

APPENDIX O TABLE OF CONTENTS

FIGURES

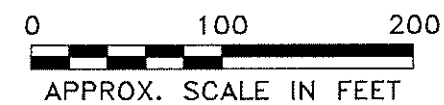
Figure O-1	Groundwater Gradient
Figure O-2	PZ-01 Groundwater Level Data Prior to Pumping
Figure O-3	EW-01 Time-Drawdown Data
Figure O-4	PZ-01 Time-Drawdown Data
Figure O-5	MC-03 Time-Drawdown Test Data
Figure O-6	MC-04 Time-Drawdown Data
Figure O-7	PZ-01 Time-Drawdown Cooper-Jacob Analysis
Figure O-8	PZ-01 Recovery Data
Figure O-9	MC-03 Time-Drawdown Cooper-Jacob Analysis
Figure O-10	MC-03 Recovery Data
Figure O-11	MC-04 Time-Drawdown Cooper-Jacob Analysis
Figure O-12	MC-04 Recovery Data
Figure O-13	EW-01 Recovery Data

GEOLOGIC LOGS

EW-01
MC-03
MC-04
PZ-1

EXPLANATION

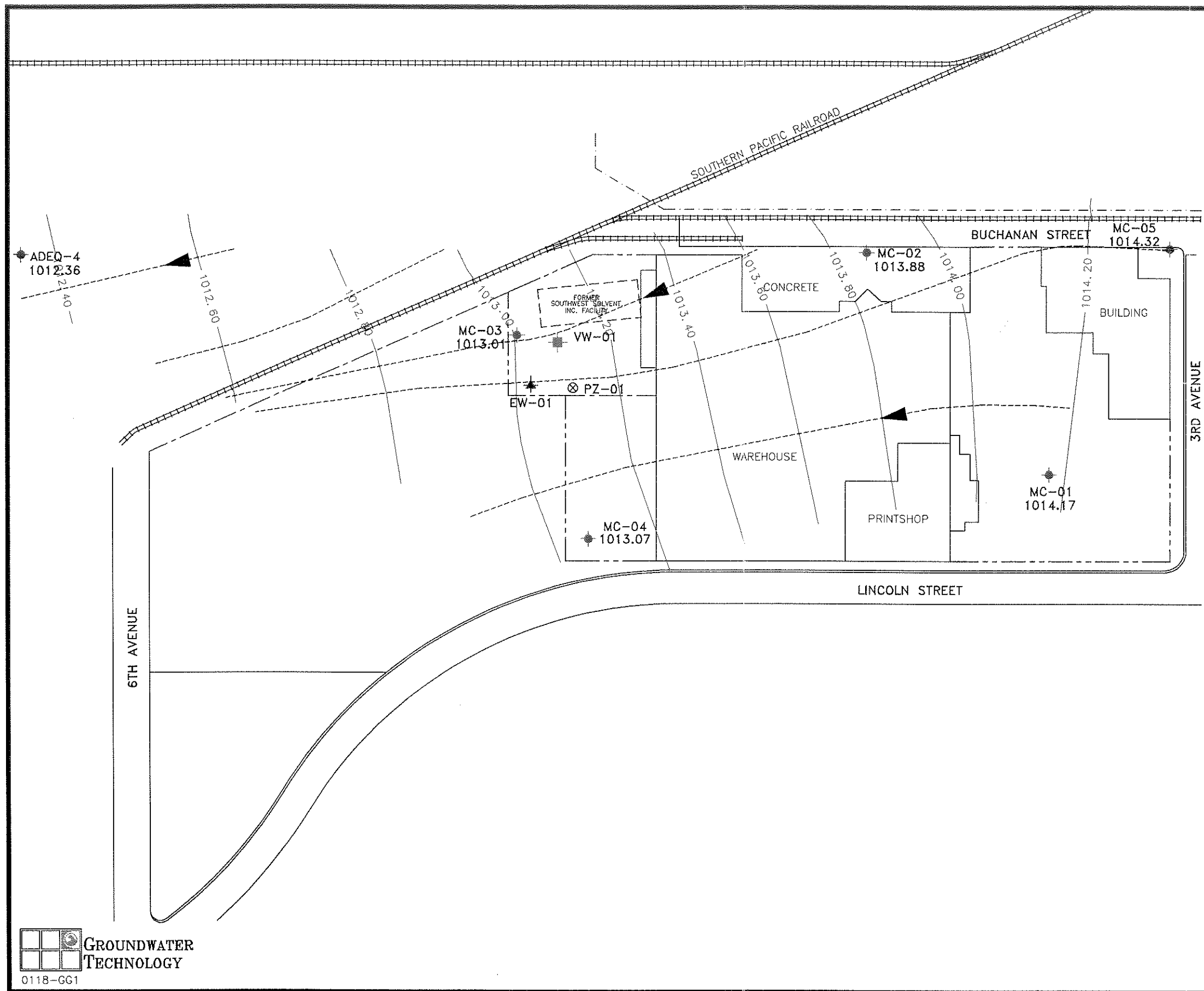
- MONITOR WELL
- PIEZOMETER
- VAPOR EXTRACTION WELL
- GROUNDWATER EXTRACTION WELL
- FENCING
- PERIMETER FENCING
- TELEPHONE/POWER LINE
- FORMER STRUCTURE
- GROUNDWATER CONTOUR
(CONTOUR INTERVAL = .20 FT)
(GRADIENT = .0015-.0025 FT/FT)
- GROUNDWATER FLOW LINE
(WITH DIRECTION ARROW)



MARICOPA COUNTY
MATERIALS MANAGEMENT FACILITY
320 WEST LINCOLN STREET
PHOENIX, ARIZONA
023300118

DRAWN BY: KEN GREENE DATE: 08-16-95
DRAFTED BY: DENNOMES DATE: 08-16-95
CHECKED BY: *[Signature]* DATE: 8/95

GROUNDWATER GRADIENT
FIGURE O-1

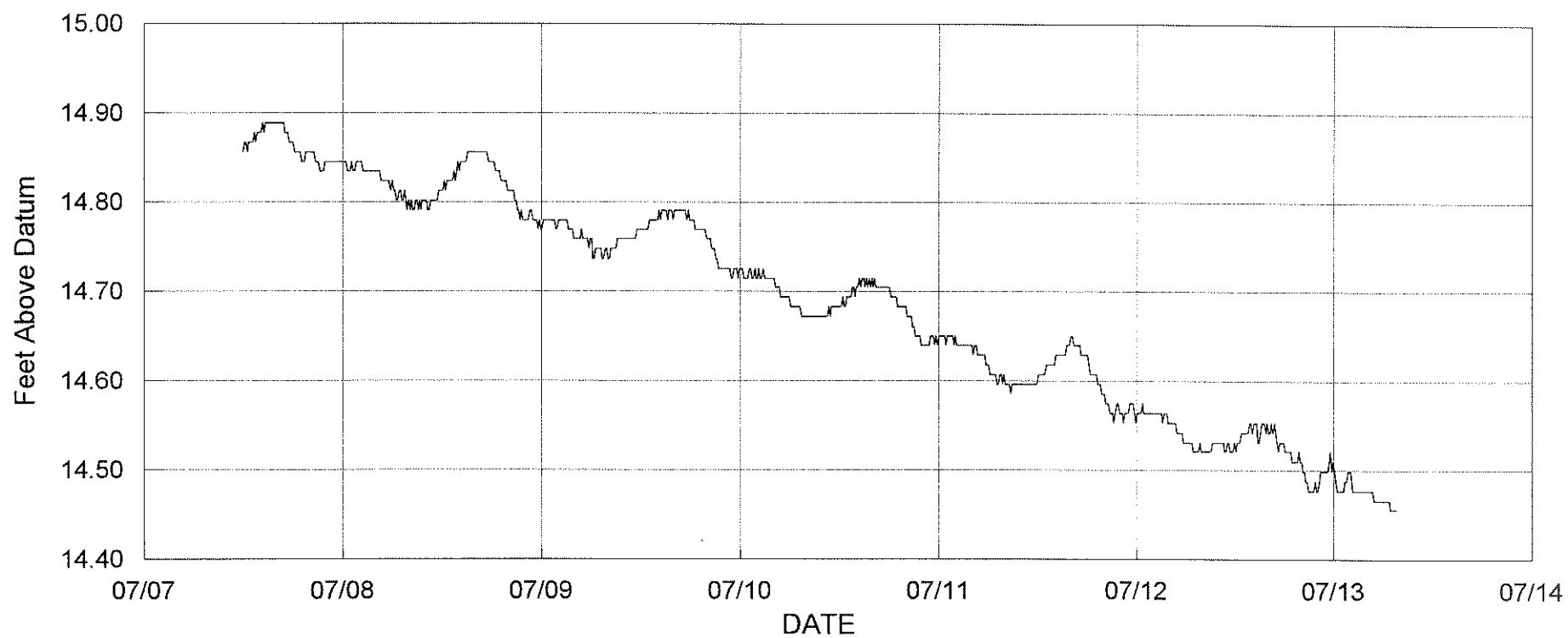


GROUNDWATER
TECHNOLOGY
0118-GG1

Figure O-1 Groundwater gradient and flow direction beneath the Materials Management facility as of June 8, 1995.

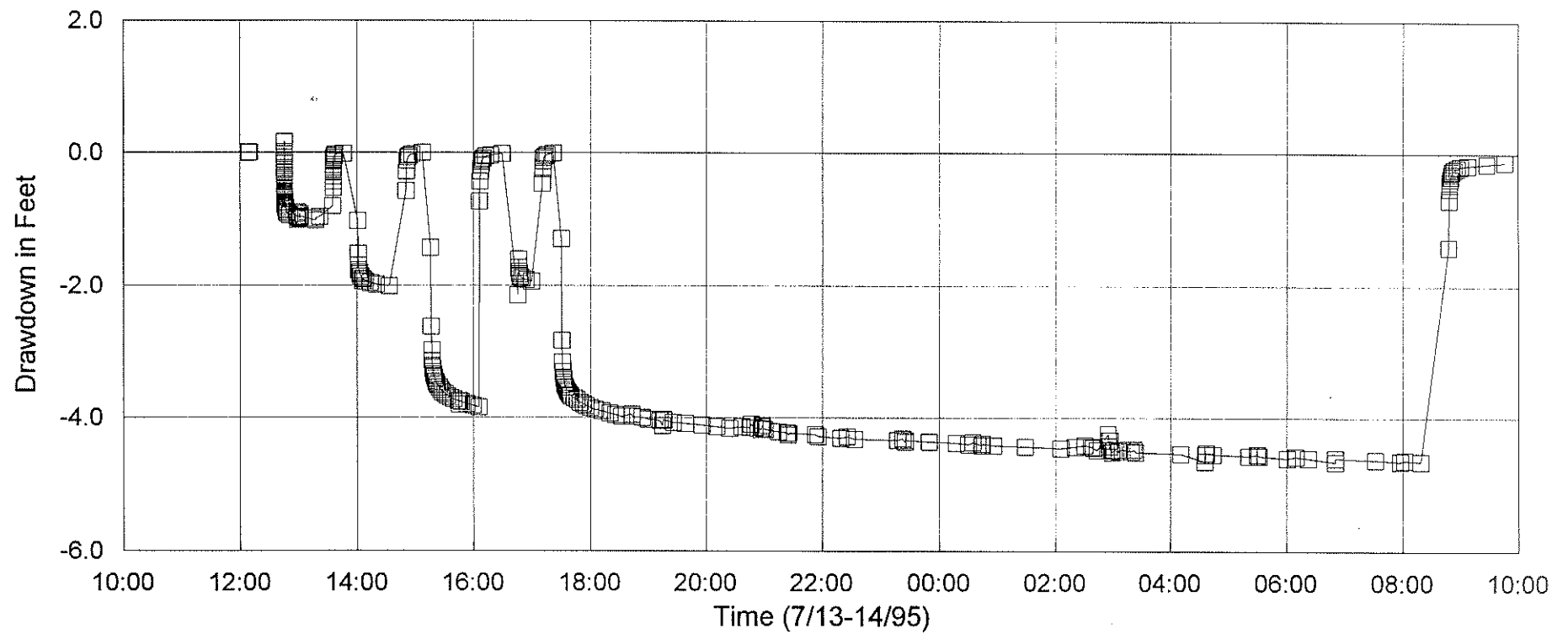
MCMM EW-01 PUMPING TEST

PZ-01 GROUNDWATER LEVEL DATA PRIOR TO PUMPING



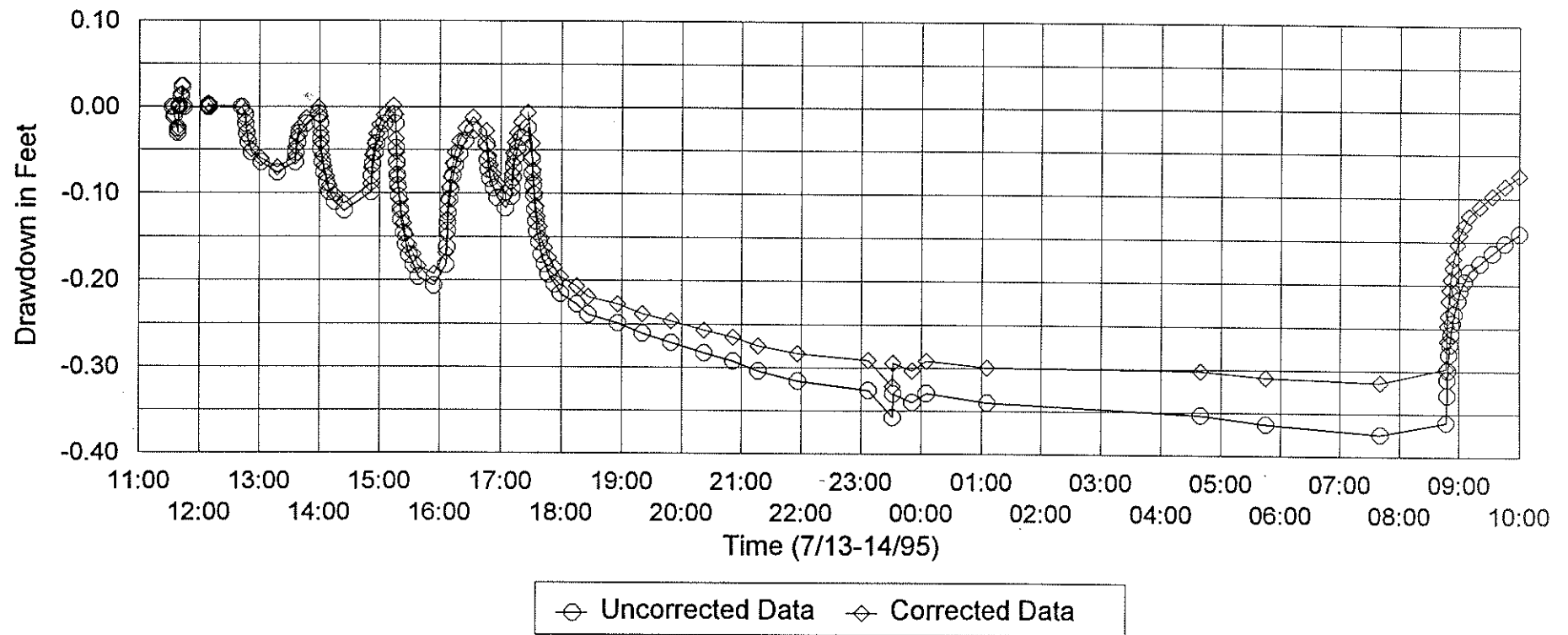
MCMM EW-01 PUMPING TEST

EW-01 TIME-DRAWDOWN DATA



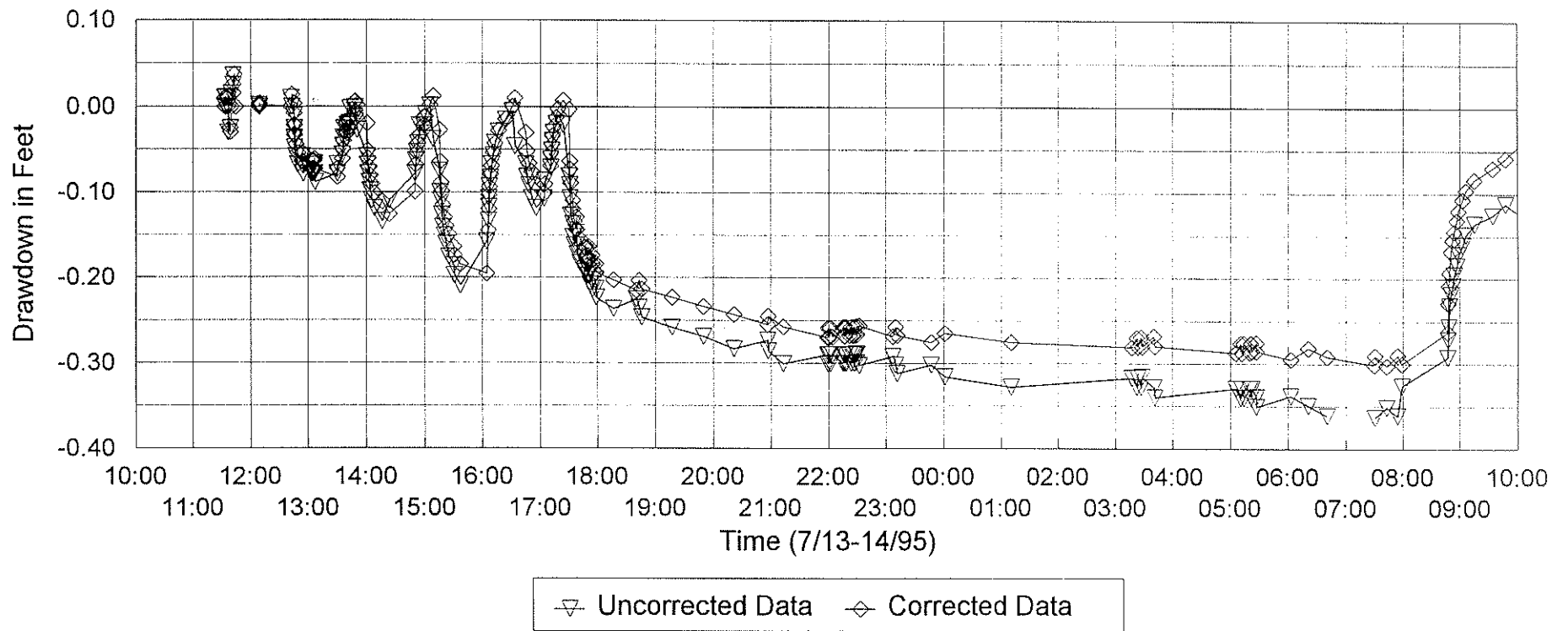
MCMM EW-01 PUMPING TEST

PZ-01 TIME-DRAWDOWN DATA



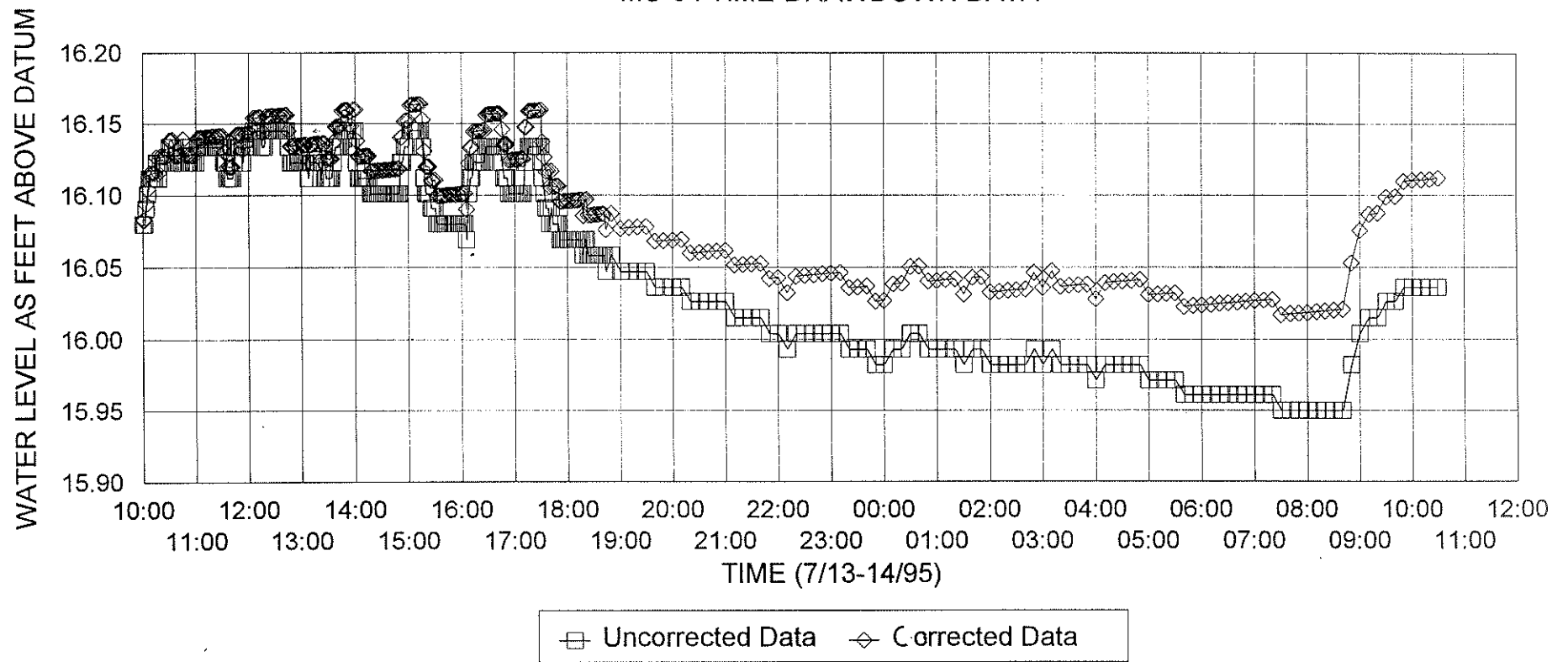
MCMM EW-01 PUMPING TEST

MC-03 TIME - DRAWDOWN TEST DATA

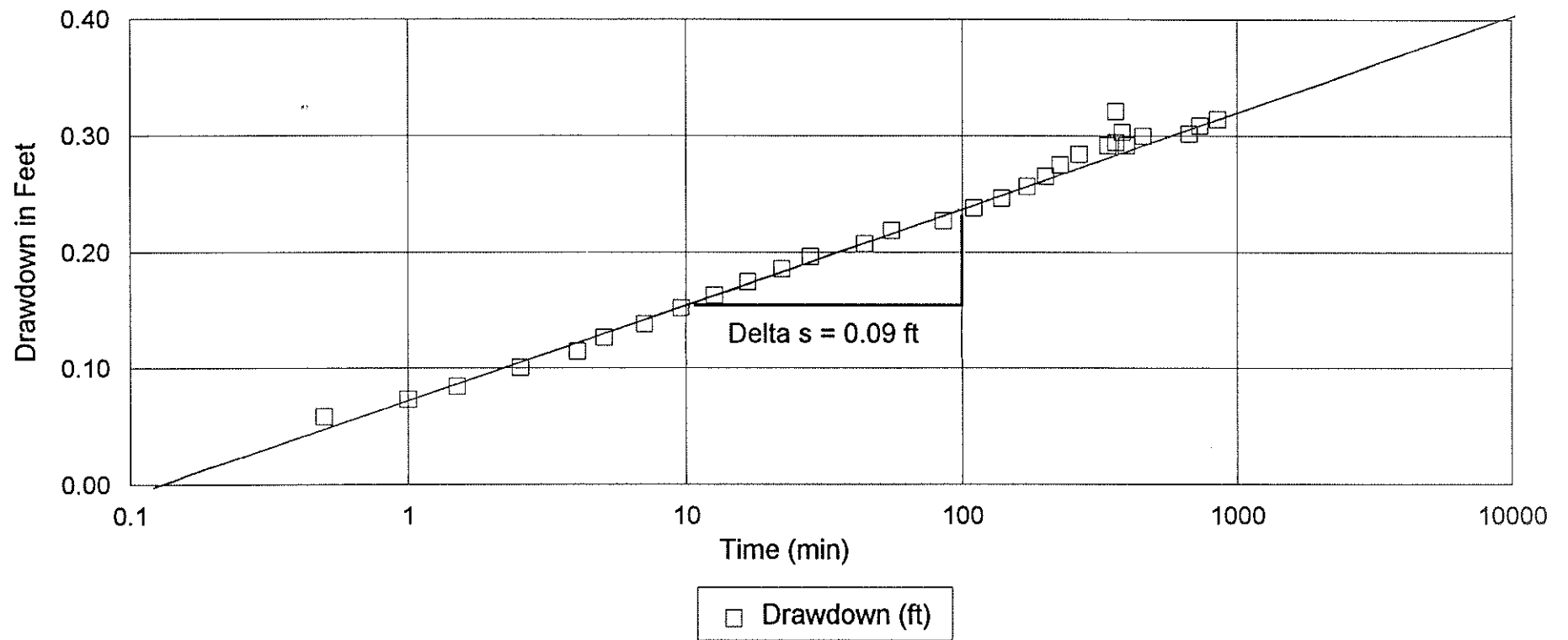


MCMM EW-01 PUMPING TEST

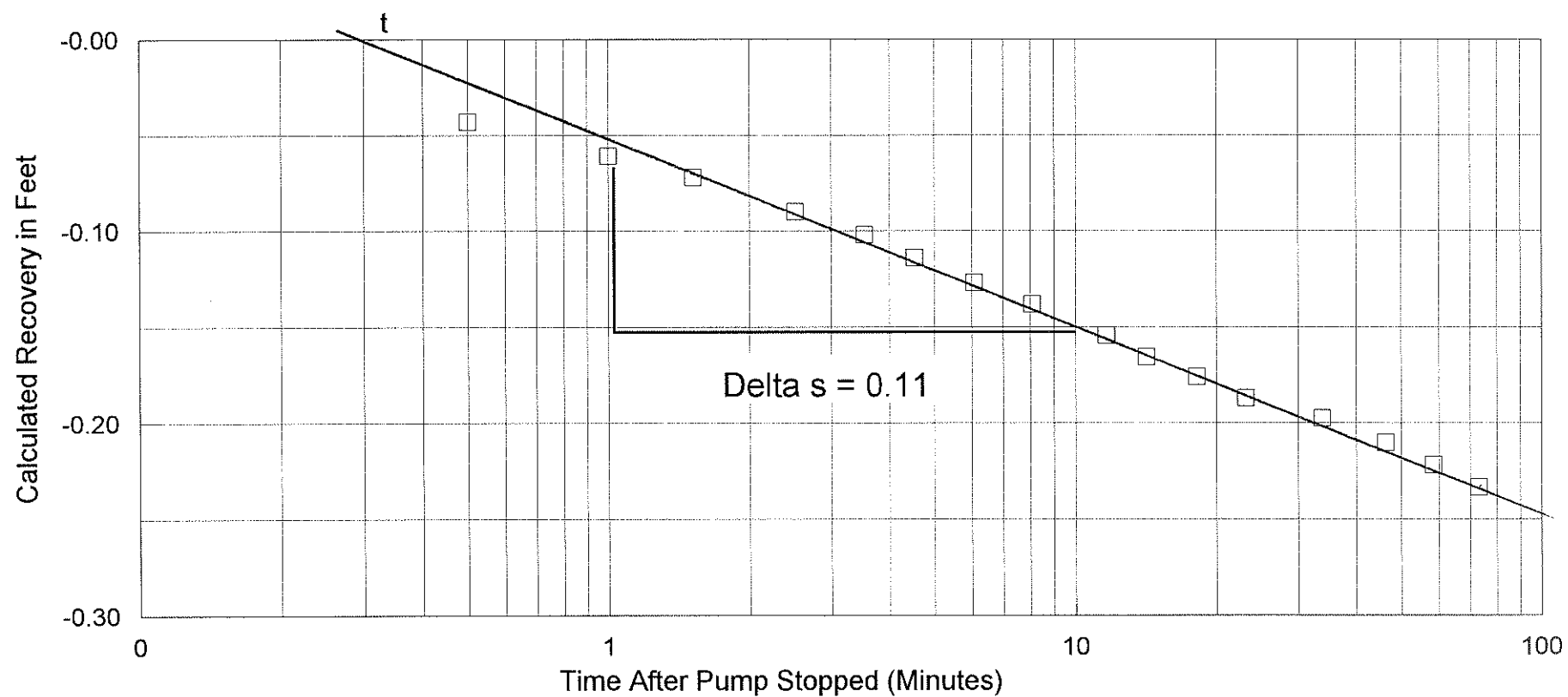
MC-04 TIME-DRAWDOWN DATA



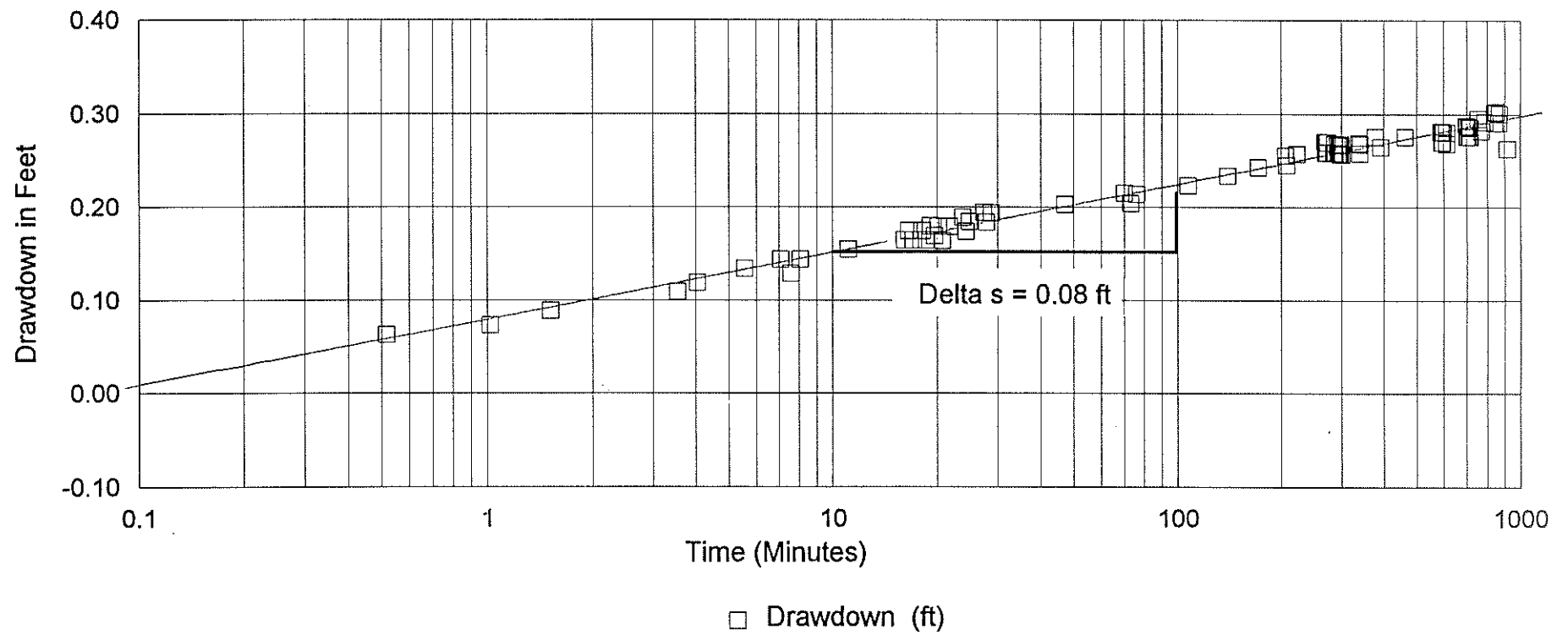
PZ-01 Time Drawdown Cooper-Jacob Analysis



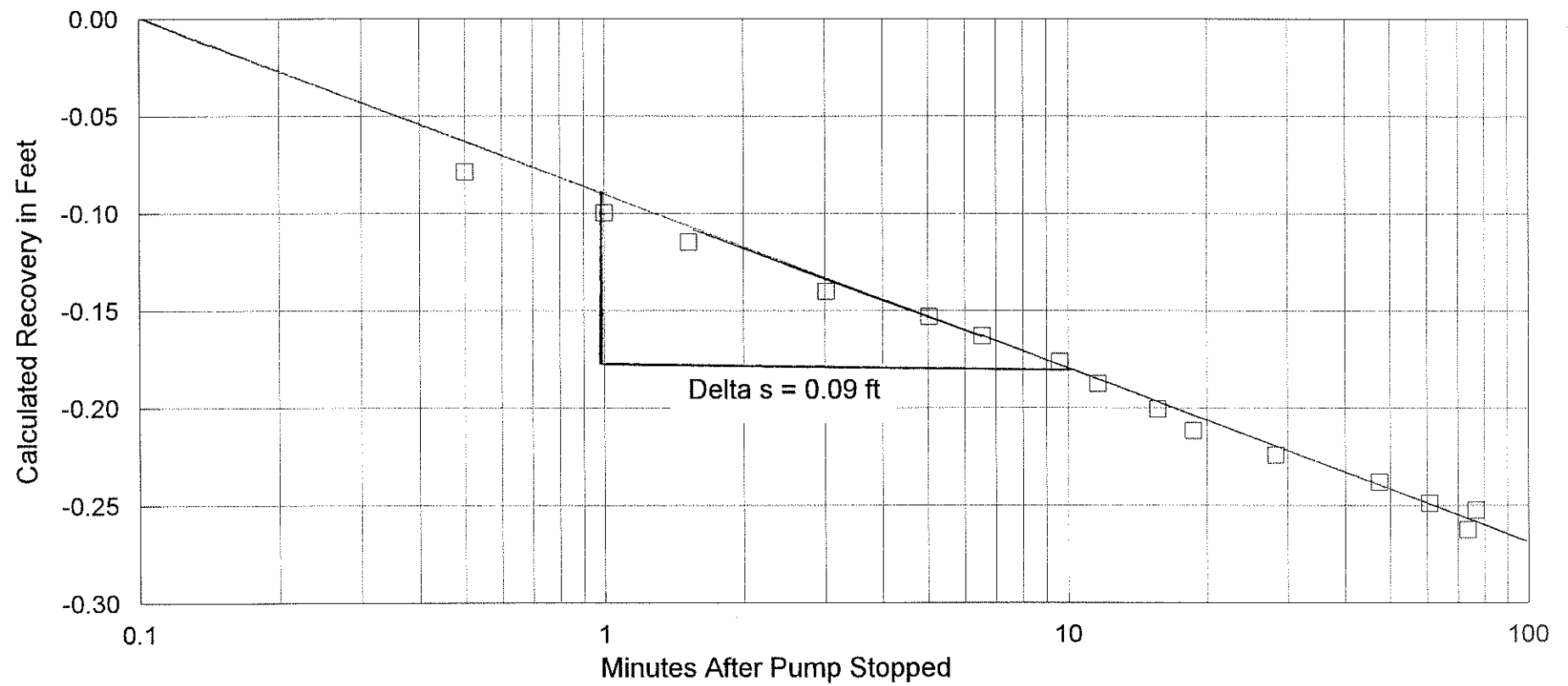
PZ-01 Recovery Data



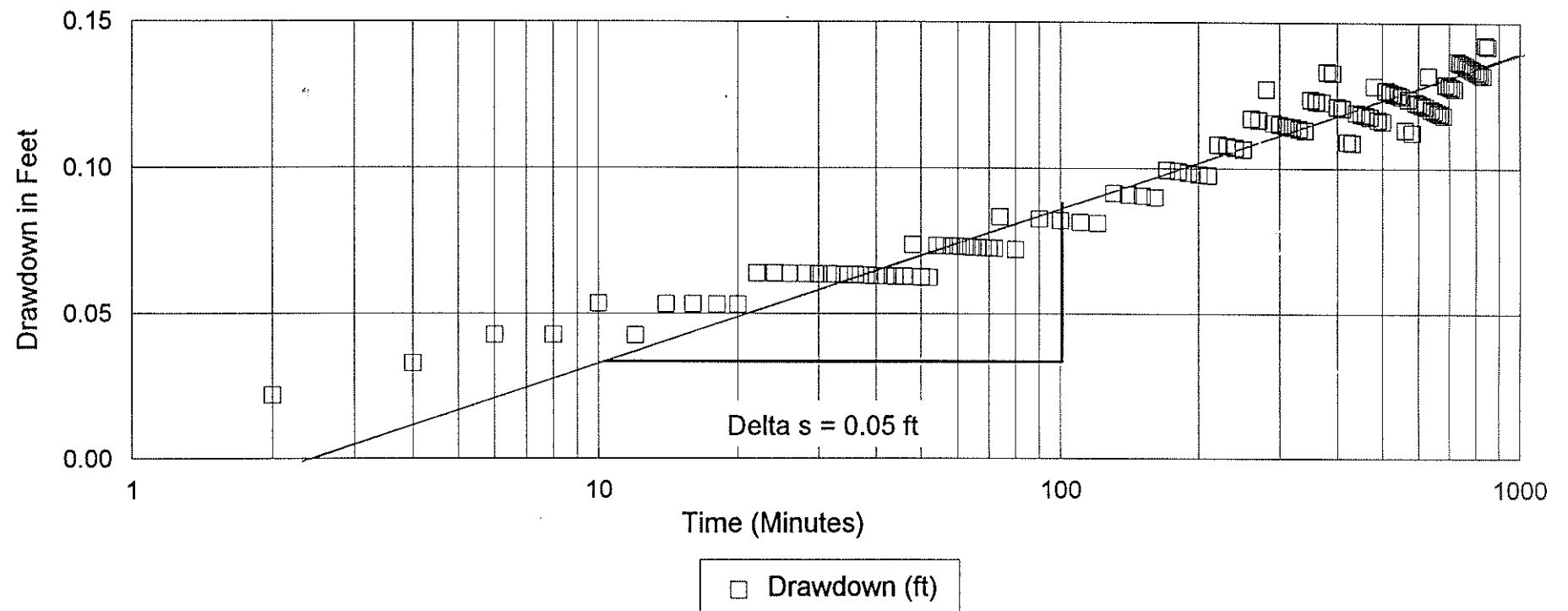
MC-03 Time - Drawdown Cooper-Jacob Analysis



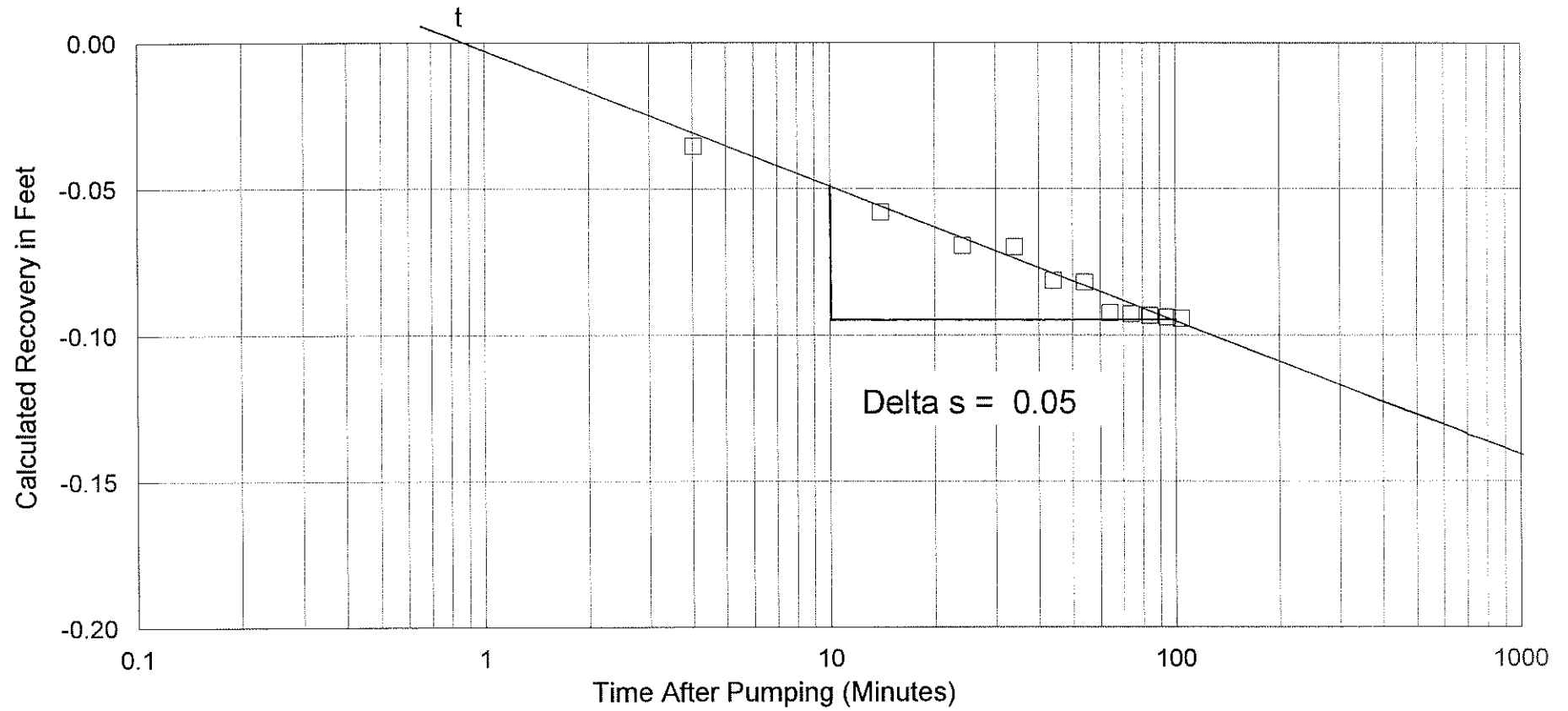
MC-03 Recovery



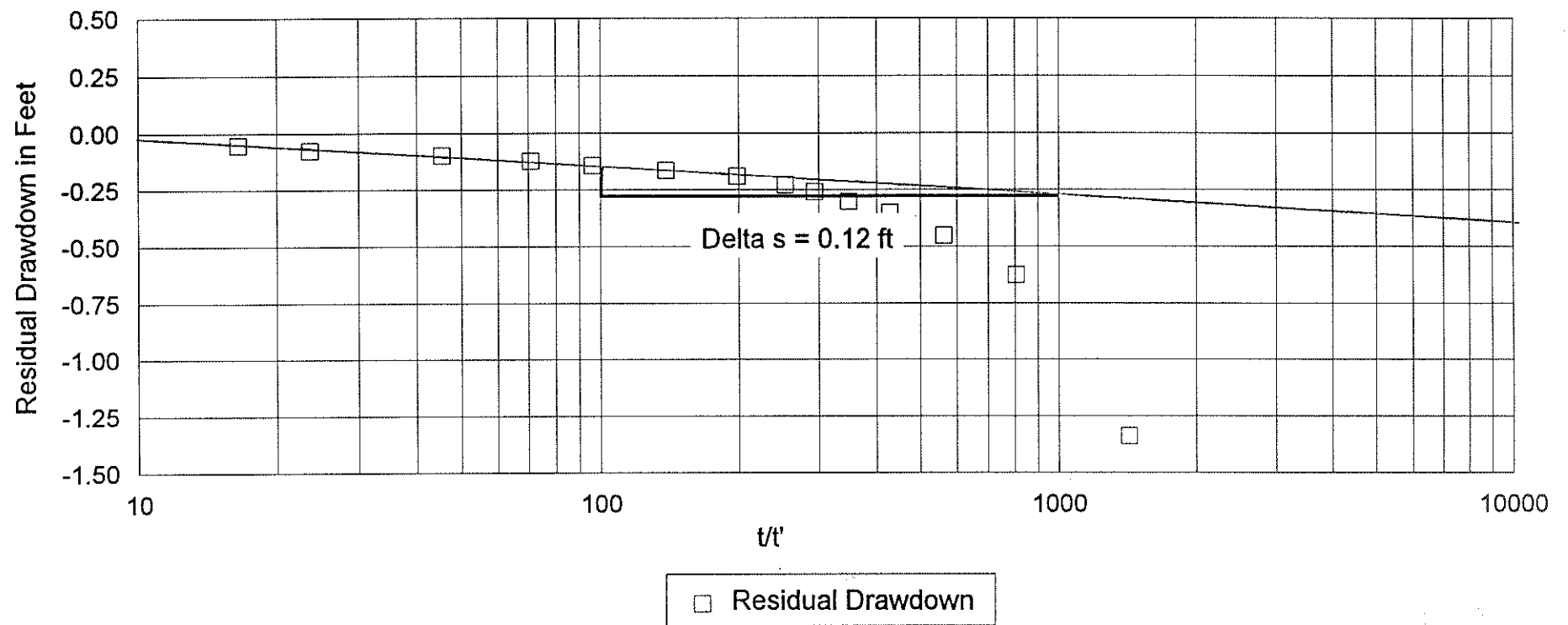
MC-04 Time - Drawdown Cooper-Jacob Analysis



MC-04 Recovery Data



EW-01 Recovery Data



t/t' Method



GROUNDWATER
TECHNOLOGY

Drilling Log

Extraction Well **EW-01**

Project MCMF Owner Maricopa County
 Location 320 West Lincoln Street, Phoenix, AZ Proj. No. 023300118
 Surface Elev. _____ Total Hole Depth 105 ft. Diameter 10.75 in.
 Top of Casing _____ Water Level Initial 55 ft. Static _____
 Screen: Dia 6 in. Length 50 ft. Type/Size SCH 40 PVC/0.020 in.
 Casing: Dia 6 in. Length 55 ft. Type SCH 40 PVC
 Fill Material Colorado 10/20 Rig/Core API000
 Drill Co. Layne Environmental Method Air Percussion
 Driller Bryan Log By M. Dytrych Date 5/19/95 Permit # 55-549620
 Checked By [Signature] License No. AZ 21616

See Site Map
For Boring Location

COMMENTS:

All USCS soil classifications are
gradational. All percentages are
approximate.

Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/ x Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0					Asp	0 - 0.25 Feet: Asphalt
2					CL	0.25 - 5 Feet: Gravelly Sandy Clay Brown, damp, moderately to well sorted, firm, fine clay. Fine to medium-grained sand and gravel (up to 1.5 in. diameter). Sand is subrounded. Clay 45%, sand 40%, gravel 15%.
4		19.4				
6						5 - 15 Feet: Sandy Clay Orange brown, damp, well sorted, firm, fine clay and fine-grained sand. Clay 60%, sand 40%.
8						
10		15.5	EW01-10 5 7 9		ML	
12						
14						Low plasticity.
16		18.5				
18					GC	15 - 20 Feet: Gravelly Sandy Clay Orange brown, damp, clay, sand and gravel. Gravel is well rounded (up to 2 in. diameter). Clay 45%, sand 40%, gravel 15%. Cobbles up to 5 in. diameter.
20		21.9	EW01-20 2 3 25			
22					SP	20 - 30 Feet: Cobbly Sand Tan, dry, moderately sorted, loose, subrounded to subangular, fine to medium-grained sand and cobbles. Cobbles are rounded (up to 4 in. diameter). Sand 95%, cobbles 5%.
24						



GROUNDWATER
TECHNOLOGY

Drilling Log

Extraction Well **EW-01**

Project MCMMF

Owner Maricopa County

Location 320 West Lincoln Street, Phoenix, AZ

Proj. No. 023300118

Depth (ft.)	Well Completion	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
24		18.6					
26						SP	Gravel is well rounded (up to 1 in. diameter). Cobbles are rounded (up to 4 in. diameter). Sand 80%, gravel 15%, cobbles 5%.
28							
30		17.8	EW01-30	3 50/4"			30 - 40 Feet: Sand Tan, dry to damp, well sorted, loose, subrounded, fine to coarse-grained sand. Fine-grained sand 45%, medium-grained sand 40%, coarse-grained sand 15%.
32							
34		11.8				SW	Fine to medium gravel and cobbles (up to 5 in. diameter). Gravel is rounded to subrounded (up to 3 in. diameter). Medium-grained sand 55%, fine-grained sand 20%, fine to medium gravel 20%, cobbles 5%.
36							
38							
40		12.5	EW01-40	50/3"			Not good recovery.
42							40 - 50 Feet: Gravelly Cobbly Sand Dark brown, damp, moderately to well sorted, loose, subangular, medium-grained sand, cobbles and gravel. Cobbles are subrounded (up to 6 in. diameter). Gravel is rounded to subrounded (up to 2 in. diameter). Sand 60%, cobbles 20%, gravel 20%.
44		10.5				SP	Poorly sorted, loose, fine to coarse-grained sand, fine gravel and cobbles. Gravel is subangular (up to 1 in. diameter). Cobbles are subangular (up to 5 in. diameter). Medium-grained sand 30%, fine-grained sand 20%, coarse-grained sand 20%, fine gravel 20%, cobbles 10%.
46							
48							
50		8.3	EW01-50	2 7 22			50 - 55 Feet: Gravelly Cobbly Sand Light tan, dry, moderately sorted, loose, subrounded, fine to medium-grained sand, cobbles and gravel. Cobbles are subrounded (up to 4 in. diameter). Gravel is subrounded (up to 1 in. diameter). Sand 80%, cobbles 10%, gravel 10%.
52						SW	
54							Initial water level.
56		14.8				ML	55 - 60 Feet: Sandy Clay Orange brown, damp, well sorted, loose, fine clay and fine-grained sand. Sand is subrounded. Clay 55%, sand 45%.



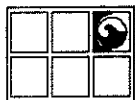
GROUNDWATER
TECHNOLOGY

Drilling Log

Extraction Well **EW-01**

Project MCMMF Owner Maricopa County
Location 320 West Lincoln Street, Phoenix, AZ Proj. No. 023300118

Depth (ft.)	Well Completion	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
56							(Continued) Orange brown, damp, well sorted, loose, fine clay and fine-grained sand. Sand is subrounded. Clay 55%, sand 45%.
58						ML	
60		8.5	EW01-60	7 19 15			Last 8010 sample.
62							60 - 65 Feet: Cobbly Gravelly Sand Tan, damp, moderately sorted, loose, medium to coarse-grained sand, gravel and cobbles. Gravel is rounded to subrounded (up to 1.5 in. diameter). Cobbles are rounded (up to 4 in. diameter). Sand 60%, gravel 25%, cobbles 15%.
64							
66		8.3					Gravelly Sand at 65 - 70 Feet Dark brown, damp, moderately sorted, loose, subrounded to subangular, medium to coarse-grained sand and gravel (up to 2 in. diameter). Sand 65%, gravel 35%.
68							
70		13.7	EW01-70	6 7 43			Gravelly Cobbly Sand at 70 - 85 Feet Dark brown, saturated, moderately to poorly sorted, loose, subangular, medium to coarse-grained sand, cobbles (up to 6 in. diameter) and gravel (up to 1.5 in. diameter). Sand 60%, cobbles 20%, gravel 20%.
72						SP	
74							Clay approximately 5%.
76		13.5					
78							
80		12.2	EW01-80	4 7 39			Sample for PTS. Subrounded, fine to medium-grained sand and cobbles. Cobbles are loose and rounded (up to 5.5 in. diameter). Sand 55%, cobbles 45%. No gravel present.
82							
84							
86		11.2				SW	85 - 90 Feet: Gravelly Sand Brown, wet, moderately to well sorted, loose, subrounded to subangular, coarse-grained sand and fine gravel. Gravel is rounded (up to 1.5 in. diameter). Sand 80%, gravel 20%.
88							



GROUNDWATER
TECHNOLOGY

Drilling Log

Extraction Well **EW-01**

Project MCMMF Owner Maricopa County
Location 320 West Lincoln Street, Phoenix, AZ Proj. No. 023300118

Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
88					SW	
90		12.5			SP	90 - 95 Feet: Gravelly Sand Brown, saturated, moderately sorted, loose, subrounded to subangular, fine to medium-grained sand and fine to medium gravel. Gravel is rounded. Sand 65%, gravel 35%.
92						
94						Fine gravel (up to 1.5 in. diameter) 30%, medium gravel (up to 2.5 in. diameter) 5%.
96		11.9				95 - 105 Feet: Sandy Cobbles Orange brown, saturated, loose, well rounded, cobbles and coarse-grained sand. Sand is subrounded to subangular. Cobbles 65%, sand 35%.
98						
100		--	EW01-100 6 21 30		GP	
102						
104						
106						105 Feet: Total Depth of Extraction Well EW-01
108						
110						
112						
114						
116						
118						
120						

GEOLOGIC LOG		ADEQ	West Van Buren Project Area
Well ID:	MC-03	Location:	Buchanan/4th Avenue
Northing (ft):	888,664.5413	Drilling Co:	Layne Environmental
Easting (ft):	450,458.6270	Drilling Method:	Dual-wall, air percussion
Total Depth (ft):	100	Drilling Fluid:	Air
Top of Casing Elev (ft):	1076.64	Date Started:	16 Feb 93
Ground Surface Elev (ft):	1077.08	Date Finished:	16 Feb 93
		Logged by:	Dave Christiana
Comments: In loading dock area west of Maricopa County Materials Management building, 319 W. Buchanan Street.			
INTERVAL	USCS	VISUAL DESCRIPTION	
0-5		Silty, clayey gravel with sand.	
5-10	SW-SM	Well graded sand with silt and gravel. 20% medium to coarse gravel, subrounded to rounded, cobbles to 4 inches.	
10-20	SP	Poorly graded sand with gravel. 30% medium to coarse gravel, subrounded to rounded, cobbles to 4 inches. Fine to coarse sand.	
20-42	SP	Same as above.	
42-50	SP-SC	Poorly graded sand with clayey silt and gravel. 20% medium to coarse gravel, subrounded to rounded, cobbles to 4 inches. 10% silty clay in fine to medium sand, dry. Moderate brown 5 YR 3/4.	
50-60	SP-SC	Silty clayey sand. 20% medium gravel. 15% fine to medium sand with clay and silt. Moderate reddish brown 10 R 4/6.	
60-65	SP-SC	Same as above. Cobbles to 6 inches.	
65-70	SP-SC	Same as above. Greater percentage gravel and cobbles.	
70-80	SP-SC	Same as above. Saturated.	
80-90	SP	Poorly graded sand with gravel. 40% medium to coarse, subrounded to rounded gravel, some cobbles to 6 inches. Fine to medium sand. saturated. Moderate brown 5YR 4/4.	
90-100	SP	Same as above. Total depth 100 ft.	



GROUNDWATER
TECHNOLOGY

Drilling Log

Monitoring Well **MC-04**

Project MCMMF Owner Maricopa County
 Location 320 West Lincoln Street, Phoenix, AZ Proj. No. 023300118
 Surface Elev. _____ Total Hole Depth 105 ft. Diameter 9 in.
 Top of Casing _____ Water Level Initial 60 ft. Static _____
 Screen: Dia 4 in. Length 50 ft. Type/Size SCH 40 PVC/0.020 in.
 Casing: Dia 4 in. Length 52 ft. Type Sch 40 PVC
 Fill Material Colorado 10/20 Rig/Core API000
 Drill Co. Layne Environmental Method Air Percussion
 Driller Pat Gagnon Log By M. Dytrych Date 5/15/95 Permit # 55-549621
 Checked By [Signature] License No. AZ 21616

See Site Map
For Boring Location

COMMENTS:

All USCS soil classifications are gradational. All percentages are approximate.

Depth (ft.)	Well Completion	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2							
0					Asp		0 - 0.25 Feet: Asphalt
2					CL		0.25 - 5 Feet: Sandy Clay Brown, damp, moderately sorted, firm, fine clay and fine to medium-grained sand. Sand is subrounded. Clay 50%, sand 45%, gravel (up to 1 in. diameter).
4							
6					ML		5 - 10 Feet: Sandy Clay Brown, very well to well sorted, clay, fine to medium-grained sand and gravel. Clay 73%, sand 25%, gravel 2%.
8							
10		120	MC04-10	3 4 7			10 - 15 Feet: Gravelly Sand Tan to light brown, dry, moderately sorted, loose, subrounded, medium-grained sand and gravel. Sand 75%, gravel 25%.
12					SP		
14							
16							15 - 20 Feet: Cobbly Gravel Tan, dry, poorly sorted, loose, subangular, fine gravel, coarse cobbles and medium-grained sand. Cobbles are well rounded. Sand is subrounded. Gravel 70%, cobbles 20%, sand 10%.
18							Metamorphic and igneous cobbles up to 5 in. diameter.
20					GP		Cobbly Sandy Gravel at 20 - 25 Feet Tan, dry, moderately to poorly sorted, loose, subangular, fine to coarse gravel, coarse-grained sand and coarse cobbles. Cobbles are well rounded (up to 3 in. diameter). Gravel 60%, sand 30%, cobbles 10%.
22							
24							



GROUNDWATER
TECHNOLOGY

Drilling Log

Monitoring Well **MC-04**

Project MCMMF Owner Maricopa County
Location 320 West Lincoln Street, Phoenix, AZ Proj. No. 023300118

Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
24					GP	Gravelly Sand at 30 - 35 Feet Orange brown, dry to damp, moderately sorted, loose, subrounded to subangular, medium-grained sand and coarse gravel. Gravel is rounded (up to 2 in. diameter). Sand 80%, gravel 20%.
26						
28						No recovery cobbles (granite). Strange, sweet smell, damp.
30		146	MC04-30 50/5"		SP	Gravelly Cobbly Sand at 30 - 35 Feet Orange brown, damp, moderately sorted, loose, subangular, fine to medium-grained sand, cobbles and fine gravel. Cobbles are well rounded to rounded. Gravel is subangular. Sand 60%, cobbles 20%, gravel 20%.
32						
34						Gravel diameter up to 3/4 in. Metamorphic and igneous cobbles up to 4 in. diameter.
36						
38					SW	35 - 40 Feet: Gravelly Sand Orange brown, damp, moderately sorted, loose, subangular, medium-grained sand, fine gravel and cobbles (up to 4 in. diameter). Gravel is subrounded to subangular (up to 3/4 in. diameter). Sand 60%, gravel 35%, cobbles <5%.
40						
42						
44						
46		159			SP	40 - 50 Feet: Cobbly Gravelly Sand Dark brown, damp to moist, moderately sorted, loose, subangular, medium-grained sand, gravel and cobbles. Cobbles are well rounded (up to 3 in. diameter). Sand 40%, gravel 30%, cobbles 30%.
48						Color changes to light brown. Sand percentage increases to 50%. Cobbles increase to 40%, gravel decreases to 10%.
50		68.5				
52						
54		22.5			CL	50 - 60 Feet: Sandy Clay Orange brown, damp, well sorted, loose, well rounded, fine clay, fine-grained sand and cobbles. Sand is subrounded to subangular. Cobbles are well rounded and loose. Clay 50%, sand 45%, cobbles <5%.
56						



GROUNDWATER
TECHNOLOGY

Drilling Log

Monitoring Well **MC-04**

Project MCMMF

Owner Maricopa County

Location 320 West Lincoln Street, Phoenix, AZ

Proj. No. 023300118

Depth (ft.)	Well Completion	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
56							
58						CL	Balls of tight, dessicated clay.
60		42.5	MC04-60	10 34			Initial water level.
62						SP	60 - 65 Feet: Cobbly Sand Dark brown, damp, moderately to poorly sorted, loose, subangular, medium to coarse-grained sand and coarse cobbles. Cobbles are subrounded (up to 5 in. diameter). Sand 80%, cobbles 15%, clay 5%.
64							Still not into groundwater, probably approaching it (vadose).
66		24.8					
68						ML	65 - 70 Feet: Sandy Clay Brown, wet, moderately to well sorted, loose, well rounded, fine clay and medium-grained sand. Sand is rounded to subrounded and loose. Clay 70%, sand 30%.
70							
72		32.3	MC04-70	30			70 - 80 Feet: Cobbly Clayey Sand Brown, poorly sorted, loose, subangular, coarse-grained sand, cobbles and fine clay. Cobbles are loose and well rounded. Sand 60%, cobbles 35%, clay 5%.
74							Highly transmissive unit. Cobbles up to 6 in. diameter.
76		68.1					Sand 40%, fine clay 30%, cobbles 30%.
78							
80						SP	Will send this sample off for geophysical. Balls of greenish/blackish sandy clay.
82		54.9	MC04-80				80 - 85 Feet: Cobbly Gravelly Sand Brown, wet, loose, subangular, very coarse-grained sand, coarse gravel and cobbles. Gravel is subangular. Cobbles are well rounded (up to 6 in. diameter). Sand 50%, coarse gravel 40%, cobbles 10%.
84							Not much clay, <2%.
86							85 - 105 Feet: Cobbly Sand Brown, saturated, poorly sorted, loose, subangular, medium to coarse-grained sand and cobbles. Cobbles are well rounded (up to 5 in. diameter). Sand 70%, cobbles 30%.
88							



GROUNDWATER
TECHNOLOGY

Drilling Log

Monitoring Well **MC-04**

Project MCMMF

Owner Maricopa County

Location 320 West Lincoln Street, Phoenix, AZ

Proj. No. 023300118

Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
88		23	MC04-90		SP	Clay absent. Highly transmissive. No sample recovery. Sand 60%, gravel and cobbles 35%, clay 5%.
90						
92						
94						
96						Very saturated. Cobbles up to 5 in. diameter.
98		5.0				
100			MC04-100 15 21			No sample, too much water.
102						
104						Too much water, no sample.
106						105 Feet: Total Depth of Monitoring Well MC-04
108						
110						
112						
114						
116						
118						
120						



GROUNDWATER
TECHNOLOGY

Drilling Log

Piezometer Well PZ-1

Project MCMME Owner Maricopa County
 Location 320 West Lincoln Street, Phoenix, AZ Proj. No. 023300118
 Surface Elev. _____ Total Hole Depth 105 ft. Diameter 9 in.
 Top of Casing _____ Water Level Initial 55 ft. Static _____
 Screen: Dia 4 in. Length 50 ft. Type/Size SCH 40 PVC/0.020 in.
 Casing: Dia 2 in. Length 55 ft. Type SCH 40 PVC
 Fill Material Colorado 10/20 Rig/Core API000
 Drill Co. Layne Environmental Method Air Percussion
 Driller Pat Gagnon Log By M. Dytrych Date 5/17/95 Permit # 55-549619
 Checked By [Signature] License No. AZ 21616

See Site Map
For Boring Location

COMMENTS:

All USCS soil classifications are
gradational. All percentages are
approximate.

Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0					Asp	0 - 0.25 Feet: Asphalt
2					CL	0.25 - 5 Feet: Sandy Clay Brown, damp, well sorted, firm, fine clay and fine-grained sand. Sand is rounded to subrounded. Clay 70%, sand 30%.
4		20.9				Balled clay, medium plasticity.
6						5 - 15 Feet: Sandy Clay Orange brown, damp, very well sorted, firm, fine clay and fine-grained sand. Sand is subrounded. Clay 75%, sand 25%.
8						
10		19.2			ML	Not as balled up as 0 to 5 feet. Low to medium plasticity.
12						
14						
16		13.7			SW	15 - 20 Feet: Gravelly Clayey Sand Tan brown, damp, moderately to well sorted, loose, subrounded to subangular, fine to medium-grained sand, fine clay and fine gravel. Gravel is well rounded. Sand 75%, clay 15%, gravel 10%.
18						Clay percentage decreases. Gravel up to 1/2 in. diameter. Cobbles up to 6 in. diameter, <2%.
20		13.6			SP	20 - 40 Feet: Cobbly Gravelly Sand Tan, dry to damp, moderately sorted, loose, subrounded to subangular, medium-grained sand, fine to medium gravel and cobbles. Gravel is well rounded and loose (up to 1.5 in. diameter). Cobbles are well rounded (up to 4 in. diameter). Sand 65%, gravel 30%, cobbles 5%.
22						
24						



GROUNDWATER
TECHNOLOGY

Drilling Log

Piezometer Well PZ-1

Project MCMF

Owner Maricopa County

Location 320 West Lincoln Street, Phoenix, AZ

Proj. No. 023300118

Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
24		15.3				(Continued) Tan, dry to damp, moderately sorted, loose, subrounded to subangular, medium-grained sand, fine to medium gravel and cobbles. Gravel is well rounded and loose (up to 1.5 in. diameter). Cobbles are well rounded (up to 4 in. diameter). Sand 65%, gravel 30%, cobbles 5%.
26						
28						
30		--	PZI-30	6 8 11	SP	No recovery. Sand 70%, gravel (up to 1 in. diameter) 20%, cobbles (up to 5 in. diameter) 10%.
32						
34						
36		9.7				
38						
40		--				No recovery.
42						40 - 45 Feet: Cobbly Gravelly Sand Brown, damp, moderately to well sorted, loose, subrounded to subangular, coarse-grained sand, fine to medium gravel and cobbles. Gravel is rounded to subrounded (up to 1.5 in. diameter). Cobbles are well rounded (up to 4 in. diameter). Sand 70%, gravel 25%, cobbles 5%.
44						
46		9.1	PZI-45	17 26 37	SW	One composite sample for profile.
48						
50		--				No recovery.
52					CL	50 - 55 Feet: Sandy Clay Brown, damp, very well sorted, firm, fine clay and fine-grained sand. Sand is subrounded. Clay 70%, sand 30%.
54						
56		--	PZI-55	11 10 13	ML	Initial water level. 55 - 60 Feet: Sandy Clay (Continued)



GROUNDWATER
TECHNOLOGY

Drilling Log

Piezometer Well PZ-1

Project MCMF Owner Maricopa County
Location 320 West Lincoln Street, Phoenix, AZ Proj. No. 023300118

Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
56						(Continued) Orange brown, damp, well sorted, soft and firm, fine clay and fine-grained sand. Sand is rounded to subrounded. Clay 60%, sand 40%.
58					ML	
60		10.1	PZI-60 50/4"			60 - 70 Feet: Cobbly Gravelly Sand Tan, damp, moderately sorted, loose, subrounded to subangular, medium-grained sand, fine to medium gravel and medium cobbles. Gravel is loose and subrounded to subangular (up to 1.5 in. diameter). Cobbles are well rounded (up to 3 in. diameter). Sand 60%, gravel 35%, cobbles 5%.
62						
64					SP	Sand 55%, gravel (up to 2 in. diameter) 45%.
66						
68						
70		7.3				70 - 75 Feet: Sandy Cobbly Gravel Brown, wet to saturated, moderately to poorly sorted, loose, subrounded to subangular, fine to medium gravel, medium cobbles and coarse-grained sand. Cobbles are well rounded (up to 3 in. diameter). Sand is subangular. Gravel 55%, cobbles 35%, sand 10%.
72					GC	
74						Into groundwater.
76			PZI-75	6 11 14		75 - 95 Feet: Cobbly Gravelly Sand Orange brown, wet, moderately to poorly sorted, loose, subangular, medium-grained sand, medium gravel and cobbles. Gravel is up to 2 in. diameter. Cobbles are well rounded (up to 6 in. diameter). Sand 45%, gravel 40%, cobbles 15%.
78						
80					SP	
82						
84						
86						Minor amounts of clay. Sand 40%, gravel (up to 1.5 in. diameter) 40%, cobbles (up to 4 in. diameter) 20%.
88						



GROUNDWATER
TECHNOLOGY

Drilling Log

Piezometer Well PZ-1

Project MCMMF Owner Maricopa County
Location 320 West Lincoln Street, Phoenix, AZ Proj. No. 023300118

Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
88						
90						
92						
94						
96		--				Sand 45%, gravel 35%, clay 20%.
98					SP	
100						
102						
104		9.5				No reading on Drager tube. Cobbles up to 3.5 in. diameter (5% matrix).
106						105 Feet: Total Depth of Piezometer Well PZ-1
108						
110						
112						
114						
116						
118						
120						