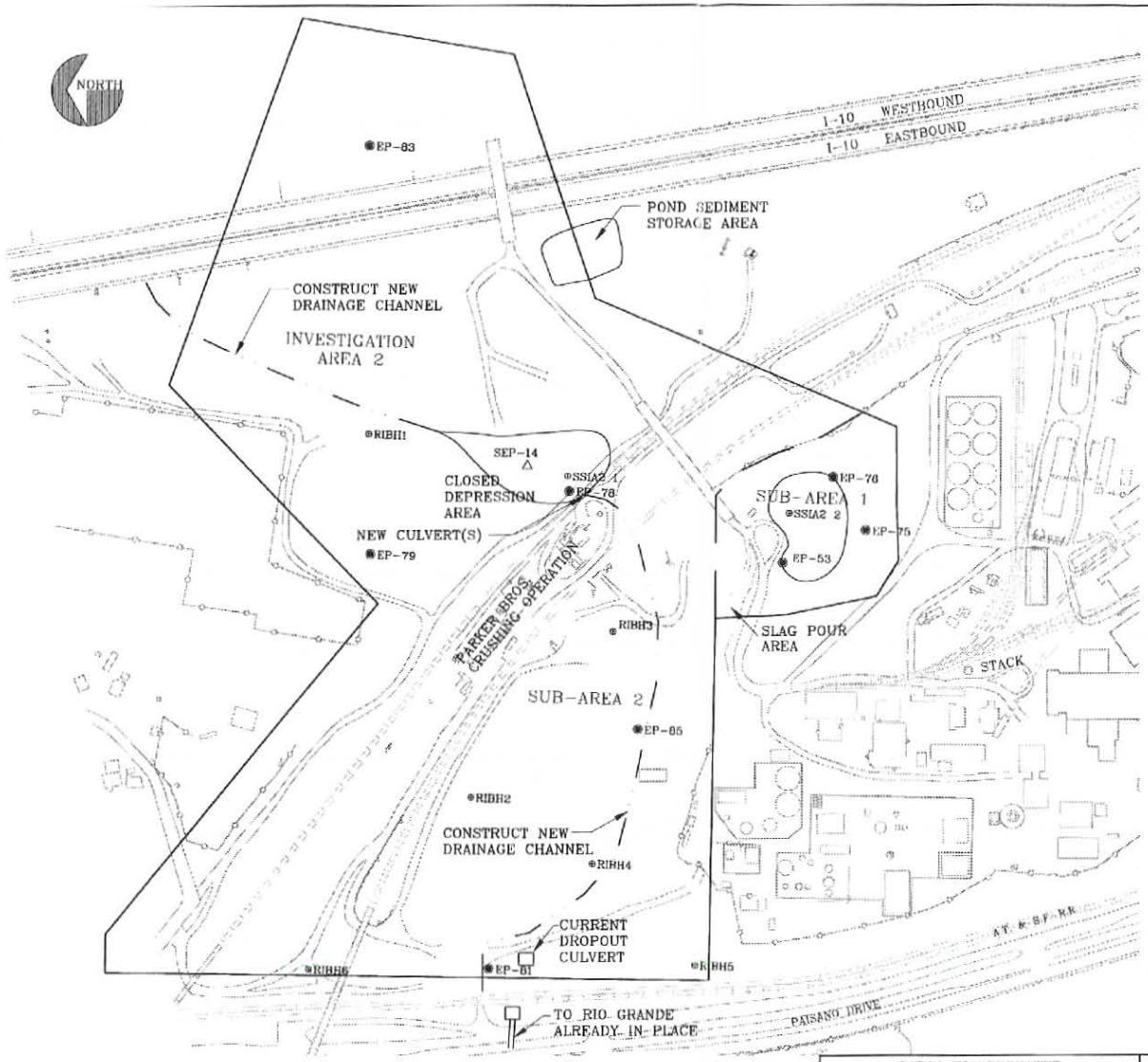

LEGEND

⊕RIBH3	SOIL BORING LOCATION
◉ EP-14	EXISTING GROUNDWATER MONITORING WELLS
⊕SSIA2 1	SOIL SAMPLING LOCATIONS
———	INVESTIGATION AREA BOUNDARY
———	SUB-AREA BOUNDARY

NOTES:

1. EXCAVATE AND REMOVE SOILS TO DESIGNATED DEPTHS.
2. REMOVE DEBRIS FROM DESIGNATED AREAS.
3. HAUL SOILS TO ON SITE REPOSITORY.
4. SITE GRADING TO BLEND TO EXISTING TOPO (NOTE: BACKFILL NOT REQUIRED THIS AREA)
5. DRAINAGE IMPROVEMENTS: CONSTRUCT NEW DRAINAGE CHANNEL AND NEW CULVERTS AS NEEDED.

SCALE
(1"=300')
300 0 300
(Approximate Only)

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

INVESTIGATION AREA 2
REMEDIAL ACTIVITIES

FIGURE
4-3

UPDATE TIME: 11:31
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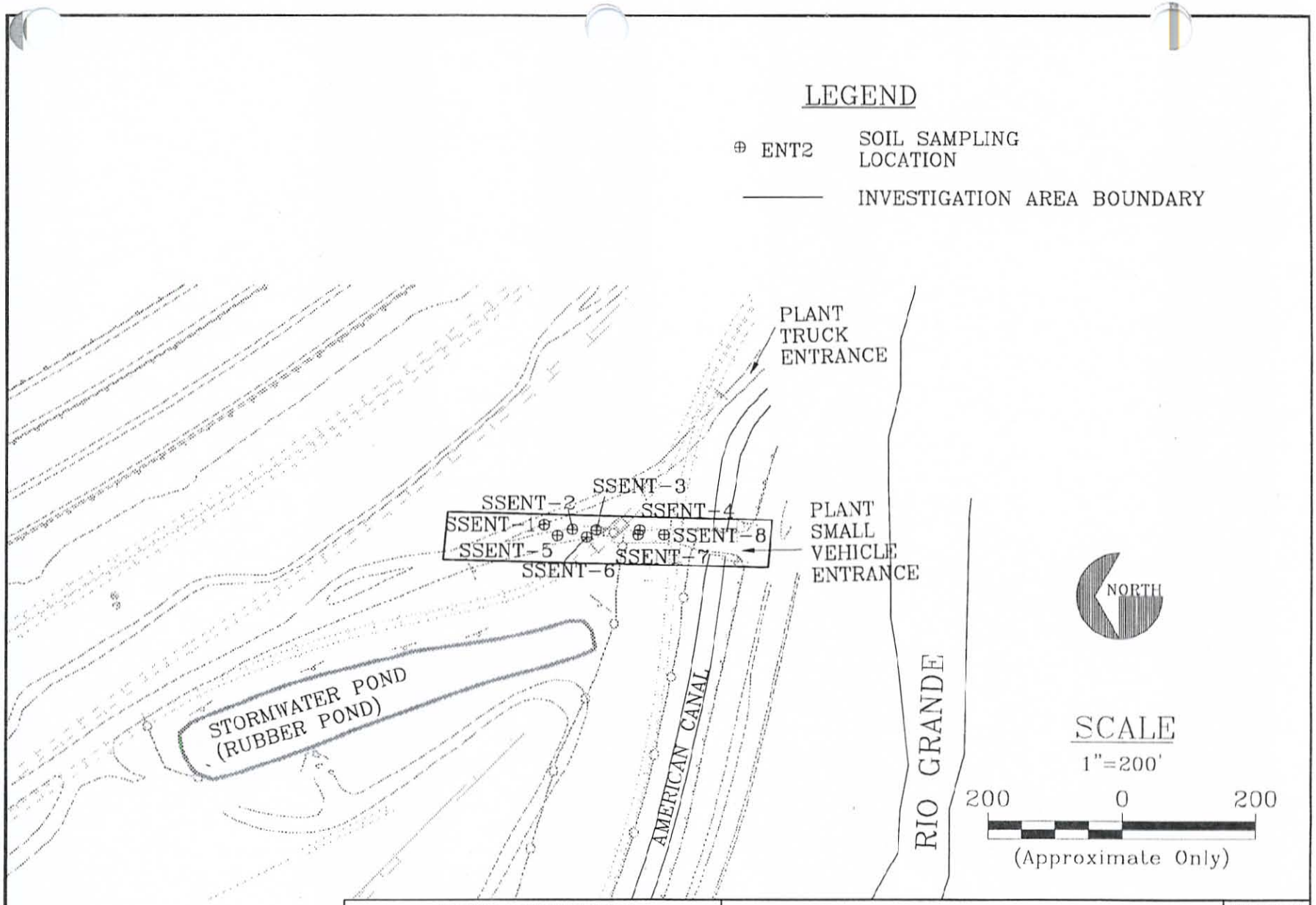

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

INVESTIGATION AREA 10

FIGURE 3-7

UPDATE TIME: 3:00
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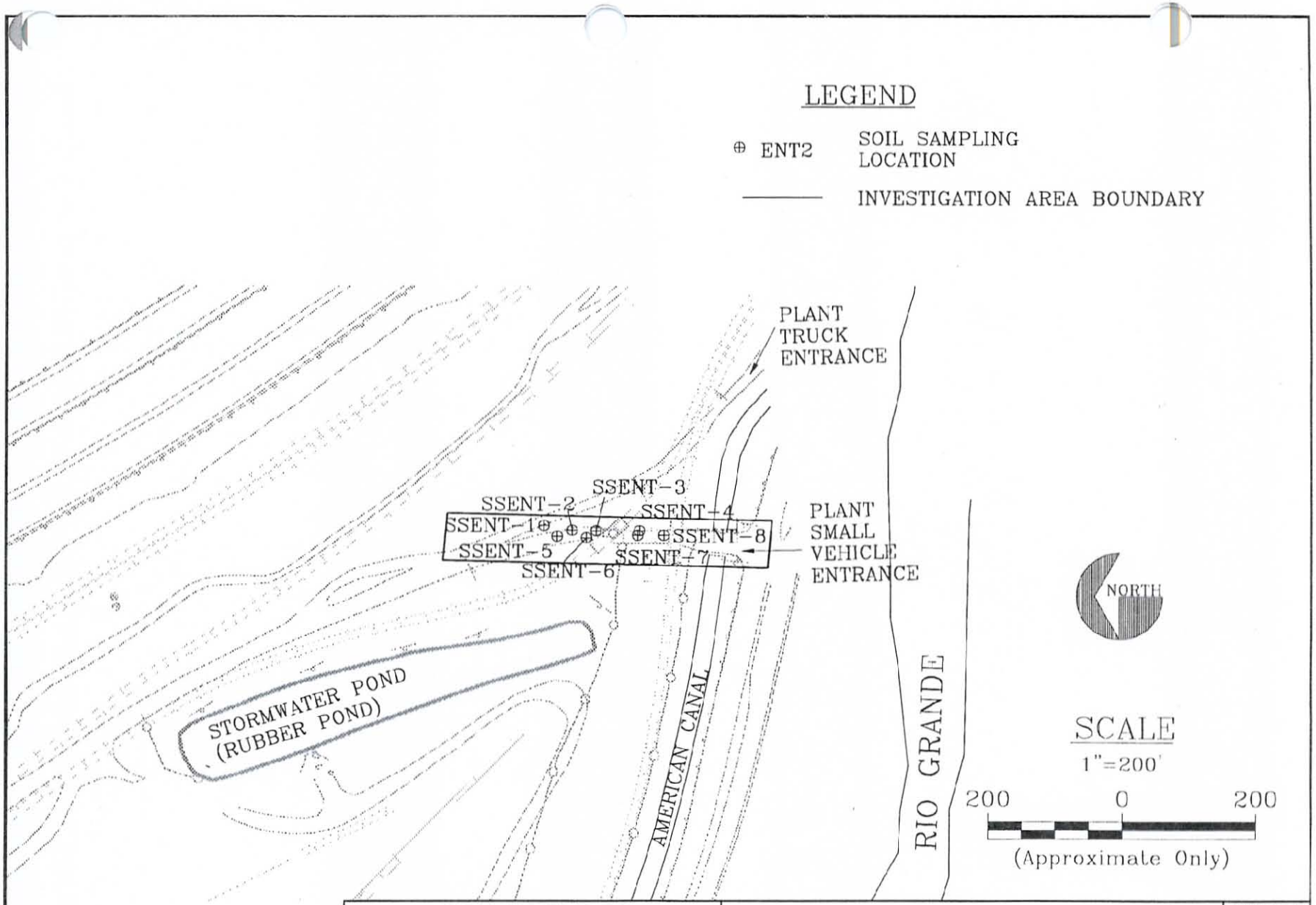
Hydrometrics, Inc. Consulting Scientists, Engineers and Contractors



ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

INVESTIGATION AREA 10

FIGURE 3-7

UPDATE TIME: 3:00
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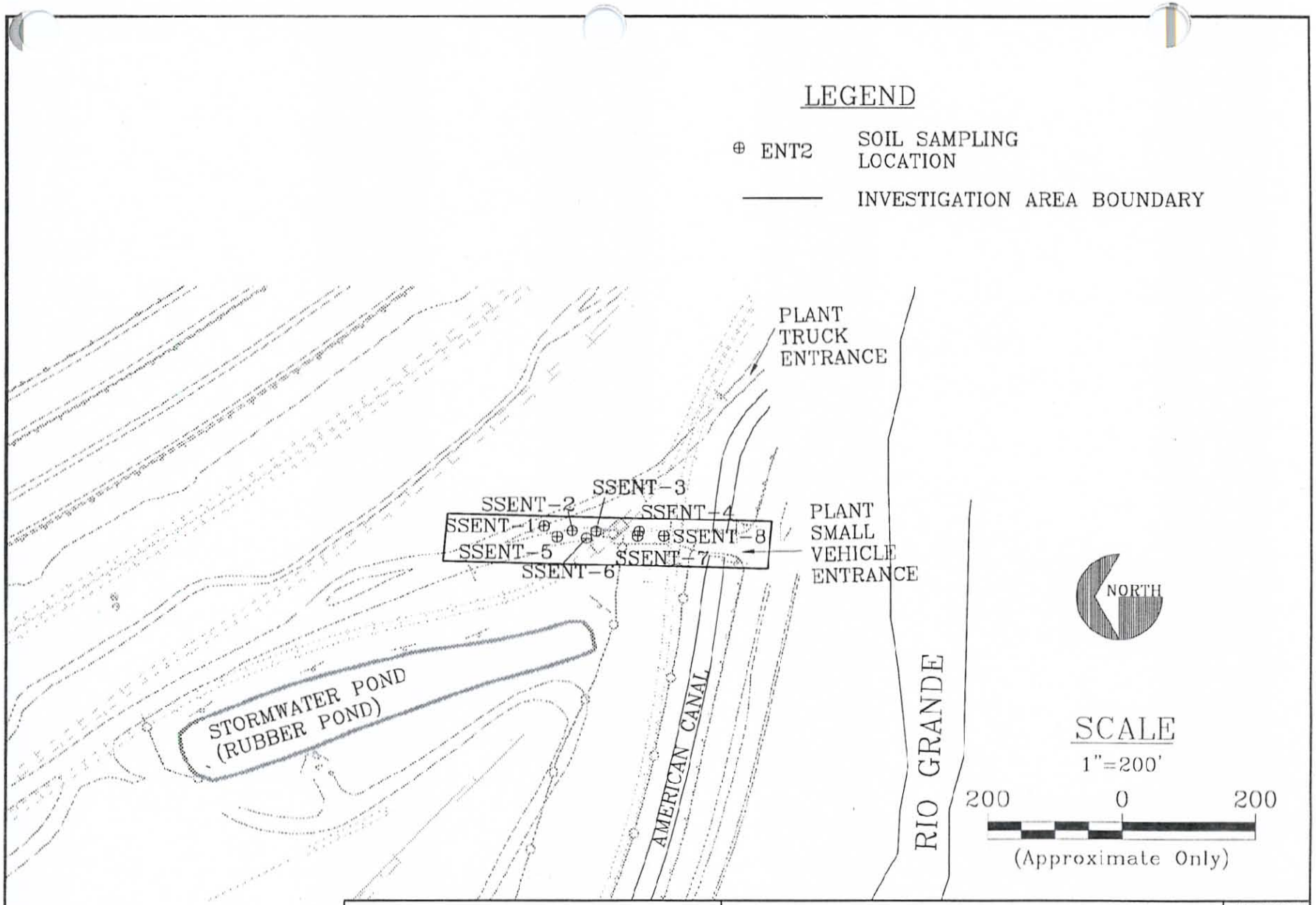
Hydrometrics, Inc. Consulting Scientists, Engineers and Contractors



ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

INVESTIGATION AREA 10

FIGURE 3-7

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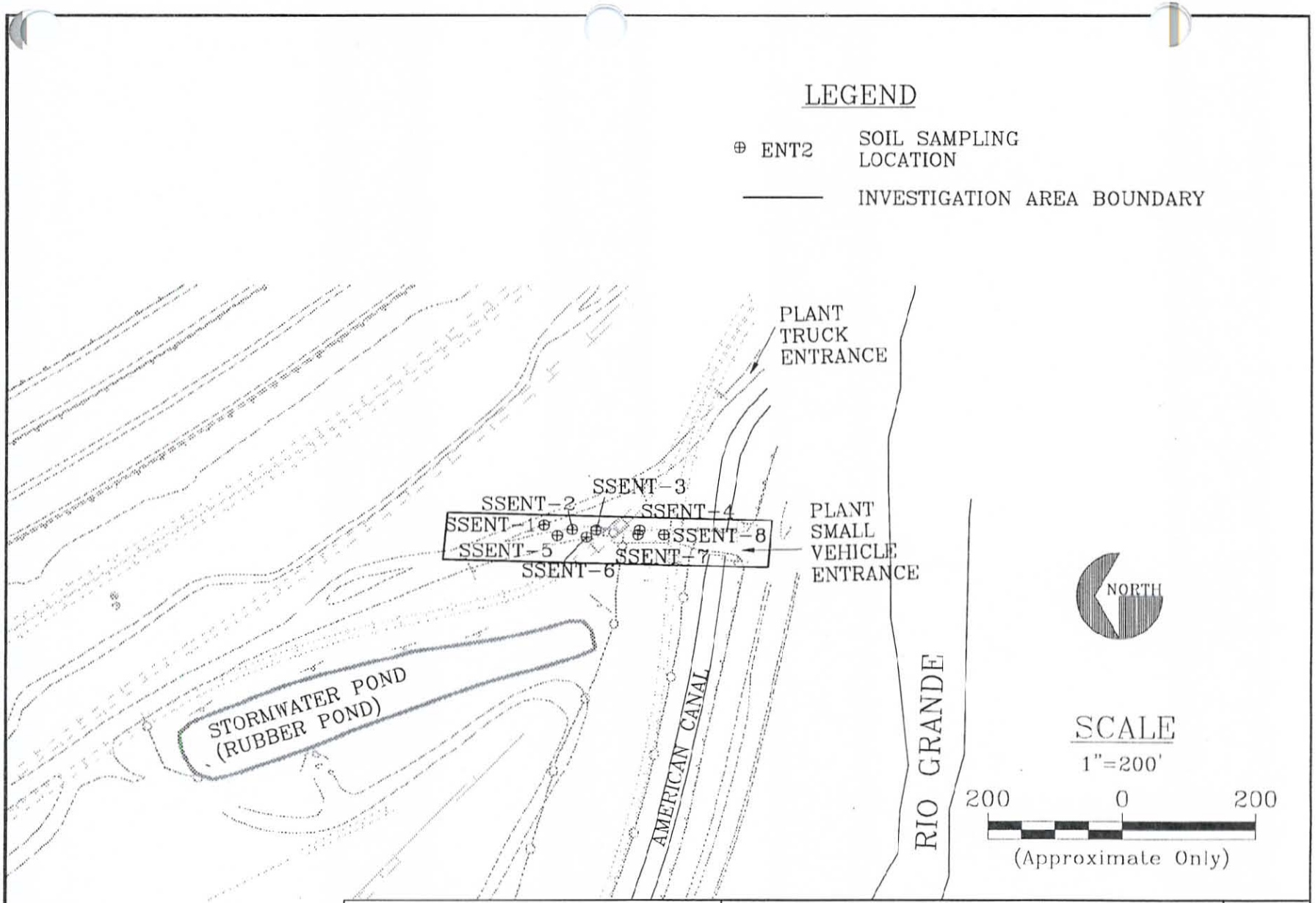

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

INVESTIGATION AREA 10

FIGURE 3-7

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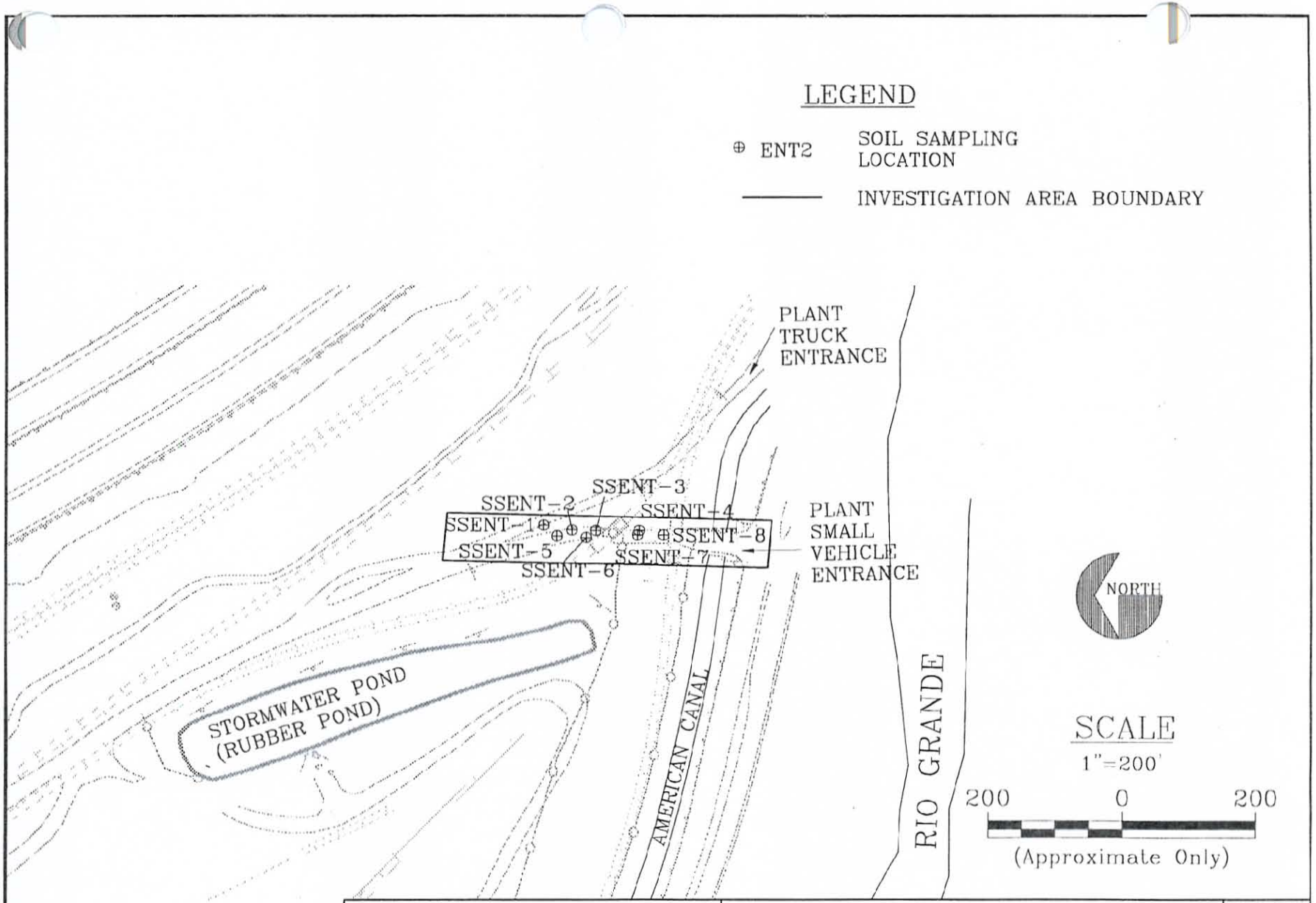

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

INVESTIGATION AREA 10

FIGURE 3-7

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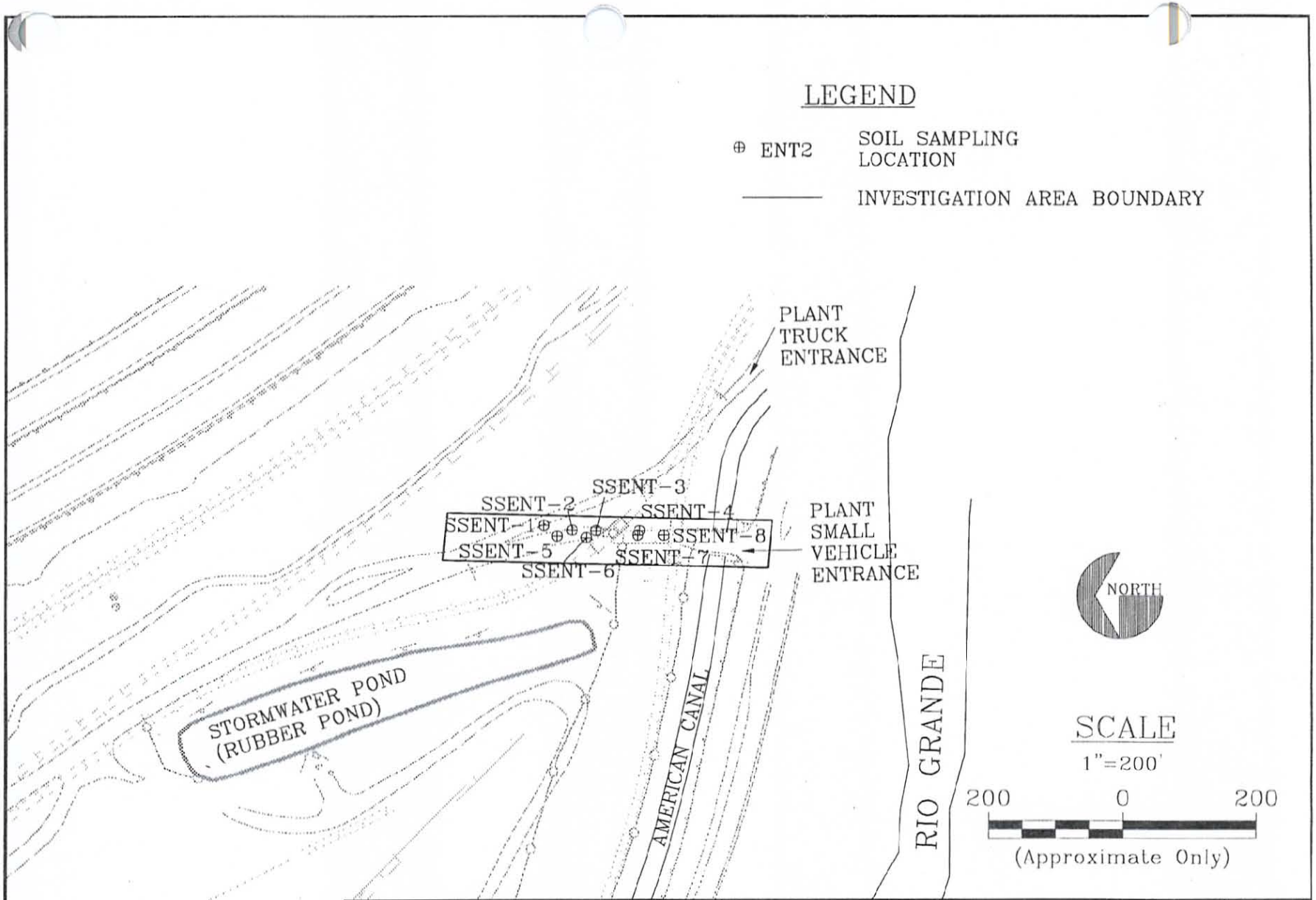
Hydrometrics, Inc. Consulting Scientists, Engineers and Contractors



ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

INVESTIGATION AREA 10

FIGURE 3-7

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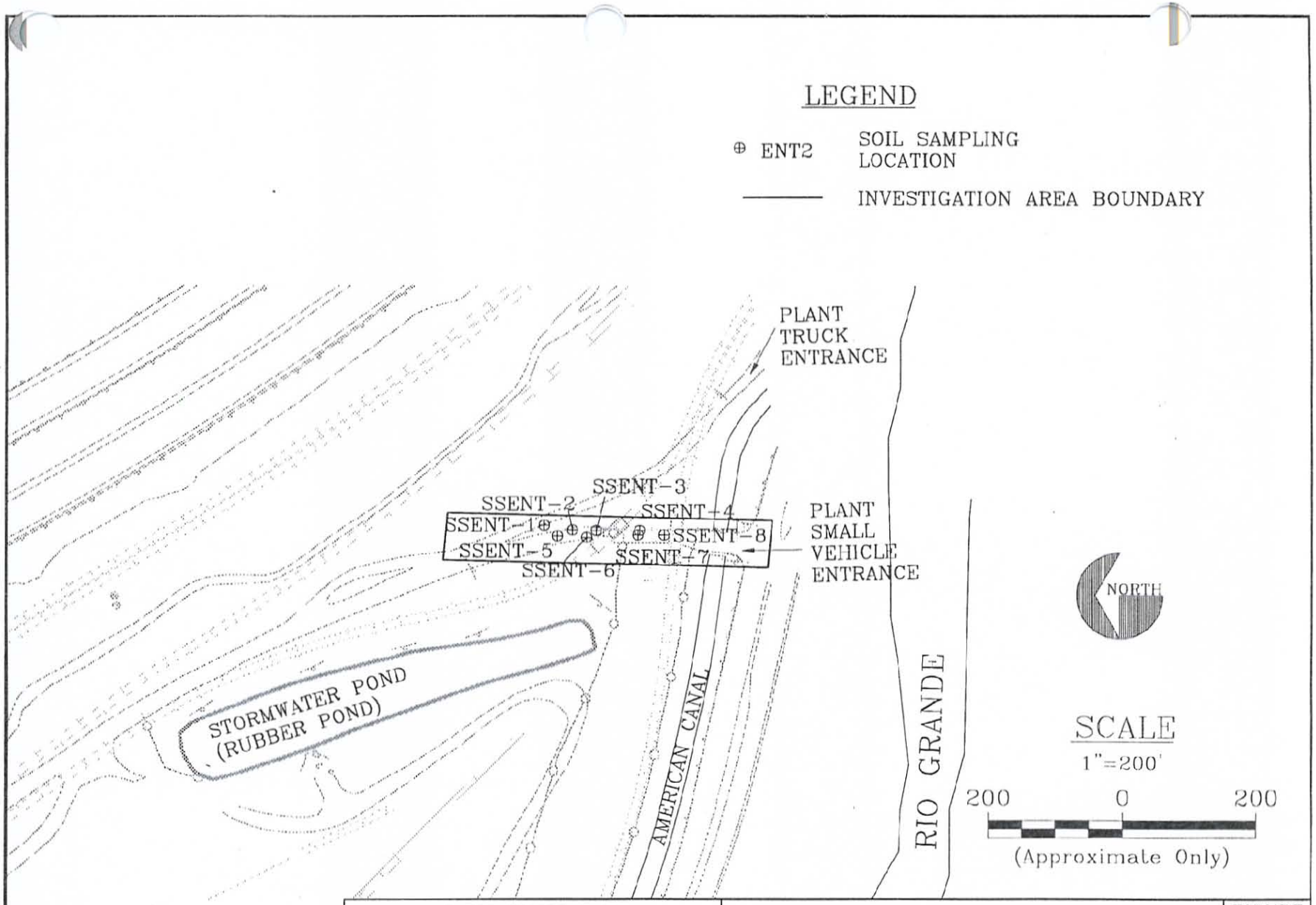

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

INVESTIGATION AREA 10

FIGURE 3-7

UPDATE TIME: 3:00
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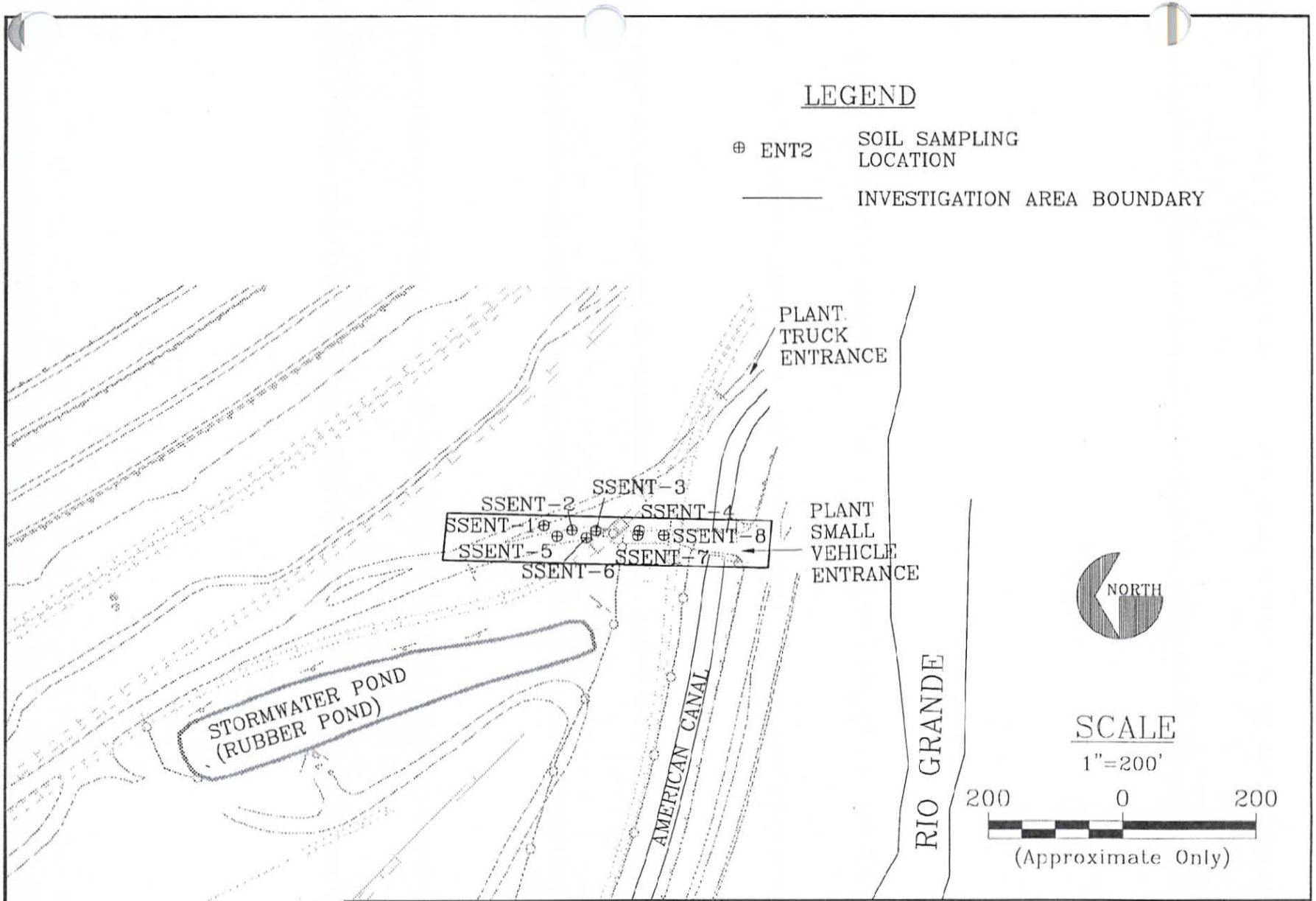

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

INVESTIGATION AREA 10

FIGURE 3-7

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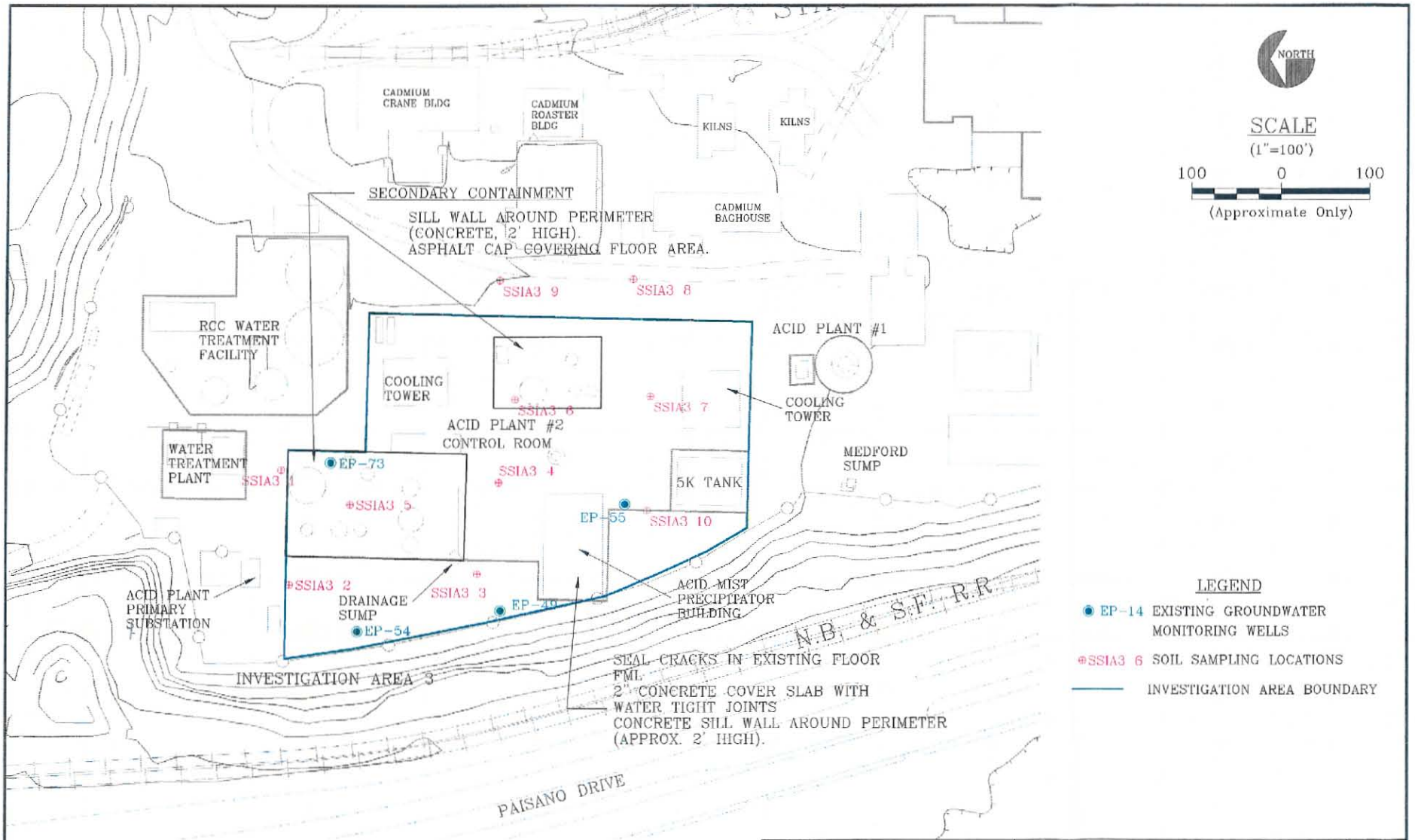

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

INVESTIGATION AREA 3
REMEDIAL ACTIVITIES

FIGURE
4-4

UPDATE TIME: 10:00
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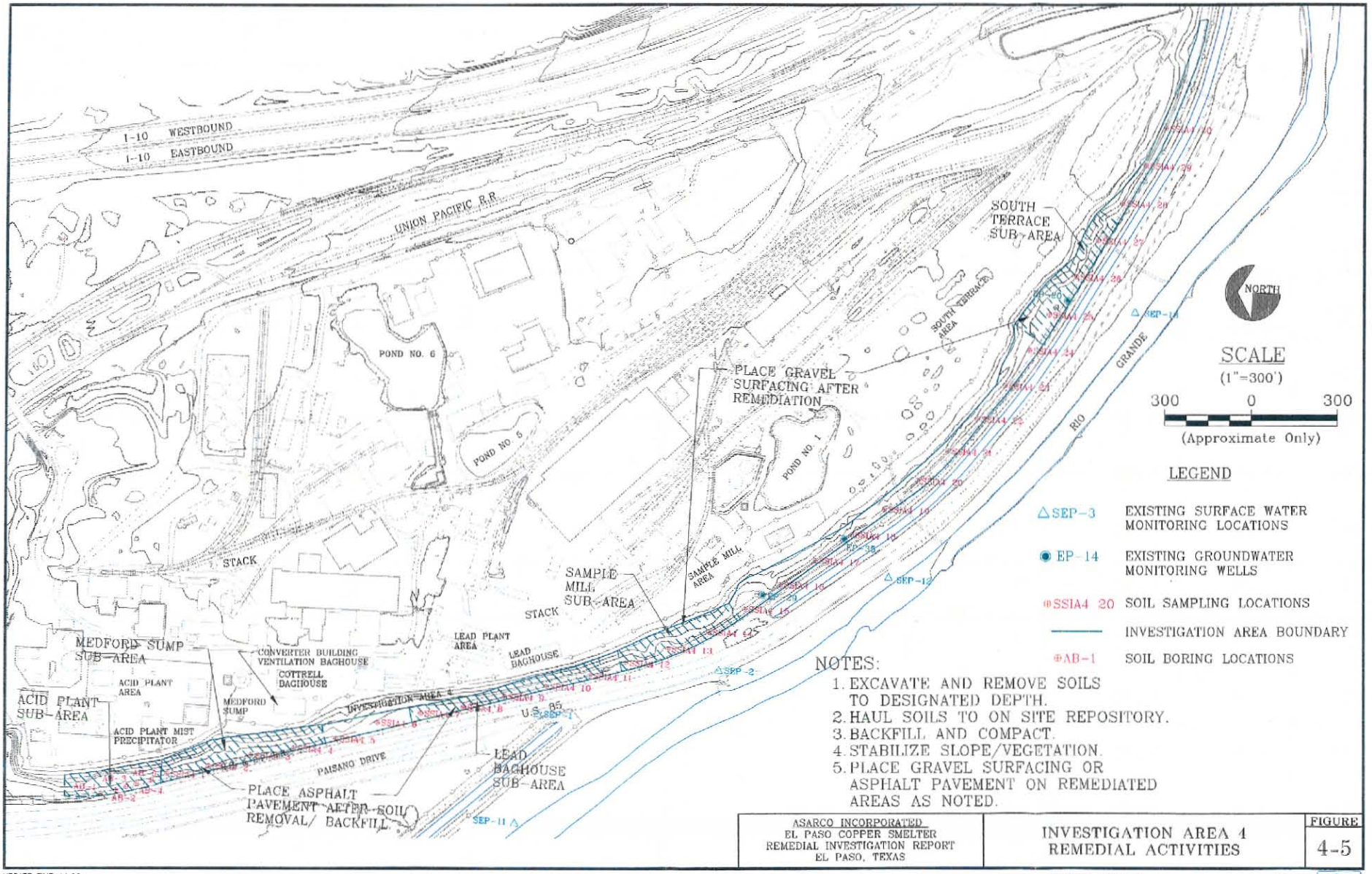

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

INVESTIGATION AREA 4
REMEDIAL ACTIVITIES

FIGURE
4-5

UPDATE TIME: 11:00
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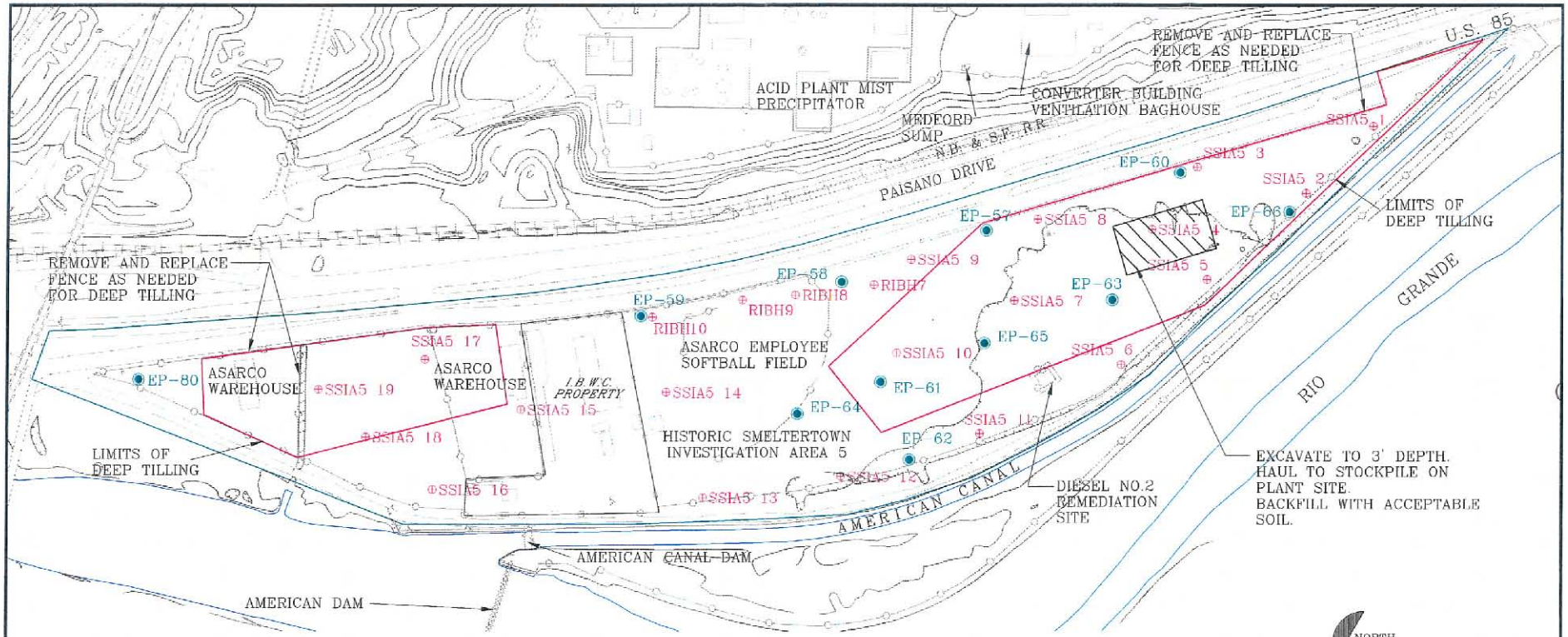

NOTES:

1. RIP W/ D-8 PRIOR TO TILLING IF ROCKY OR HARD PACKED
2. APPLY 1/4" MINUS LIME @4 TONS/ACRE
3. DEEP TILL WITH MODIFIED BAKER PLOW TO 24" DEPTH
4. LEVEL FOR PLANTING/SITE GRADING
5. ROLL ROCKS
6. SEED AND FERTILIZE
7. REMOVE AND REPLACE FENCES AS NEEDED FOR DEEP TILLING
8. IF BUILDING DEMOLITION IS REQUIRED, COMPLETE PRIOR TO TILLING

LEGEND

- EP-14 EXISTING GROUNDWATER MONITORING WELLS
- SEP9 SOIL SAMPLING LOCATIONS
- INVESTIGATION AREA BOUNDARY

SCALE
(1"=200')
200 0 200
(Approximate Only)

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	INVESTIGATION AREA 5 REMEDIAL ACTIVITIES DEEP TILLING ALTERNATIVE	FIGURE 4-6

UPDATE TIME: 11:00
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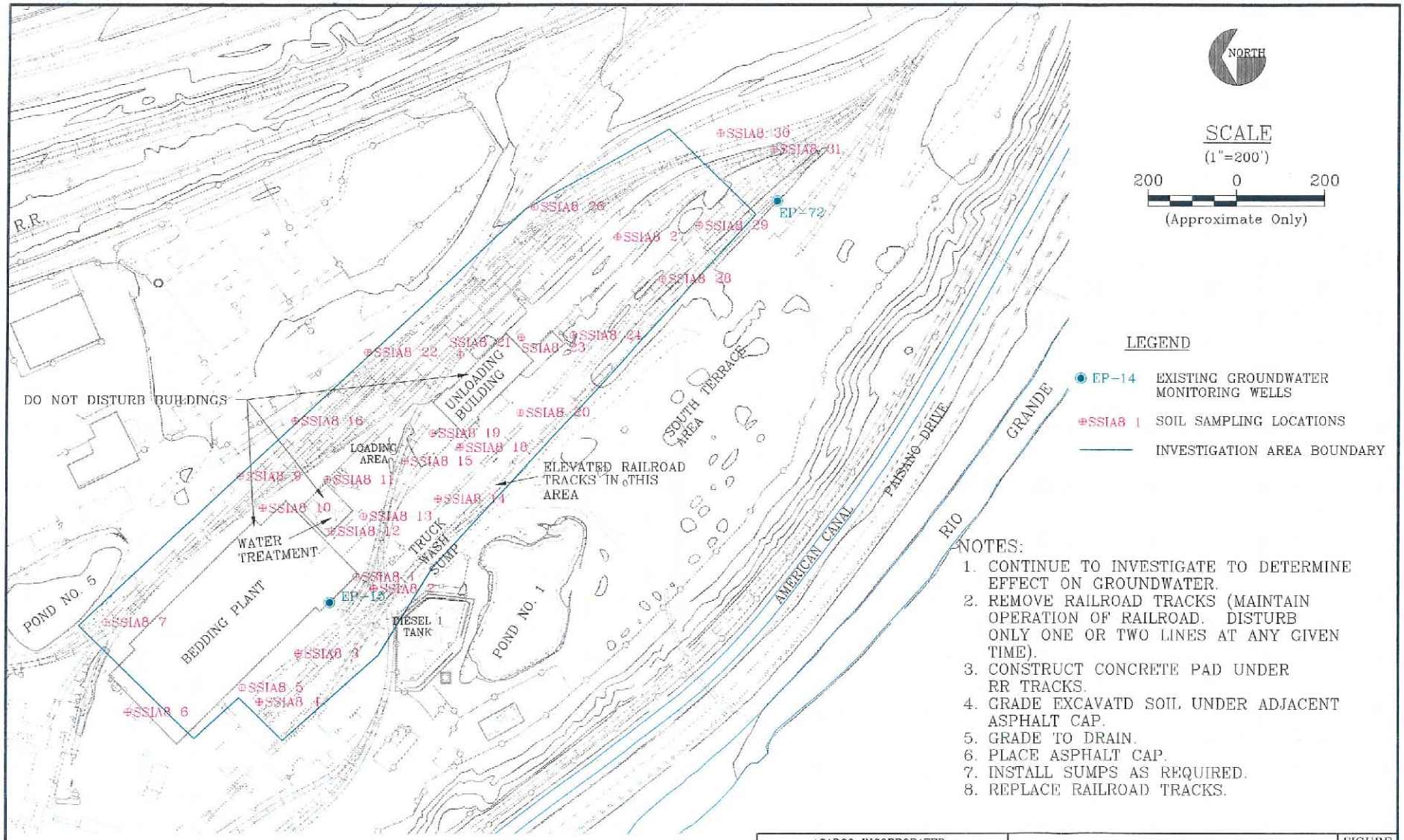
Hydrometrics, Inc. Consulting Scientists, Engineers and Contractors



ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	INVESTIGATION AREA 8 REMEDIAL ACTIVITIES	FIGURE 4-7

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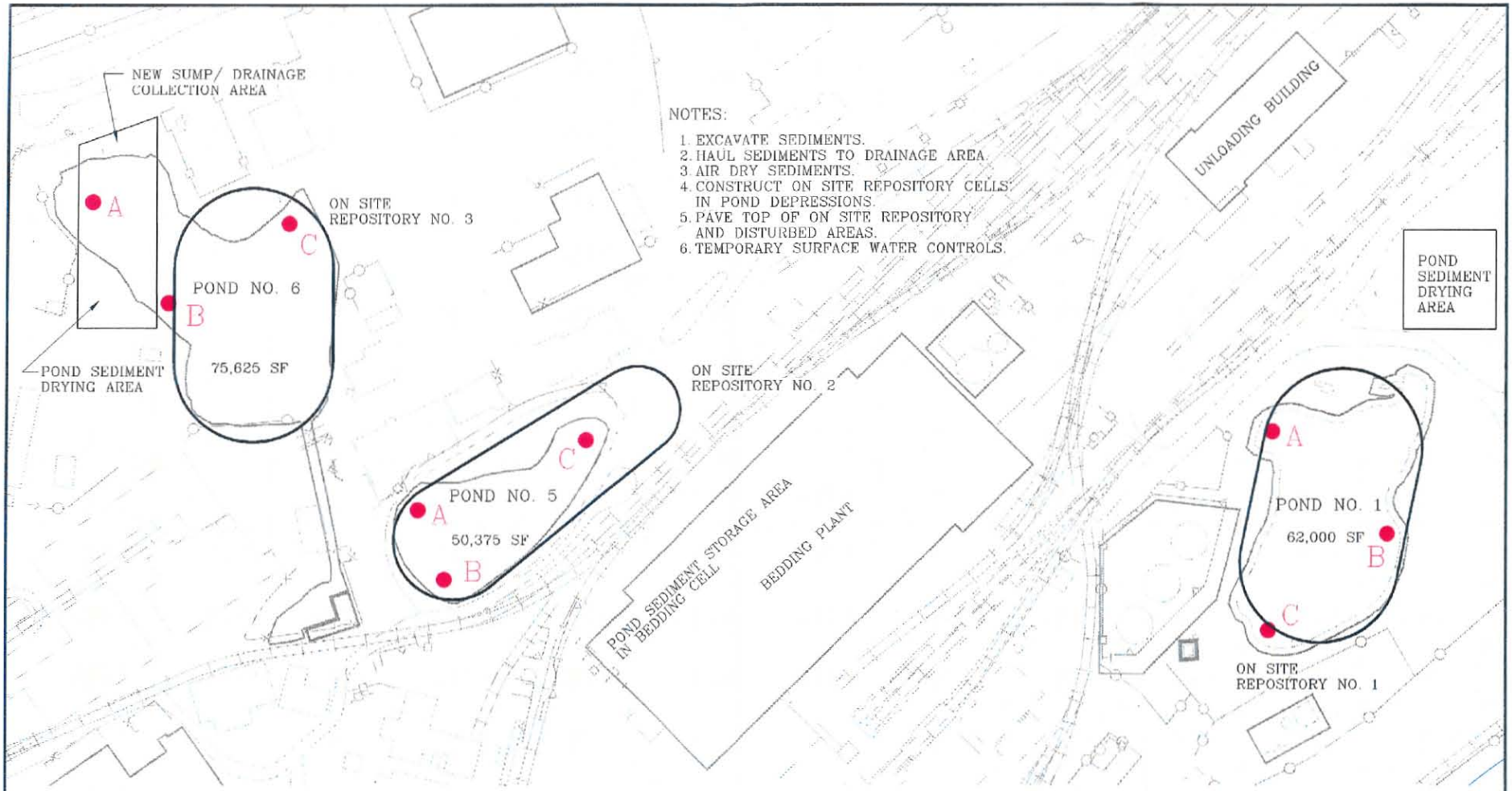
Hydrometrics, Inc. Consulting Scientists, Engineers and Contractors



NORTH

SCALE
(In Feet)
120 0 120
(Approximate Only)

LEGEND

A SEDIMENT SAMPLING LOCATION

PROPOSED ON SITE REPOSITORY LOCATIONS

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	INVESTIGATION AREA 9 REMEDIAL ACTIVITIES	FIGURE 4-8

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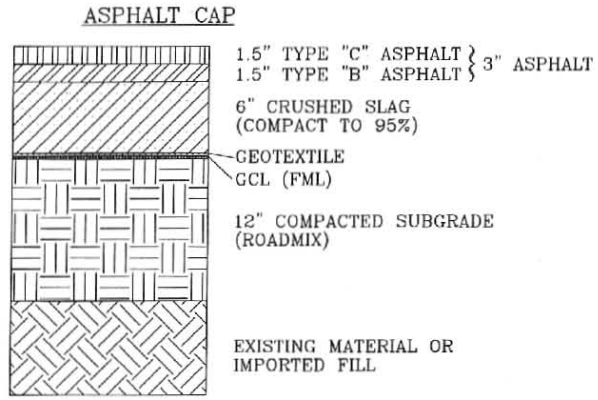
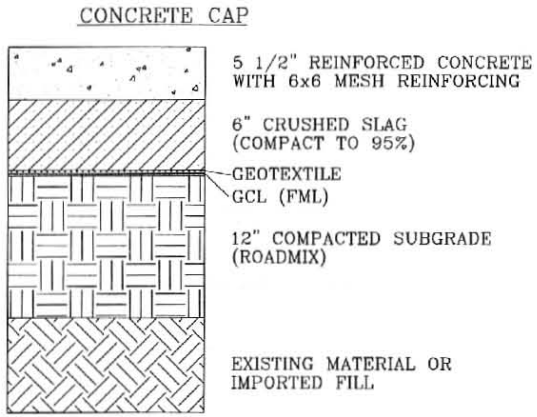
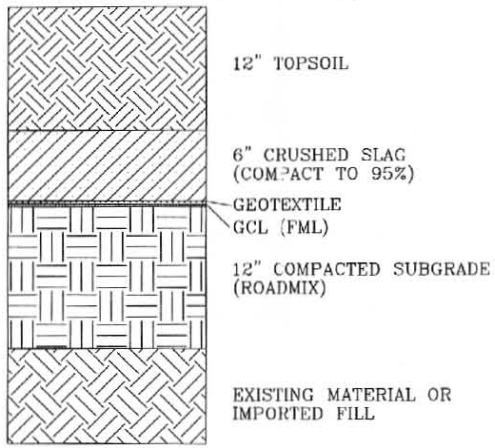
Hydrometrics, Inc. Consulting Scientists, Engineers and Contractors



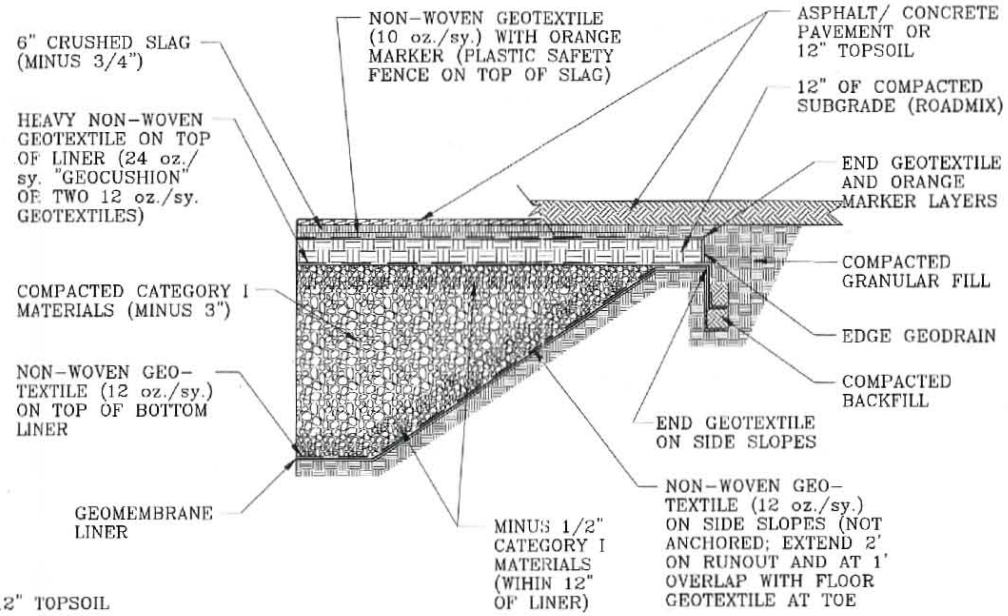




TYPICAL CAP SECTION

SCALE:N.T.S.

NOTE: CAP VARIES PER REPOSITORY



TYPICAL REPOSITORY LINER SECTION

SCALE:N.T.S.

NOTE: CAP VARIES PER REPOSITORY

ASARCO INCORPORATED EL PASO COPPER SMELTER REMEDIAL INVESTIGATION REPORT EL PASO, TEXAS	TYPICAL CAP DETAILS	FIGURE 4-9

UPDATE TIME: 3:00
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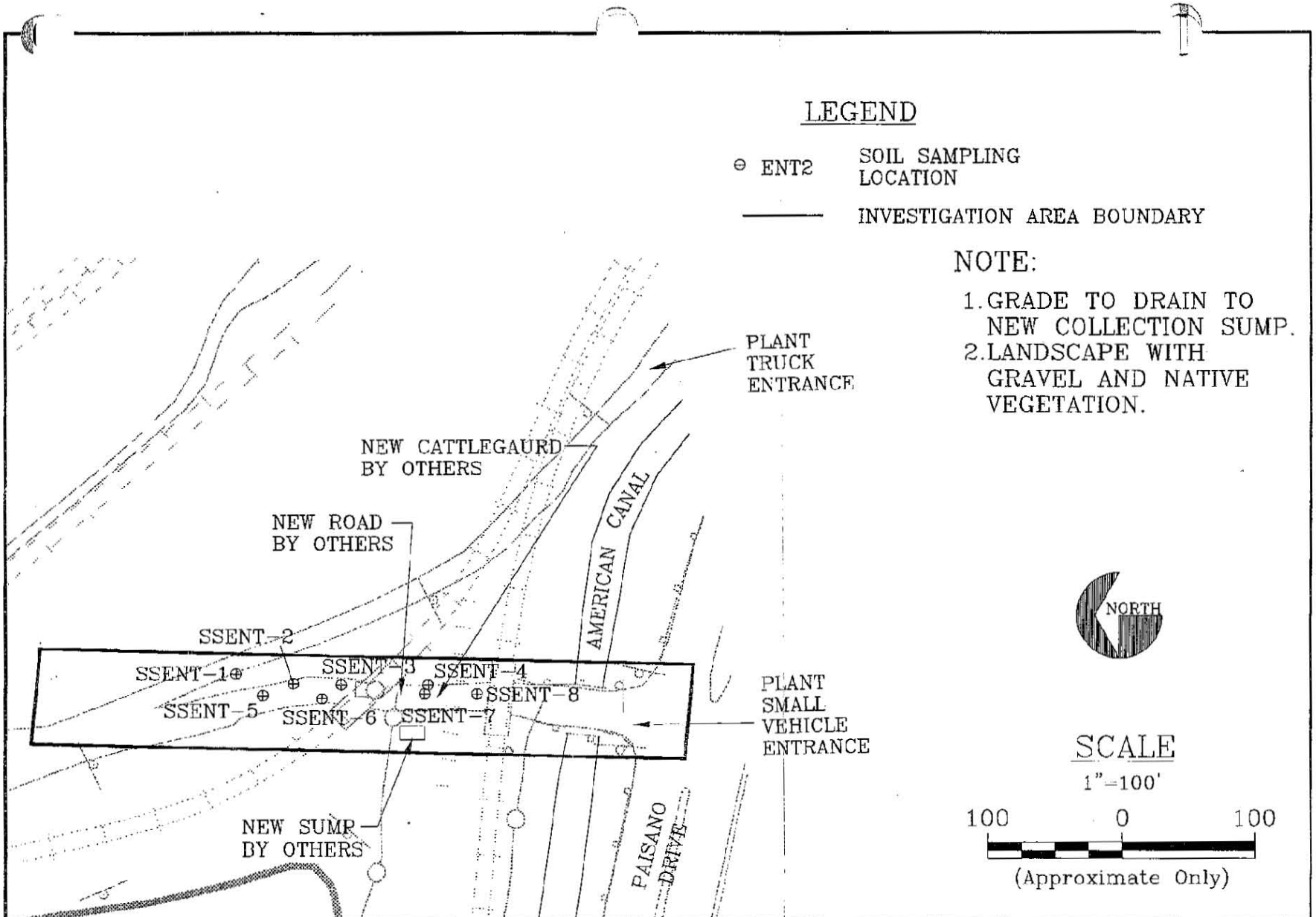

ASARCO INCORPORATED
EL PASO COPPER SMELTER
REMEDIAL INVESTIGATION REPORT
EL PASO, TEXAS

INVESTIGATION AREA 10
REMEDIAL ACTIVITIES

FIGURE 4-10

UPDATE TIME: 3:00
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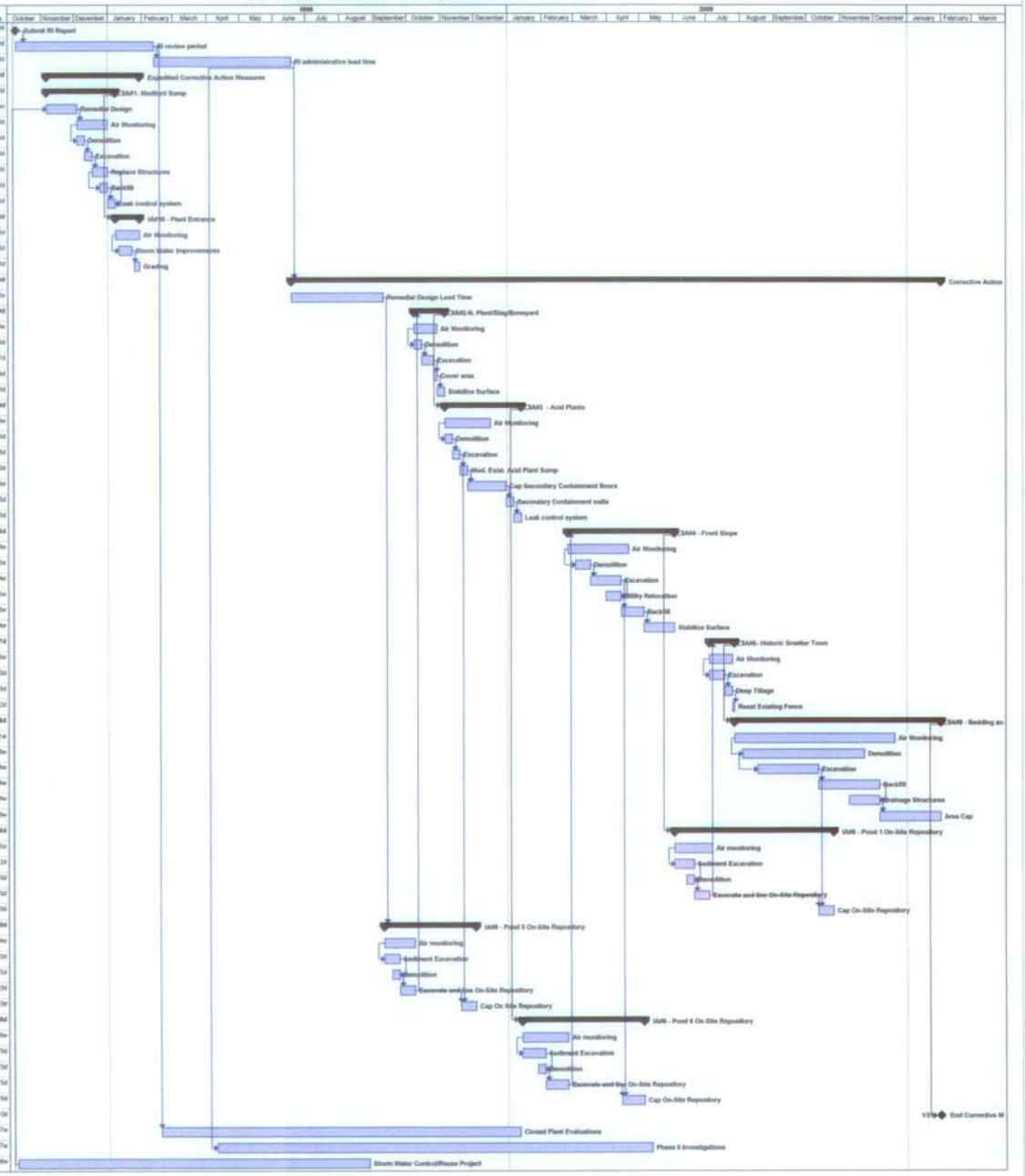
Hydrometrics, Inc. Consulting Scientists, Engineers and Contractors

EXHIBITS

EXHIBITS

ASARCO INCORPORATED
EL PASO PLANT, EL PASO TEXAS
Corrective Action Measures Implementation Schedule

ID	Task Name	Duration
1	Submit RI Report	0d
2	RI review period	90d
3	RI administrative lead time	90d
4	**Expedited Corrective Action Measures**	91d
5	**IAM1- Medford Sump**	46d
6	Remedial Design	4w
7	Air Monitoring	20d
8	Demolition	5d
9	Excavation	5d
10	Replace Structures	10d
11	Backfill	5d
12	Leak control system	5d
13	**IAM8 - Plant Entrance**	16d
14	Air Monitoring	16d
15	Storm Water Improvements	10d
16	Grading	5d
17	**Corrective Action Measures**	434d
18	Remedial Design Lead Time	13w
19	**IAM3-N. Plant/Slag/Boneyard**	26d
20	Air Monitoring	3w
21	Demolition	5d
22	Excavation	1d
23	Cover area	3d
24	Stabilize Surface	5d
25	**IAM5 - Acid Plants**	89d
26	Air Monitoring	6w
27	Demolition	5d
28	Excavation	5d
29	Mod. Exist. Acid Plant Sump	5d
30	Cap Secondary Containment floors	5w
31	Secondary Containment walls	5d
32	Leak control system	5d
33	**IAM4 - Front Slope**	76d
34	Air Monitoring	8w
35	Demolition	2w
36	Excavation	4w
37	Utility Relocation	2w
38	Backfill	3w
39	Stabilize Surface	4w
40	**IAM6- Historic Smelter Town**	57d
41	Air Monitoring	3w
42	Excavation	10d
43	Deep Tillage	5d
44	Reset Existing Fence	2d
45	**IAM8 - Bedding and Unloading Facilitie**	138d
46	Air Monitoring	21w
47	Demolition	10w
48	Excavation	8w
49	Backfill	8w
50	Drainage Structures	4w
51	Area Cap	8w
52	**IAM9 - Pond 1 On-Site Repository**	104d
53	Air monitoring	5w
54	Sediment Excavation	12d
55	Demolition	5d
56	Excavate and line On-Site Repository	10d
57	Cap On-Site Repository	10d
58	**IAM9 - Pond 6 On-Site Repository**	69d
59	Air monitoring	4w
60	Sediment Excavation	10d
61	Demolition	5d
62	Excavate and line On-Site Repository	10d
63	Cap On Site Repository	10d
64	**IAM9 - Pond 8 On-Site Repository**	89d
65	Air monitoring	6w
66	Sediment Excavation	15d
67	Demolition	5d
68	Excavate and line On-Site Repository	15d
69	Cap On-Site Repository	15d
70	End Corrective Measures	0d
71	Closed Plant Evaluations	47w
72	Phase II Investigations	57w
73	Storm Water Control/Reuse Project	46w



Project: Date: Tue 10/9/98 | Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress

CORRECTIVE ACTION MEASURES IMPLEMENTATION SCHEDULE -- EXHIBIT 3