3 10 0367

Site:
Break: 3.10
Other:

4071

DRAFT

Remedial Investigation
Superfund Accelerated Cleanup Model

Chevron Chemical Company Site, Orlando, Florida

Volume III: Appendices B–E

Prepared by

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for

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May 1994

3 10 0368

APPENDIX B
BORING LOGS AND COMPLETION LOGS

3 10 0369

SOIL BORING CONSTRUCTION LOG

PROJECT: 6325 DATE: 9-24

CODE: MW-15 TIME:

METHOD: HSA LOGGER: MORRISON

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-2'	Blk sandy top soil		
2-15'	Dk Brn fg organic sand		

3 10 0370

SOIL BORING CONSTRUCTION LOG

PROJECT: 6325 DATE: 9-24-91

CODE: MW - D TIME:

METHOD: Hollow Stem LOGGER: L. Morrison

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-2'	Blk sandy top soil		
2-15	Dk brn f. fine sand		
15-20	Lg brn sand, st. silty		
20-28	as above, st. clayey		
28-30	Grey st. sandy clay		

3 10 0071

SOIL BORING CONSTRUCTION LOG

PROJECT: 6325 DATE: 9-26-91

CODE: MW-2S TIME:

METHOD: HSA LOGGER: Morrison

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-2'	DK Sandy top soil		
2-5'	DK brn sand		
5-15'	Gry brn sl. silty sand		

3 10 0672

SOIL BORING CONSTRUCTION LOG

PROJECT: 6325 DATE: 4-26-91

CODE: [illegible] TIME:

METHOD: Hollow Stem Auger LOGGER: L. Morrison

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-2'	TOP Soil, Blk Sth Dy		
2-5	Dk brn Sandy		
5-8	Gy brn sl. silty Sand		
8-15	as above		
15-27	lt brn-gy brn silty sandy		
27-32	Gray stiff clay		

3 10 0073

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: Chevron Orlando DATE: 8/25/93

CODE: MW-3S TIME: 11:05

METHOD: Hollow Stem Auger LOGGER: HLT

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-5'	SAND, Brown, very fine to fine grained dry		
5-10'	SAND, Brown, fine, dry		water Table @ approximately 8 feet
10-15'	SAND, Light Brown to Tan, fine, mud matrix		OVA <1 ppm

3 10 0074

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: Chevron Orlando DATE: 8/26/93

CODE: MW-3D TIME: 0815

METHOD: Hollow Stem Auger LOGGER: PEH

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-5'	SAND, fine grained, tan-brown, dry.		OVA - 1ppm
5-10'	Sand, fine grained, dark brown		Water Table @ approximately 7 ft
10-15'	as above, light brown		2' ppm OVA
15-30'	As above, some silt, clay @ ~30'		21 ppm OVA

3 10 0075

SOIL BORING CONSTRUCTION LOG

PROJECT: 6325 DATE: 9-26-91

CODE: MW-4S TIME:

METHOD: HSA LOGGER: Morrison

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-2'	blk sandy topsoil		
2-10	blk brn fg sand, organics		
10-15	as above, sl. silty		

3 10 0576

SOIL BORING CONSTRUCTION LOG

PROJECT: 6325 DATE: 9-26-91

CODE: MW-4D TIME:

METHOD: Hollow Item LOGGER: L Morrison

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-2	blk sandy top soil		
2-10	dk brn fg sand, organic		
10-15	as above, sl. silty		
15-20	as above, sl. clayey		
20-30	lt brn - gy brn fg sand, sl. clayey		

3 10 0677

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON - ORLANDO DATE: 8/10/93

CODE: CO-MW-5D TIME: 1000

METHOD: HOLLOW STEM AUGER LOGGER: K. TOBIN

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-2 FT.	SAND, some organics, fine grained, lt. brown, dry		OVA = 0ppm
2-5 FT.	SAND, some organics fine grained, mottled lt and dark brown.		
5-10 FT.	SAME AS ABOVE 7.5' MOIST		OVA @ 7' = 8ppm
10-15 FT.	SAND, some organics, fine grained, dark black/brown, wet.		Water Table @ 11 FT.
20-25 FT.	SAND, some silt, fine grained, goopy brown, wet.		OVA @ 25 - 0ppm
25-30 FT.	SAME AS ABOVE		

3 10 0578

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON - ORLANDO DATE: 8/10/93

CODE: CO-MW-5S TIME: 1840

METHOD: HOLLOW STEM AUGER LOGGER: P. Krouse

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-5 FT.	SAND, fine grained, brown, dry		
5-7 FT.	SAND, fine grained, mottled tan to lt. brown, dry		
7-10 FT.	SAND, fine grained, dark brown, moist.		
10-15 FT.	SAME AS ABOVE, wet.		

3 10 0079

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON ORLANDO **DATE:** 8/12/93

CODE: CO-MW-6S **TIME:** 0925

METHOD: HOLLOW STEM AUGER **LOGGER:** T. TOBIN

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-5 FT.	SAND, SOME ORGANICS, FINE GRAINED, BROWN		6-8 FT HIT SOMETHING HARD
10-15 FT.	SAND, MEDIUM GRAINED, DARK BROWN		WATER TABLE @ 11 FT. OVA = 0 ppm

3 10 0600

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON - ORLANDO **DATE:** 8/16/93

CODE: CO-MW-6D **TIME:** 1315

METHOD: HOLLOWSTEM AUGER **LOGGER:** K. TOBIN

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-2 FT.	SAND, LT. BROWN, VERY FINE, DRY		
2-4 FT.	SAME AS ABOVE, SOME MEDIUM GRAINED		OVA = <1 PPM
4-7 FT.	SAME AS ABOVE		
8-10 FT.	SAND, FINE GRAINED, WET, TAN		OVA = <1 PPM
15-20 FT.	SAND, CLAYEY, VERY FINE GRAINED, TAN		OVA = <1 PPM
20-25 FT.	SAND, CALCAREOUS MUD, VERY FINE, TAN		OVA - <1 PPM

3 10 0001

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON ORLANDO DATE: 8/16/93

CODE: CO-MW-7S TIME: 1720

METHOD: HOLLOW STEM AUGER LOGGER: K. TOBIN

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-5 FT.	SAND, FINE GRAINED, BROWN, DRY		
5-8 FT.	SAND, VERY FINE GRAINED, DARK BROWN, WET		OVA = <1 PPM
10-15 FT.	SAND, FINE TO VERY FINE GRAINED, CALCAREOUS MUD MATRIX, LT. GRAY		

3 10 0602

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON ORLANDO DATE: 8/17/93

CODE: CO-MW-7D TIME: 1110

METHOD: HOLLOW STEM AUGER LOGGER: K. TOBIN

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-5 FT.	SAND, VERY FINE TO FINE GRAINED, DARK BROWN. WET @5'.		OVA = <1 PPM WATER TABLE @ 5 FT.
5-10 FT	SAME AS ABOVE, FINE		
10-15 FT.	SAME AS ABOVE,		OVA = <1 PPM
15-17 FT	SAND, FINE TO MEDIUM, WET		
20-25 FT.	SAND, TAN, FINE, CALCAREOUS MUD MATRIX		OVA - 1.5 PPM

3 10 0583

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON ORLANDO DATE: 8/17/93

CODE: CO-MW-8S TIME: 1630

METHOD: HOLLOW STEM AUGER LOGGER: K. TOBIN

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-5 FT.	SAND, FINE GRAIN BROWN, DRY		OVA = <1 PPM
5-10 FT.	SAND, FINE, DARK BROWN, WET		WATER TABLE @ ~7 FT.
10-15 FT.	SAND, FINE, DARK BROWN, WET.		OVA = <1 PPM

3 10 0004

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON ORLANDO **DATE:** 8/18/93

CODE: CO-MW-8D **TIME:** 1110

METHOD: HOLLOW STEM AUGER **LOGGER:** K. TOBIN

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-5 FT.	SAND, FINE, LIGHT BROWN, DRY		OVA <1 PPM
5-10 FT.	SAND, FINE TO MEDIUM GRAINED, DARK BROWN, WET		OVA 5PPM PEAK NOT SUSTAINED
10-15 FT.	SAME AS ABOVE		OVA 5PPM PEAK NOT SUSTAINED
20-25 FT.	SAND, FINE, CALCAREOUS MUD MATRIX, DARK BROWN		OVA = 7 PPM PEAK, NOT SUSTAINED

3 10 0305

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON - ORLANDO **DATE:** 8/19/93

CODE: CO-MW-9D **TIME:** 1010

METHOD: HOLLOW STEM AUGER **LOGGER:** K. TOBIN

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-5 FT.	SAND, VERY FINE TO FINE, BROWN, DRY		OVA - <1 PPM
5-10 FT.	SAND, FINE, DARK BROWN, WET		WATER TABLE AT ~7 FT.
10-15 FT.	SAND, FINE, CALCAREOUS MUD MATRIX, DARK BROWN		OVA <1 PPM
15-20 FT.	SAND, FINE, CALCAREOUS MUD MATRIX, DARK BROWN		OVA = <1 PPM
20-25 FT.	SAME AS ABOVE		

3 10 0006

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON ORLANDO DATE: 8/19/93

CODE: CO-P2-10-NE TIME: 1415

METHOD: HOLLOW STEM AUGER LOGGER: K TOBIN

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-5 FT.	SAND, VERY FINE TO FINE, BROWN, DRY.		OVA <1 PPM
5-10 FT.	SAND, FINE, CALCAREOUS MUD MATRIX, DAR BRN.		WATER TABLE @ ~16 FT.
10-15 FT.	SAND, FINE TO MEDIUM, CALCAREOUS MUD MATRIX, BROWN		OVA - <2 PPM
20-25 FT.	SAND, VERY FINE TO FINE, BROWN. WET.		
25-27 FT.	SAND, TAN, VERY FINE TO FINE, CALCAREOUS MUD MATRIX WET		HAWTHORN CLAY @ APPROXIMATELY 27 FEET

3 10 0587

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON ORLANDO **DATE:** 8/25/93

CODE: CO- PZ-10-E **TIME:** 0825

METHOD: HOLLOW STEM AUGER **LOGGER:** K. TOBIN

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-5 FT.	SAND, VERY FINE TO FINE, BROWN. DRY		
5-10 FT.	SAND, FINE, DARK BROWN, DRY		WATER TABLE @ ~7 FT.
15-20 FT.	SAND, BROWN, FINE, WET		OVA <1 PPM

3 10 0008

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON ORLANDO **DATE:** 8/20/93

CODE: CO-MW-10S **TIME:** 0910

METHOD: HOLLOW STEM AUGER **LOGGER:** K. TOBIN

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-5 FT.	SAND, VERY FINE, DARK BROWN, DRY		OVA - < 1 PPM
5-10 FT.	SAND, VERY FINE. TO FINE, DARK BROWN		OVA 1 PPM
10-15 FT.	SAME AS ABOVE, WET		WATER TABLE AT 12 FT.

3 10 0009

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON ORLANDO **DATE:** 8/25/93

CODE: CO-MW-10D **TIME:** 1100

METHOD: HOLLOW STEM AUGER **LOGGER:** K. TOBIN

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-5 FT.	SAND, FINE GRAINED LIGHT BROWN, DRY		
5-10 FT.	SAND, FINE, BROWN DRY TO MOIST.		WATER TABLE @ ~8 FT. OVA <1 PPM
10-15 FT.	SAND, FINE, BROWN, WET.		OVA <1 PPM
15-20 FT.	SAND, FINE, BROWN WET		
20-27 FT.	SAND, FINE, BROWN, MUD MATRIX		

3 10 0010

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON ORLANDO **DATE:** 9/22/93

CODE: CO-MW-11D **TIME:** 1345

METHOD: HOLLOW STEM AUGER **LOGGER:** S TOBIN / K. TOBIN

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-5 FT.	SAND, SOME ORGANIC FINE GRND, BROWN TO TAN		OVA <1 PPM
5-10 FT.	SAND, BROWN, FINE, CLAYY MATRIX		WATER TABLE 8 FT. OVA <1 PPM
10-15 FT.	SAND, BROWN, FINE GRAINED, CLAY LAYER @ 13 FT.		OVA <1 PPM
15-20 FT.	SANDY CLAY, VERY FINE, TAN		

3 10 0391

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON ORLANDO **DATE:** 9/21/93

CODE: CO-MW-12D **TIME:** 1405

METHOD: HOLLOW STEM AUGER **LOGGER:** B. JONES

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
1-3 FT.	SAND, White		
3-5 FT.	SAND, Brown, medium grained		
5-8 FT.	SAND, Medium grained red to Brown		
10 FT	SAME AS ABOVE		O.A – PID

3 10 0392

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON ORLANDO **DATE:** 9/22/93

CODE: CO-MW-13D **TIME:** 0900

METHOD: HOLLOW STEM AUGER **LOGGER:** K. TOBIN

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
0-5 FT.	SAND. FINE GRND, WHITE - LIGHT TAN, DRY		OVA <1 PPM
5-10 FT.	SAND, FINE, BROWN TO DARK BROWN, WET		WATER TABLE @ ~7FT OVA <1 PPM
10-15 FT.	SAND, FINE, BROWN, WET		
15-20	SAME AS ABOVE		

3 10 0593

TASK ENVIRONMENTAL, INC.

SOIL BORING CONSTRUCTION LOG

PROJECT: CHEVRON ORLANDO **DATE:** 9/16/93

CODE: CO-MW-14 **TIME:** 1600

METHOD: _____ **LOGGER:** S. Tobin

DEPTH INTERVAL	FORMATION DESCRIPTION	BLOWS PER 6 IN.	COMMENTS
40-42 FT.	Clay, light gray, grading to dark gray		
46 FT.	Clay, Dark gray, grainy		
46-50 FT.	Same as above		
50-60 FT.	Clay, dark gray, plastic		
60-65 FT.	Clay, gray grading to olive green		
65-78 FT.	Clay, green, lots of phosphate nodules		
78-80 FT.	Limestone, light gray, w/ phosphate.		
80-90 FT.	Limestone, lt. gray, phosphate, some clay stringers		

WELL COMPLETION LOG

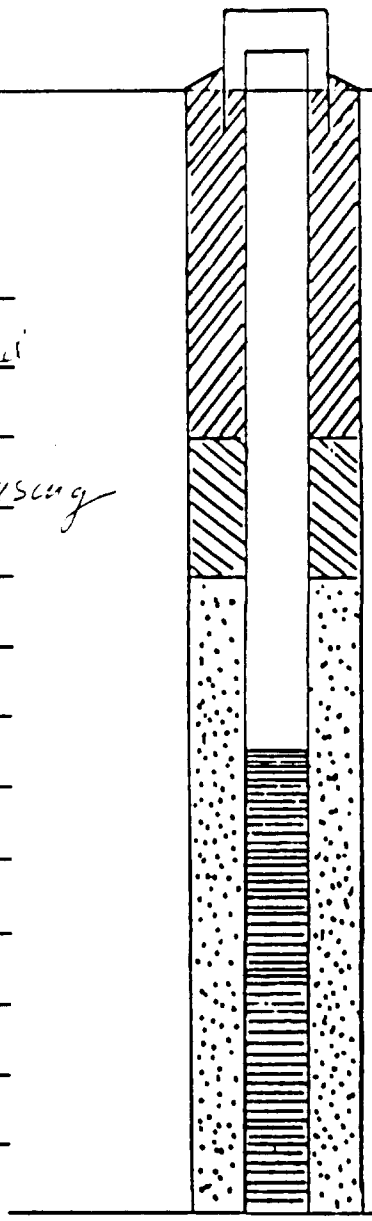
PROJECT: Chevron -6325

WELL NUMBER: MW-15

DRILLING METHOD: Hollow stem auger

PROTECTIVE CASING HEIGHT (FEET ALS): flush

LAND SURFACE



CASING: 2in stainless steel

GROUT: Portland

MATERIALS USED:

45 bags sand

10' screen

20' blank casing

2 TOP OF BENTONITE (FEET BLS): 3

3 TOP OF SAND PACK (FEET BLS): 15

5 TOP OF SCREEN (FEET BLS): 15

SCREEN: 2 inch

SLOT: .010

SAND: 20/30

TOTAL DEPTH (FEET BLS): 15

COMPLETION DATE: 9-25-91

LOGGED BY: L. Morrison

WELL COMPLETION LOG

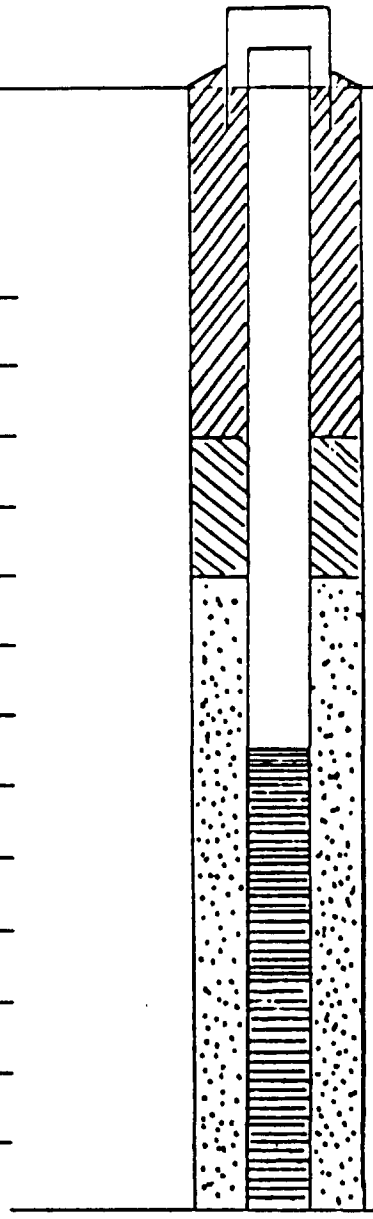
PROJECT: 6325

WELL NUMBER: MW-1D

DRILLING METHOD: Hollow Stem Auger

PROTECTIVE CASING HEIGHT (FEET ALS) flush

LAND SURFACE



CASING: Stainless steel

GROUT: Portland

MATERIALS USED:

11' TOP OF BENTONITE (FEET BLS) 16

16' TOP OF SAND PACK (FEET BLS) 30

20' TOP OF SCREEN (FEET BLS) 30'

SCREEN: Stainless

SLOT: .010

SAND: 20/30

TOTAL DEPTH (FEET BLS) 30'

COMPLETION DATE: 9-25-91

LOGGED BY: L. Morrison

3 10 0056

WELL COMPLETION LOG

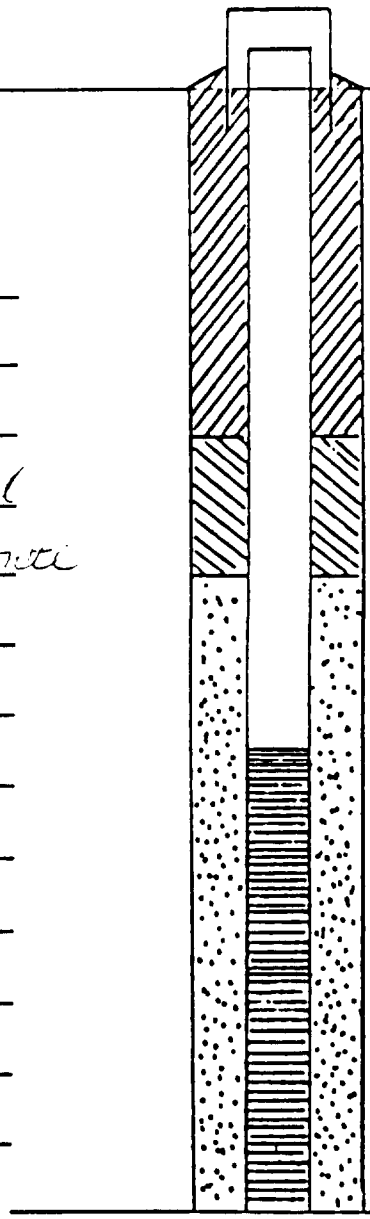
PROJECT: 6325

WELL NUMBER: MW-25

DRILLING METHOD: Hollow Stem Auger

PROTECTIVE CASING HEIGHT (FEET ALS): Flush

LAND SURFACE



CASING: Stainless

GROUT: Portland

MATERIALS USED:

10' Screen

5' Casing

3 bags sand

1 bag bentonite

1' TOP OF BENTONITE (FEET BLS): 2'

2' TOP OF SAND PACK (FEET BLS): 15'

5' TOP OF SCREEN (FEET BLS): 15'

SCREEN: Stainless

SLOT: .010

SAND: 20/30 Silica

TOTAL DEPTH (FEET BLS): 15'

COMPLETION DATE: 4-26-91

LOGGED BY: L. McKrison

3 10 0697

WELL COMPLETION LOG

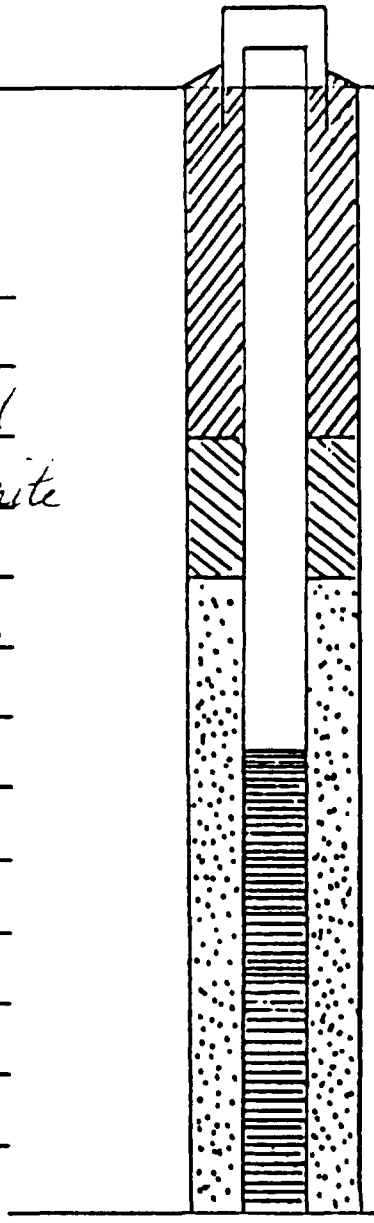
PROJECT: 6325

WELL NUMBER: MW 2D

DRILLING METHOD: Hollow Stem Auger

PROTECTIVE CASING HEIGHT (FEET ALS): flush

LAND SURFACE



CASING: Stainless

GROUT: Portland

MATERIALS USED:

4 bags sand
1 bag bentonite
10' screen
20' casing

9' TOP OF BENTONITE (FEET BLS): 15'

15' TOP OF SAND PACK (FEET BLS): 30'

20' TOP OF SCREEN (FEET BLS): 30

SCREEN: Stainless

SLOT: .010

SAND: 20/30 Silica

TOTAL DEPTH (FEET BLS): 30'

COMPLETION DATE: 9-26-91

LOGGED BY: L. Morrison

3 10 0698

WELL COMPLETION LOG

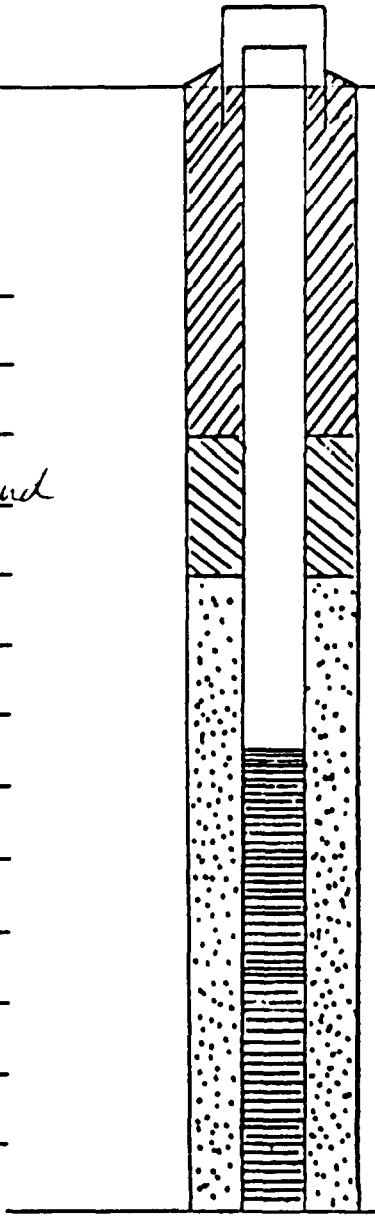
PROJECT: 6325

WELL NUMBER: MW-3S

DRILLING METHOD: Hollow Stem Auger

PROTECTIVE CASING HEIGHT (FEET ALS): Flush

LAND SURFACE



CASING: 2in Stainless

GROUT: Portland

MATERIALS USED:

10' screen

5' Casing

2.5 bags Sand

10.5' TOP OF BENTONITE (FEET BLS): 12'

12' TOP OF SAND PACK (FEET BLS): 15'

5' TOP OF SCREEN (FEET BLS): 15

SCREEN: Stainless Steel

SLOT: .010

SAND: 20/30

TOTAL DEPTH (FEET BLS): 15'

COMPLETION DATE: 9-26-91

LOGGED BY: L. Morrison

3 10 0399

WELL COMPLETION LOG

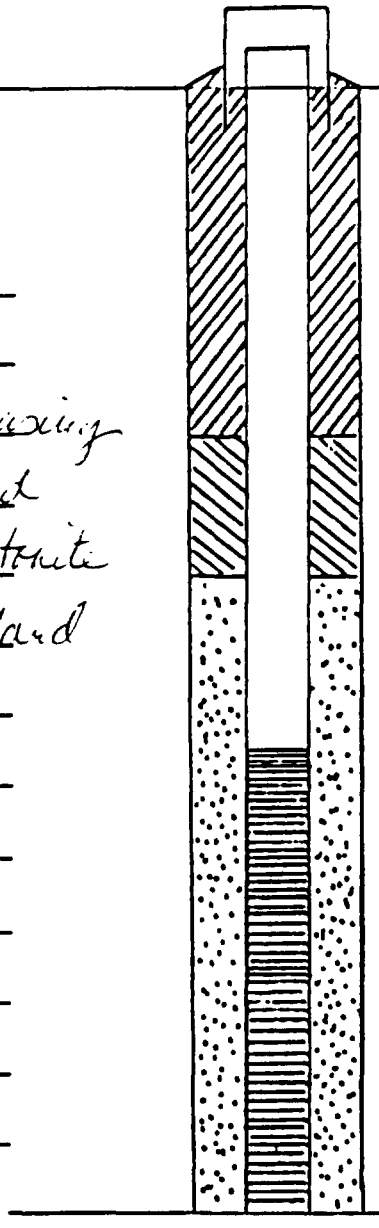
PROJECT: 6325

WELL NUMBER: MW-3D

DRILLING METHOD: Hollow Stem Auger

PROTECTIVE CASING HEIGHT (FEET ALS): Flush

LAND SURFACE



CASING: Stainless - 2 inch

GROUT: Portland

MATERIALS USED:

10' screen

20' blank casing

3 bags sand

1 bag bentonite

1.5 bags Portland

10' TOP OF BENTONITE (FEET BLS): 15'

15' TOP OF SAND PACK (FEET BLS): 30'

20' TOP OF SCREEN (FEET BLS): 30'

SCREEN: 2 inch Stainless

SLOT: .010

SAND: 20/30 Silica

TOTAL DEPTH (FEET BLS): 30'

COMPLETION DATE: 9-25-91

LOGGED BY: L. Morrison

3 10 0700

WELL COMPLETION LOG

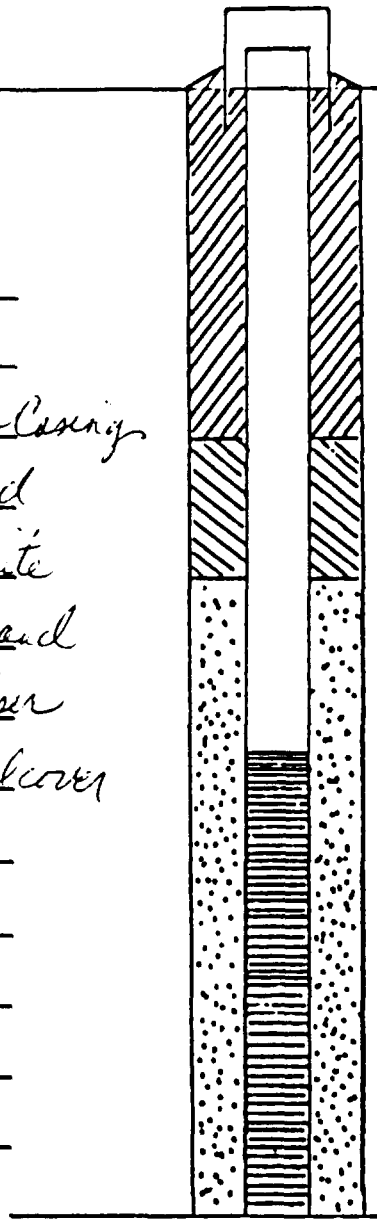
PROJECT: 6325

WELL NUMBER: MW-4S

DRILLING METHOD: Hollow Stem Auger

PROTECTIVE CASING HEIGHT (FEET ALS): 2'

LAND SURFACE



CASING: Stainless

GROUT: Portland

MATERIALS USED:

10' Screen
5' Stainless Casing
2.5 bags sand
1/2 bag bentonite
1.0 bags Portland
2' stainless riser
Protective steel cover

TOP OF BENTONITE (FEET BLS): 2' — 3'

TOP OF SAND PACK (FEET BLS): 3' — 15'

TOP OF SCREEN (FEET BLS): 5' — 15'

SCREEN: Stainless steel

SLOT: .010

SAND: 20/30 Silica

TOTAL DEPTH (FEET BLS): 15'

COMPLETION DATE: 9-27-91

LOGGED BY: L. Morrison

3 10 0701

WELL COMPLETION LOG

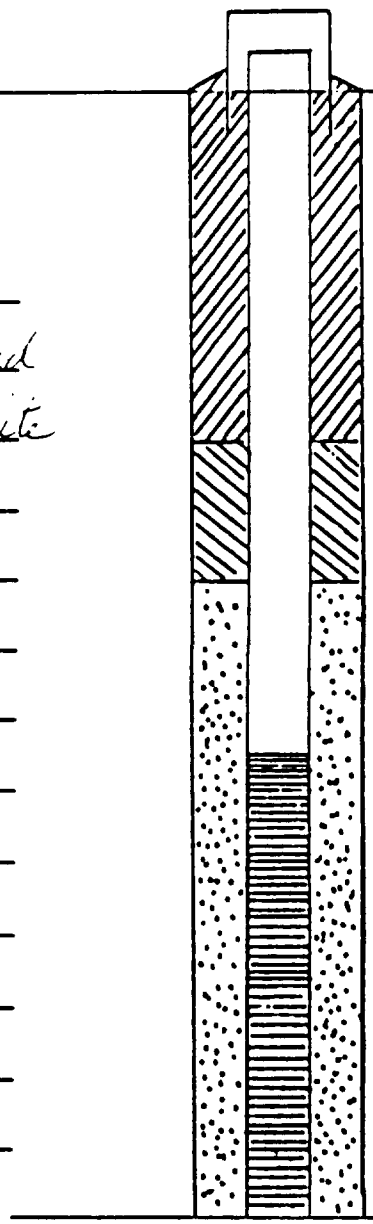
PROJECT: 6335

WELL NUMBER: MW-4D

DRILLING METHOD: Hollow Stem Auger

PROTECTIVE CASING HEIGHT (FEET ALS): 2.5'

LAND SURFACE



CASING: Stainless

GROUT: Portland

MATERIALS USED:

2.5 bags sand
1 bag bentonite

TOP OF BENTONITE (FEET BLS): 9' (14')

TOP OF SAND PACK (FEET BLS): 14' (12')

TOP OF SCREEN (FEET BLS): 20' (22')

SCREEN: Stainless

SLOT: .010

SAND: 20/30

TOTAL DEPTH (FEET BLS): 30'

COMPLETION DATE: 9-26-91

LOGGED BY: L. Morrison

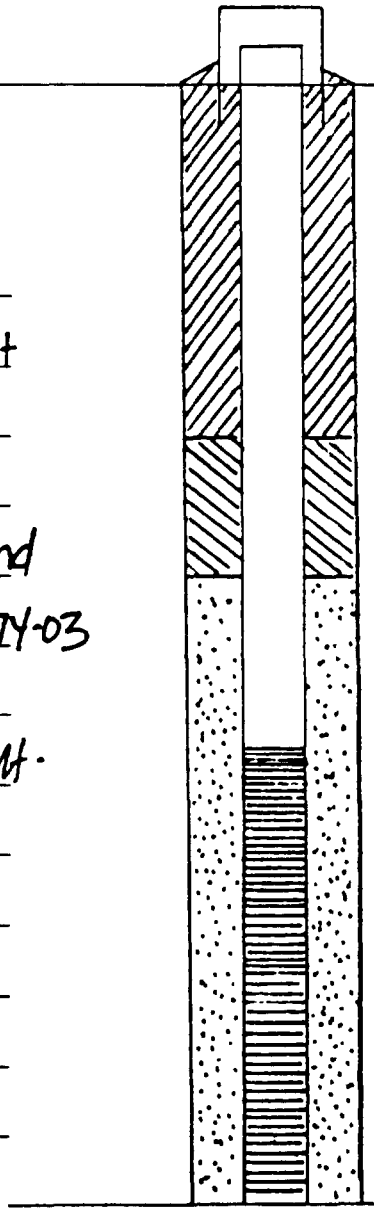
3 10 0702

WELL COMPLETION LOG

PROJECT: Chevron Orlando

WELL NUMBER: MW-3S

DRILLING METHOD: Hollow Stem Auger



LAND SURFACE

2 PROTECTIVE CASING HEIGHT (FEET ALS) 0

CASING: stainless steel

GROUT: portland cement

MATERIALS USED:

Enviroplug Lot #14299323

20/30 silica Sand Lot #AV-529TY-03

portland cement - type I.

1 TOP OF BENTONITE (FEET BLS) 3

3 TOP OF SAND PACK (FEET BLS) 15

5 TOP OF SCREEN (FEET BLS) 15

SCREEN: stainless steel

SLOT: 0.010 inch

SAND: 20/30 Silica

TOTAL DEPTH (FEET BLS) 15

COMPLETION DATE: 8/25/93

LOGGED BY: K. Tobin

3 10 0703

WELL COMPLETION LOG

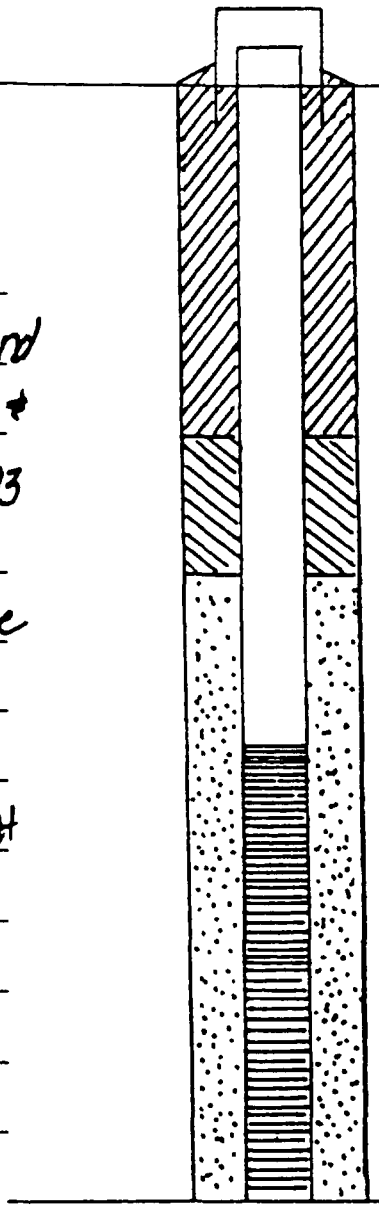
PROJECT: Chevron Orlando

WELL NUMBER: MW-3D

DRILLING METHOD: Hollow Stem Auger

PROTECTIVE CASING HEIGHT (FEET ALS): 2 / 0

LAND SURFACE



CASING: stainless steel

GROUT: portland cement

MATERIALS USED:

20/30 Silica sand
Lot# AV-52974-03 &
1-PPV-1946-SE-1-93

Volclay Bentonite pellets # 2-1-93

portland cement type I

TOP OF BENTONITE (FEET BLS): -8 / -15

TOP OF SAND PACK (FEET BLS): -15 / -30

TOP OF SCREEN (FEET BLS): -20 / -30

SCREEN: stainless steel

SLOT: 0.010 inch

SAND: 20/30 Silica

TOTAL DEPTH (FEET BLS): -30

COMPLETION DATE: 8/26/93

LOGGED BY: P. Krouse

3 10 0704

WELL COMPLETION LOG

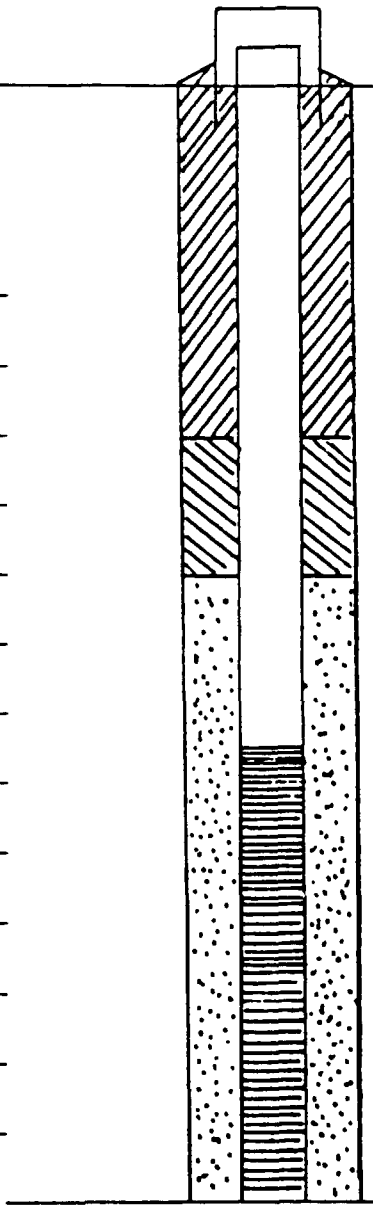
PROJECT: Chevron Orlando

WELL NUMBER: MW-5S

DRILLING METHOD: Hollow Stem Auger

PROTECTIVE CASING HEIGHT (FEET ALS) _____

LAND SURFACE



CASING: Stainless steel

MATERIALS USED:

GROUT: Portland cement

-1 TOP OF BENTONITE (FEET BLS) -3

-3 TOP OF SAND PACK (FEET BLS) -15

-5 TOP OF SCREEN (FEET BLS) -15

SCREEN: Stainless steel

SLOT: 0.010 inch

SAND: 20/30 silica

TOTAL DEPTH (FEET BLS) 15

COMPLETION DATE: 8/10/93

LOGGED BY: P. Krouse

3 10 0705

WELL COMPLETION LOG

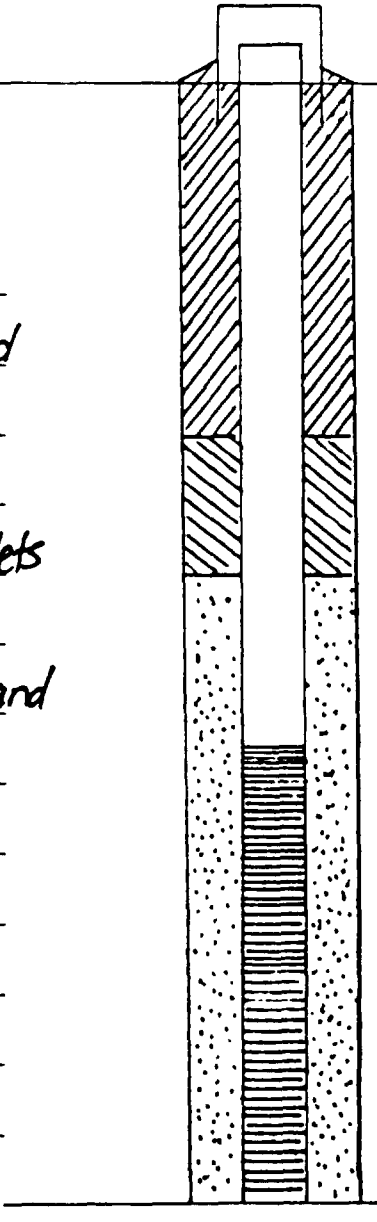
PROJECT: Chevron Orlando

WELL NUMBER: MW-5D

DRILLING METHOD: Hollow Stem Auger

PROTECTIVE CASING HEIGHT (FEET ALS): _____

LAND SURFACE



CASING: Stainless steel

GROUT: Portland Cement

MATERIALS USED:

Fl. Silica sand

Enviroplug - bentonite pellets

Lonestar Portland Cement type I

-6 TOP OF BENTONITE (FEET BLS) -18

-18 TOP OF SAND PACK (FEET BLS) -30

-20 TOP OF SCREEN (FEET BLS) -30

SCREEN: Stainless steel

SLOT: 0.010 inch

SAND: 20/30 silica

TOTAL DEPTH (FEET BLS) -30

COMPLETION DATE: 8/10/93

LOGGED BY: A. Krause

3 10 0706

WELL COMPLETION LOG

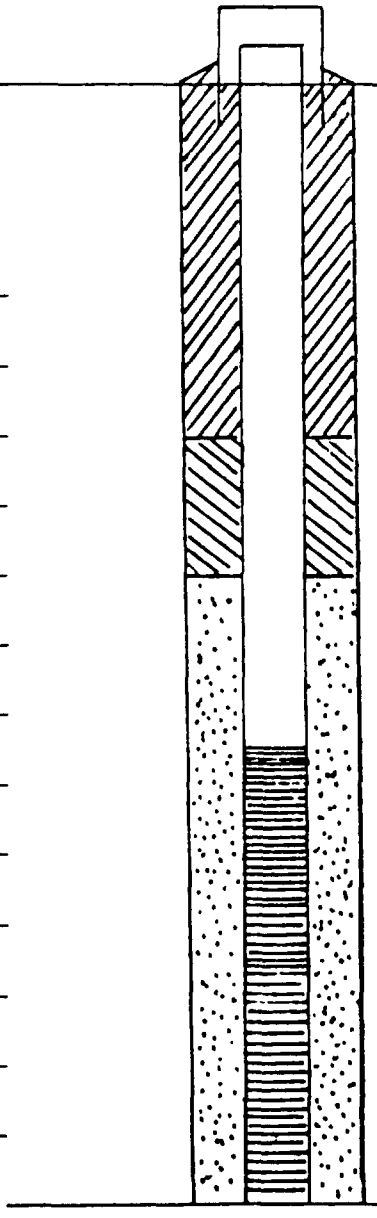
PROJECT: Chevron Orlando

WELL NUMBER: MW-6S

DRILLING METHOD: Hollow stem Auger

PROTECTIVE CASING HEIGHT (FEET ALS): Flush

LAND SURFACE



CASING: Stainless steel

GROUT: portland cement

MATERIALS USED:

-1 TOP OF BENTONITE (FEET BLS) -3

-3 TOP OF SAND PACK (FEET BLS) -15

-5 TOP OF SCREEN (FEET BLS) -15

SCREEN: Stainless steel

SLOT: 0.010-inch

SAND: 20/30 silica

TOTAL DEPTH (FEET BLS) 15

COMPLETION DATE: 8/12/93

LOGGED BY: T. Tobin

3 10 0707

WELL COMPLETION LOG

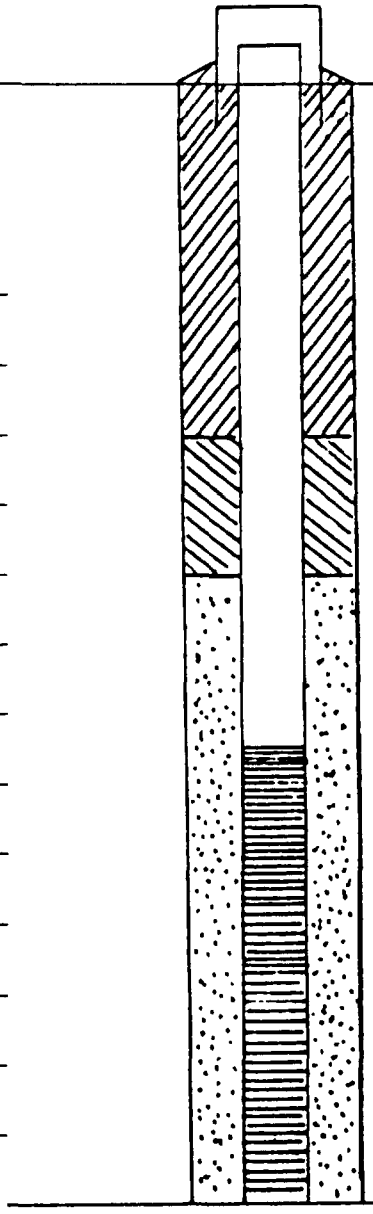
PROJECT: Chevron · Orlando

WELL NUMBER: MW-6D

DRILLING METHOD: Hollow Stem Auger

PROTECTIVE CASING HEIGHT (FEET ALS) _____

LAND SURFACE



CASING: stainless steel

MATERIALS USED:

GROUT: portland cement

-10 TOP OF BENTONITE (FEET BLS) -13

-13 TOP OF SAND PACK (FEET BLS) -30

-20 TOP OF SCREEN (FEET BLS) -30

SCREEN: Stainless Steel

SLOT: 0.010-inch

SAND: 20/30 silica

TOTAL DEPTH (FEET BLS) 30

COMPLETION DATE: 8/16/93

LOGGED BY: K. Tobin

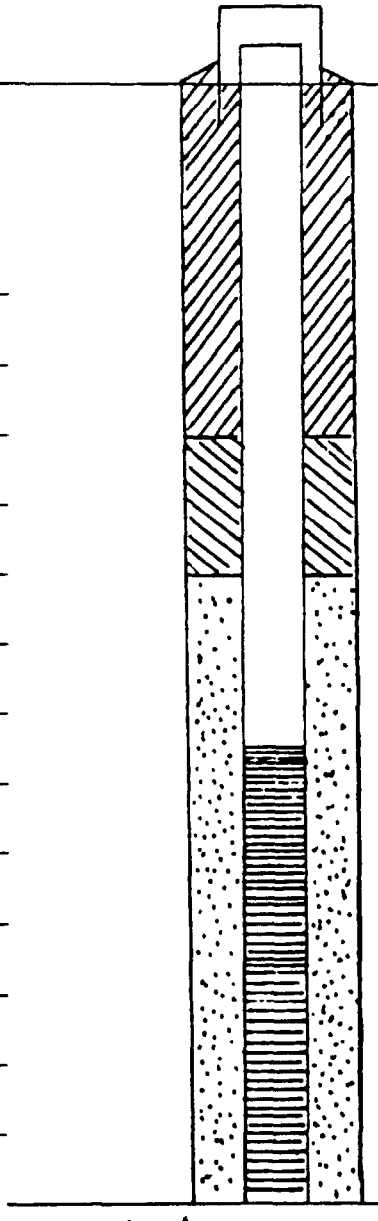
3 10 0708

WELL COMPLETION LOG

PROJECT: Chevron Orlando

WELL NUMBER: MW-7S

DRILLING METHOD: Hollow Stem Auger



LAND SURFACE

PROTECTIVE CASING HEIGHT (FEET ALS): 2 — 0

CASING: Stainless steel

GROUT: portland cement

MATERIALS USED:

TOP OF BENTONITE (FEET BLS): -1 — -3

TOP OF SAND PACK (FEET BLS): -3 — -15

TOP OF SCREEN (FEET BLS): -5 — -15

SCREEN: Stainless steel

SLOT: 0.010 inch

SAND: 20/30 silica

TOTAL DEPTH (FEET BLS): -15

COMPLETION DATE: 8/16/93

LOGGED BY: K. Tobin

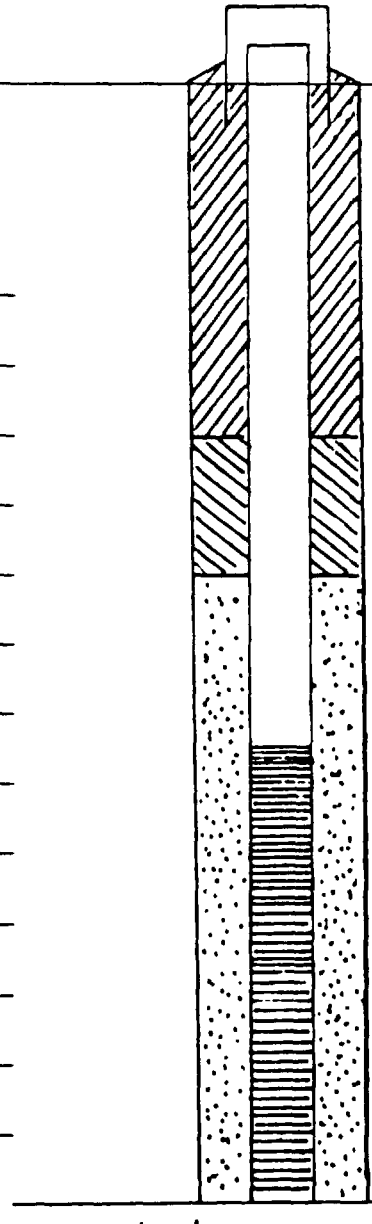
3 10 0709

WELL COMPLETION LOG

PROJECT: Chevron Orlando

WELL NUMBER: MW-7D

DRILLING METHOD: Hollow Stem Auger



PROTECTIVE CASING HEIGHT (FEET ALS): 2 / 0

LAND SURFACE

CASING: stainless steel

GROUT: portland cement

MATERIALS USED:

TOP OF BENTONITE (FEET BLS): -7 / -17

TOP OF SAND PACK (FEET BLS): -17 / -30

TOP OF SCREEN (FEET BLS): -20 / -30

SCREEN: stainless steel

SLOT: 0.010 -inch

SAND: 20/30 silica

TOTAL DEPTH (FEET BLS): 30

COMPLETION DATE: 8/17/93

LOGGED BY: K. Tobin

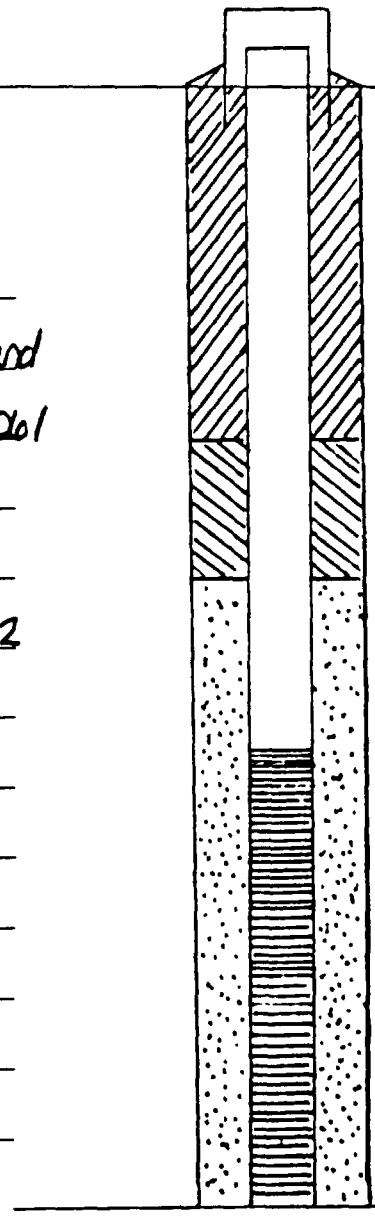
3 10 0710

WELL COMPLETION LOG

PROJECT: Chevron Orlando

WELL NUMBER: MW-8S

DRILLING METHOD: Hollow Stem Auger



2 PROTECTIVE CASING HEIGHT (FEET ALS) 0

LAND SURFACE

CASING: Stainless steel

GROUT: portland cement

MATERIALS USED:

20/30 Silica sand
lot # B0305.0061

Envirodug
lot # 05049322

-1 TOP OF BENTONITE (FEET BLS) -3

-3 TOP OF SAND PACK (FEET BLS) -15

-5 TOP OF SCREEN (FEET BLS) -15

SCREEN: Stainless steel

SLOT: 0.010-inch

SAND: 20/30 Silica

TOTAL DEPTH (FEET BLS) -15

COMPLETION DATE: 8/17/93

LOGGED BY: K. Tobin

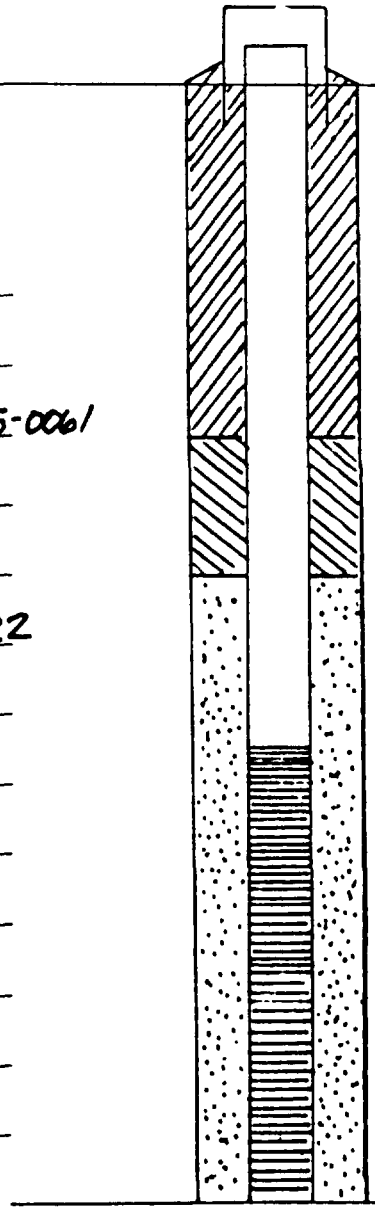
3 10 0711

WELL COMPLETION LOG

PROJECT: Chevron Orlando

WELL NUMBER: MW-8D

DRILLING METHOD: Hollow Stem Auger



LAND SURFACE

PROTECTIVE CASING HEIGHT (FEET ALS): 3 / 0

CASING: Stainless steel

GROUT: portland

MATERIALS USED:

20/30 silica Sand lot #R0305-0061

Enviroplug Lot #05049322

TOP OF BENTONITE (FEET BLS): -6 / -16.5

TOP OF SAND PACK (FEET BLS): -16.5 / -30

TOP OF SCREEN (FEET BLS): -20 / -30

SCREEN: stainless steel

SLOT: 0.010 inch

SAND: 20/30 Silica

TOTAL DEPTH (FEET BLS): -30

COMPLETION DATE: 8/18/93

LOGGED BY: K. Tobin

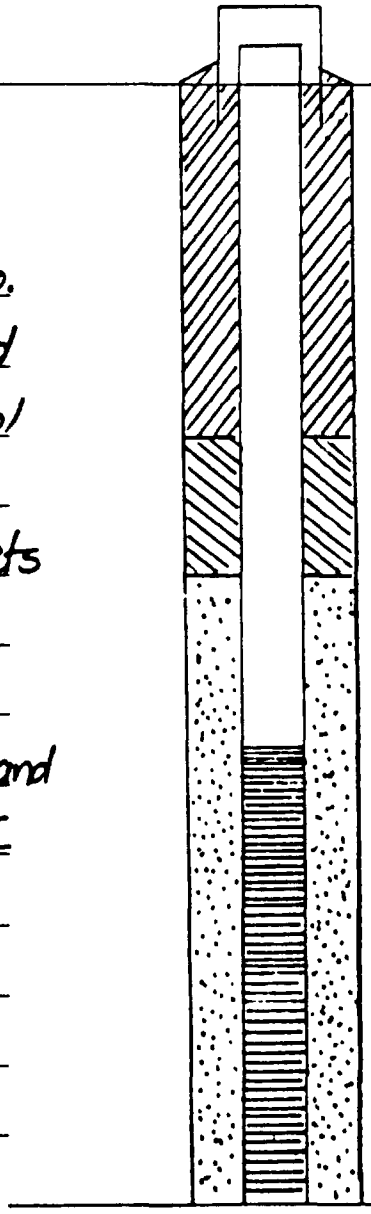
3 10 0712

WELL COMPLETION LOG

PROJECT: Chevron Orlando

WELL NUMBER: MW-9D

DRILLING METHOD: Hollow Stem Auger



LAND SURFACE

2 PROTECTIVE CASING HEIGHT (FEET ALS) 0

CASING: stainless steel

GROUT: portland cement

MATERIALS USED:

FL Silica sand Co.

20/30 silica sand

Lot# R0305-0061

Bentonite Pellets

#14808-60-7

Lonestar Portland Cement type I

6 TOP OF BENTONITE (FEET BLS) 17

17 TOP OF SAND PACK (FEET BLS) -30

-20 TOP OF SCREEN (FEET BLS) -30

SCREEN: stainless steel

SLOT: 0.010 inch

SAND: 20/30 Silica

TOTAL DEPTH (FEET BLS) 30

COMPLETION DATE: 8/19/93

LOGGED BY: K. Tobin

3 10 0713

WELL COMPLETION LOG

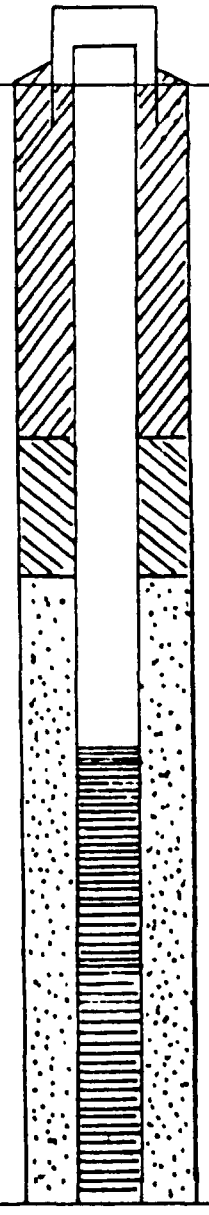
PROJECT: Chevron Orlando

WELL NUMBER: PZ-10-NE

DRILLING METHOD: Hollow Stem Auger

PROTECTIVE CASING HEIGHT (FEET ALS) _____

LAND SURFACE



CASING: PVC

GROUT: –

MATERIALS USED:

FL. silica Sand 20/30 # R0305-0061

Enviroplug #0504/9322

0 TOP OF BENTONITE (FEET BLS) 14

14 TOP OF SAND PACK (FEET BLS) 27

17 TOP OF SCREEN (FEET BLS) 27

SCREEN: PVC

SLOT: 0.010-inch

SAND: 20/30 silica

TOTAL DEPTH (FEET BLS) 27

COMPLETION DATE: 8/19/93

LOGGED BY: K. Tobin

3 10 0714

WELL COMPLETION LOG

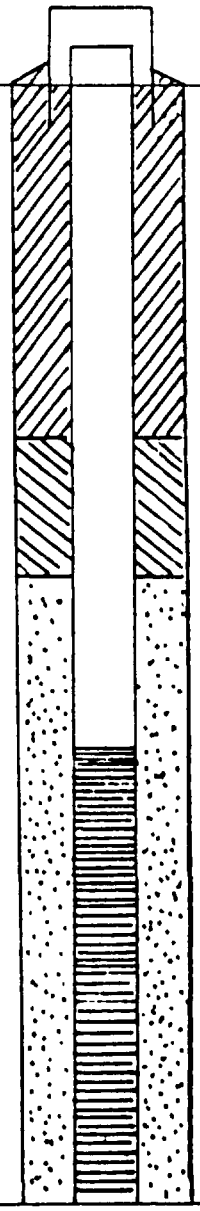
PROJECT: Chevron Orlando

WELL NUMBER: PZ-10-E

DRILLING METHOD: Hollow Stem Auger

PROTECTIVE CASING HEIGHT (FEET ALS) _____

LAND SURFACE



CASING: stainless steel

GROUT: portland cement

MATERIALS USED:

20/30 Silica Sand
Lot# 1-PPV-19-46-
SE R1C56 9901/VP2/W020

Enviroplug Lot
#04299323

8 TOP OF BENTONITE (FEET BLS) 15

15 TOP OF SAND PACK (FEET BLS) 27

17 TOP OF SCREEN (FEET BLS) 27

SCREEN: stainless steel

SLOT: 0.010-inch

SAND: 20/30 silica

TOTAL DEPTH (FEET BLS) 27

COMPLETION DATE: 8/25/93

LOGGED BY: K. Tobin

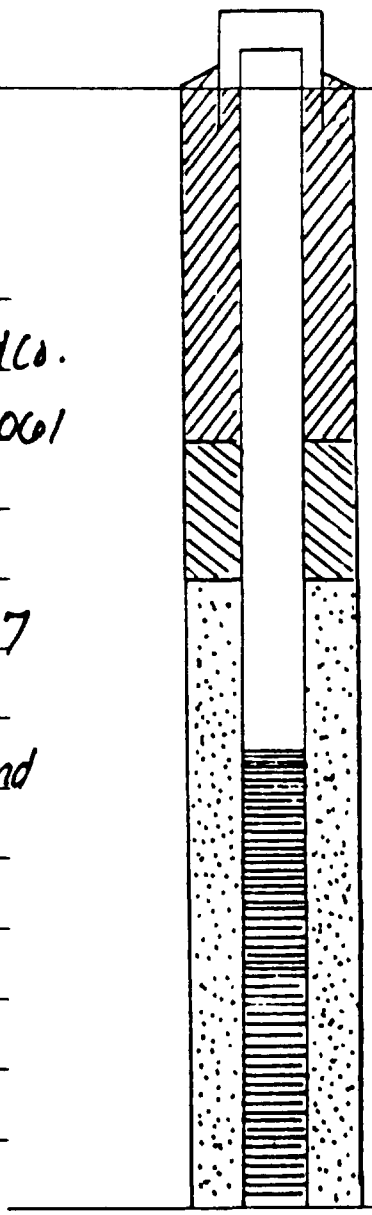
3 10 0715

WELL COMPLETION LOG

PROJECT: Chevron Orlando

WELL NUMBER: MW-10S

DRILLING METHOD: Hollow Stem Auger



2 PROTECTIVE CASING HEIGHT (FEET ALS) 0

LAND SURFACE

CASING: stainless steel

GROUT: portland cement

MATERIALS USED:

FL Silica Sand Co.
Lot # B0305-0061

Bentonite
CAS# 14808-60-7

Lonestar Portland cement, type I

1 TOP OF BENTONITE (FEET BLS) 3

3 TOP OF SAND PACK (FEET BLS) 15

5 TOP OF SCREEN (FEET BLS) 15

SCREEN: stainless steel

SLOT: 0.010 inch

SAND: 20/30 silica

TOTAL DEPTH (FEET BLS) 15

COMPLETION DATE: 8/20/93

LOGGED BY: K. Tobin

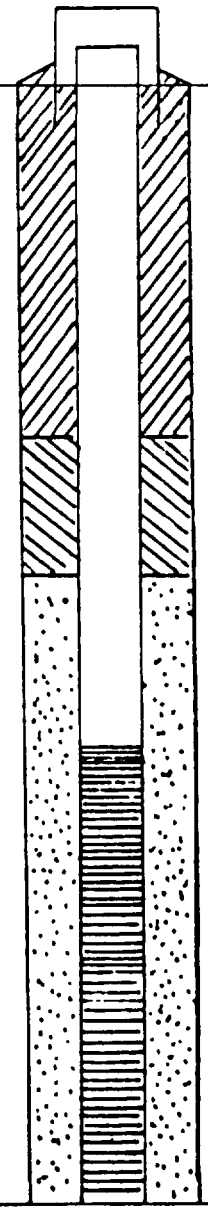
3 10 0716

WELL COMPLETION LOG

PROJECT: Chevron Orlando

WELL NUMBER: MW-10D

DRILLING METHOD: Hollow Stem Auger



LAND SURFACE

PROTECTIVE CASING HEIGHT (FEET ALS): 2 / 0

CASING: Stainless steel-4"

GROUT: portland cement

MATERIALS USED:

Vol Clay / Pure Gold Bentonite

FL. Silica Sand Co. Lot # AV-52974-03

Portland cement type I

TOP OF BENTONITE (FEET BLS): 8 / 15

TOP OF SAND PACK (FEET BLS): 15 / 27

TOP OF SCREEN (FEET BLS): 17 / 27

SCREEN: Stainless steel-4"

SLOT: 0.010-inch

SAND: 20/30 Silica

TOTAL DEPTH (FEET BLS): 27

COMPLETION DATE: 8/25/93

LOGGED BY: K. Tobin

3 10 0717

WELL COMPLETION LOG

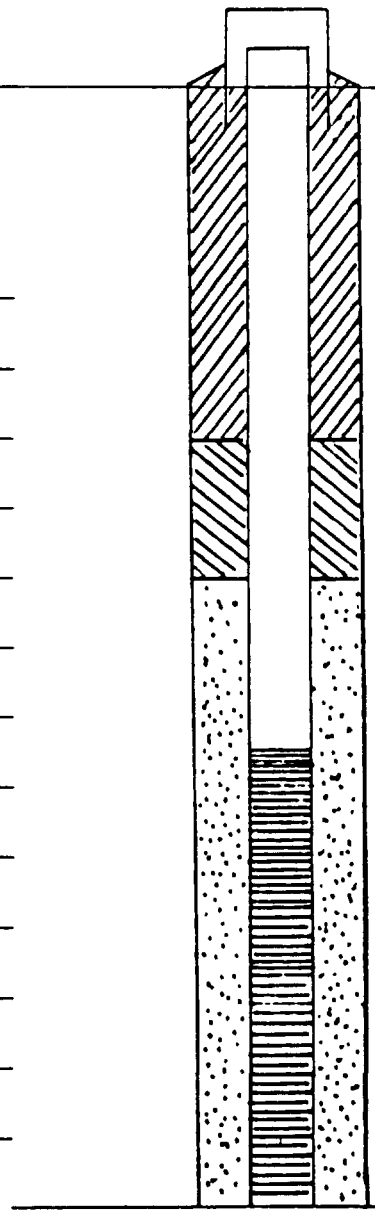
PROJECT: Chevron Orlando

WELL NUMBER: MW-11

DRILLING METHOD: Hollow Stem Auger

PROTECTIVE CASING HEIGHT (FEET ALS) _____

LAND SURFACE



CASING: _____

MATERIALS USED:

GROUT: portland cement

6 TOP OF BENTONITE (FEET BLS) 8

8 TOP OF SAND PACK (FEET BLS) 20

10 TOP OF SCREEN (FEET BLS) 20

SCREEN: _____

SLOT: 0.010 inch

SAND: 20/30 silica

TOTAL DEPTH (FEET BLS) 20

COMPLETION DATE: 9/22/93

LOGGED BY: K. Tobin

3 10 0718

WELL COMPLETION LOG

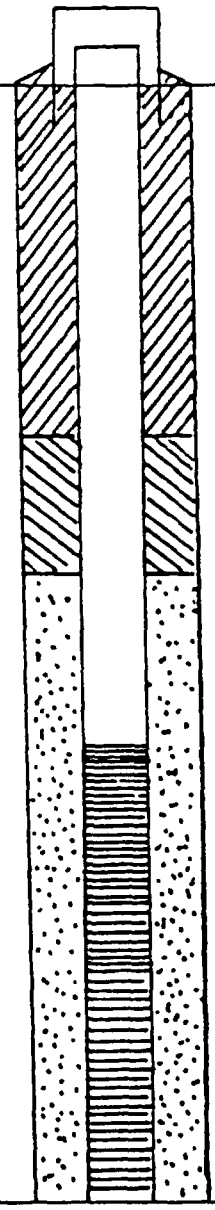
PROJECT: Chevron Orlando

WELL NUMBER: MW-13

DRILLING METHOD: Hollow Stem Auger

PROTECTIVE CASING HEIGHT (FEET ALS) _____

LAND SURFACE



CASING: _____

MATERIALS USED:

GROUT: portland cement

6 TOP OF BENTONITE (FEET BLS) 8

8 TOP OF SAND PACK (FEET BLS) 20

10 TOP OF SCREEN (FEET BLS) 20

SCREEN: _____

SLOT: 0.010 inch

SAND: 20/30 Silica

TOTAL DEPTH (FEET BLS) 20

COMPLETION DATE: 9/22/93

LOGGED BY: K. Tobin

3 10 0719

WELL COMPLETION LOG

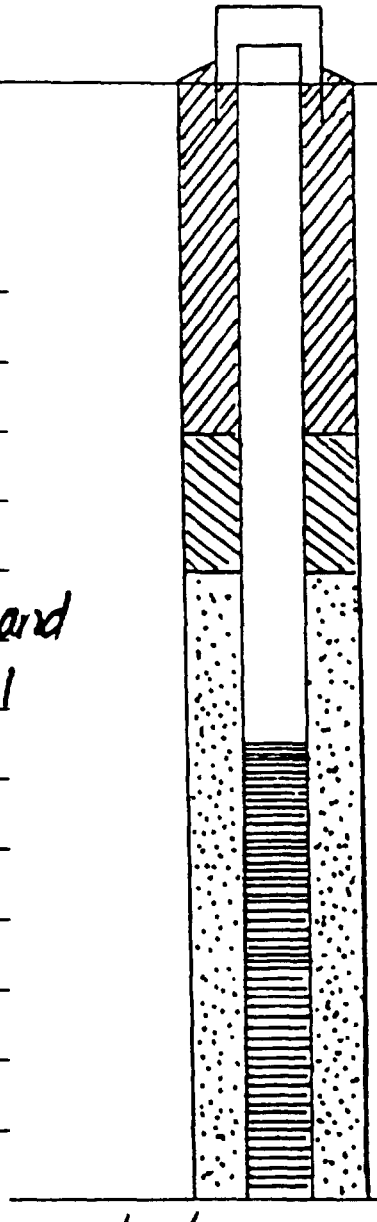
PROJECT: Chevron Orlando

WELL NUMBER: MW-14

DRILLING METHOD: Mud rotary

PROTECTIVE CASING HEIGHT (FEET ALS): 2.5

LAND SURFACE: 0



CASING: 10-inch PVC

GROUT: portland cement

MATERIALS USED:

Natural Gel. Slurry mud # 00029.0050

Manatee portland cement Type I lot # 64000858

TOP OF BENTONITE (FEET BLS):

TOP OF SAND PACK (FEET BLS):

TOP OF SCREEN (FEET BLS): 90

SCREEN: Stainless steel

SLOT: 0.010-inch

SAND: 20/30 silica

TOTAL DEPTH (FEET BLS): 90

COMPLETION DATE: 9/16/93

LOGGED BY: SKT

3 10 0720

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY) PERMIT NO. N/A

TASK ENVIRONMENTAL (Owner) 710 S. HOWARD (Address) TAMPA (City) FLORIDA (State) 33606-2415 (Zip) well mw3S

(Contractors Signature) 2805 (License No.) 9-17-93 (Completion Date) 5 (CASING DEPTH) 16 (Total Depth)

HOMER RODGERS (Drillers Signature) (Registration No.)

Type of work: Construct X Repair ____ Abandon ____
Well Use: Private ____ Public ____ Monitor X Irrigation ____
Industrial ____ Recharge ____ Other ____
Method: Rotary ____ Cable Tool ____ Jet ____ Combination ____
Other AUGER
Casing: Black Steel ____ Galvanized ____ PVC ____ Other SS
Screened From 5 Ft. to 15 Ft.
Bags of Grout 9 Interval Grouted 0 Ft. to 13 Ft.
Static Water Level 7 Ft. below Top of Casing
Pumping Water Level ____ Ft. after ____ Hrs. at ____ GPM
Pump Size ____ H.P. Capacity ____ GPM

N

WELL LOCATION
Address 3100 W. ORANGE
BLOSSOM TRAIL, ORLANDOP
Subdivision Lot #
25 ORANGE
Latitude - Longitude
County ORANGE
23 (Section) 22S (Township) 29E (Range)

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/13			0	13	HOLE PLUG 2 BAGS
2"/3			13	16	20/30 SAND 7 BAGS
	2"	5	0	6	SAND
	2"	5	6	16	SILTY CLAY

Cuttings sent to District? ( ) Yes ( ) No

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY) PERMIT NO. N/A

TASK ENVIRONMENTAL (Owner) 710 S. HOWARD (Address) TAMPA (City) FLORIDA (State) 33606-2415 (Zip) WELL MW 3D

(Contractors Signature) 2805 (License No.) 9-28-93 (Completion Date) 20 (CASING DEPTH) 31 (Total Depth)

HOMER RODGERS (Drillers Signature) (Registration No.)

Type of work: Construct X Repair ____ Abandon ____
Well Use: Private ____ Public ____ Monitor X Irrigation ____
Industrial ____ Recharge ____ Other ____
Method: Rotary ____ Cable Tool ____ Jet ____ Combination ____
Other AUGER
Casing: Black Steel ____ Galvanized ____ PVC ____ Other SS
Screened From 20 Ft. to 30 Ft.
Bags of Grout 11.5 Interval Grouted 0 Ft. to 31 Ft.
Static Water Level 7 Ft. below Top of Casing
Pumping Water Level ____ Ft. after ____ Hrs. at ____ GPM
Pump Size ____ H.P. Capacity ____ GPM

N

WELL LOCATION
Address 3100 W. ORANGE
BLOSSOM TRAIL, ORLANDO
Subdivision Lot #
Latitude - Longitude
County ORANGE
23 (Section) 23S (Township) 29E (Range)

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/17			0	17	HOLE PLUG 3.5 bags
2"/14			17	31	20/30 SAND 8 bags
	2"	8	0	8	SAND
	2"	22	8	30	SANDY SAND
	2"	1	30	31	CLAY

Cuttings sent to District? ( ) Yes ( ) No

3 10 0721

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

TASK ENVIRONMENTAL (Owner) 710 S. HOWARD (Address) TAMPA (City) FLORIDA (State) 33606-2415 (Zip) WELL NO. 5S

Contractors Signature: 2805 (License No.) 8-14-93 (Completion Date) 5 (CASING DEPTH) 16 (Total Depth)

CHRIS SPANGLER (Drillers Signature) Registration No.

Type of work: Construct X Repair ____ Abandon ____

Well Use: Private ____ Public ____ Monitor X Irrigation ____

Industrial ____ Recharge ____ Other ____

Method: Rotary ____ Cable Tool ____ Jet ____ Combination ____

Other AUGER

Casing: Black Steel ____ Galvanized ____ PVC ____ Other SS

Screened From 0 Ft. to 5 Ft.

Bags of Grout 7.25 Interval Grouted 0 Ft. to 16 Ft.

Static Water Level 8 Ft. below Top of Casing

Pumping Water Level ____ Ft. after ____ Hrs. at ____ GPM

Pump Size ____ H.P. Capacity ____ GPM

N

WELL LOCATION

Address 3100 O. ORANGE BLOSSOM TRAIL, ORLANDO

Subdivision Lot #

Latitude - Longitude

County ORANGE

23 Section 22S Township 29E Range

Located Near

Grout Thickness & Depth	Casing Diam	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/3			0	3	HOLE PLUG 1.25 bags
2"/13			3	16	20/30 SAND 6 bags
	2	5	0	16	SAND

Cuttings sent to District? ( ) Yes ( ) No

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

TASK ENVIRONMENTAL (Owner) 710 S. HOWARD (Address) TAMPA (City) FLORIDA (State) 33606-2415 (Zip) WELL NO. 5S

Contractors Signature: 2805 (License No.) 8-12-93 (Completion Date) 20 (CASING DEPTH) 31 (Total Depth)

Drillers Signature Registration No.

Type of work: Construct X Repair ____ Abandon ____

Well Use: Private ____ Public ____ Monitor X Irrigation ____

Industrial ____ Recharge ____ Other ____

Method: Rotary ____ Cable Tool ____ Jet ____ Combination ____

Other AUGER

Casing: Black Steel ____ Galvanized ____ PVC ____ Other SS

Screened From 0 Ft. to 30 Ft.

Bags of Grout 13 Interval Grouted 10 Ft. to 18 Ft.

Static Water Level 9 Ft. below Top of Casing

Pumping Water Level ____ Ft. after ____ Hrs. at ____ GPM

Pump Size ____ H.P. Capacity ____ GPM

N

WELL LOCATION

Address 3100 W. ORANGE BLOSSOM TRAIL, ORLANDO

Subdivision Lot #

Latitude - Longitude

County ORANGE

23 Section 22S Township 29E Range

Located Near

Grout Thickness & Depth	Casing Diam	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/8			10	18	HOLE PLUG 2 bags
2"/13			18	31	20/30 SAND 11 BAGS
	2	31	0	31	SAND

Cuttings sent to District? ( ) Yes ( ) No

3 10 0722

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

Owner: TASK ENVIRONMENTAL | Address: 710 S. HOWARD | City: TAMPA | State: FLORIDA | Zip: 33606-2415 WELL MW 6S

Contractors Signature | License No.: 2805 | Completion Date: 8-12-93 | CASING DEPTH: 5 | Total Depth: 16

Drillers Signature: CHRIS SPANGERO | Registration No.

Type of work: Construct X Repair ____ Abandon ____

Well Use: Private ____ Public ____ Monitor X Irrigation ____

Industrial ____ Recharge ____ Other ____

Method: Rotary ____ Cable Tool ____ Jet ____ Combination ____

Other AUGER

Casing: Black Steel ____ Galvanized ____ PVC ____ Other SS

Screened From 5 Ft. to 15 Ft.

Bags of Grout 7.5 Interval Grouted 0 Ft. to 15 Ft.

Static Water Level 9 Ft. below Top of Casing

Pumping Water Level ____ Ft. after ____ Hrs. at ____ GPM

Pump Size ____ H.P. Capacity ____ GPM

N

WELL LOCATION

Address 3100 W. ORANGE BLOSSOM TRAIL, ORLANDO

Subdivision Lot #

Latitude - Longitude

County ORANGE

Section 23 Township 22S Range 29E

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/3			0	3	HOLE PLUG .5 bags
2"/12			3	15	20/30 SAND 7 bags
	2	5	0	15	SAND

Cuttings sent to District? ( ) Yes ( ) No

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

Owner: TASK ENVIRONMENTAL | Address: 710 S. HOWARD | City: TAMPA | State: FLORIDA | Zip: 33606-2415 MWSD

Contractors Signature | License No.: 2809 | Completion Date: 8-19-93 | CASING DEPTH: 20 | Total Depth: 31

Drillers Signature: ROGER RODGERS | Registration No.

Type of work: Construct X Repair ____ Abandon ____

Well Use: Private ____ Public ____ Monitor X Irrigation ____

Industrial ____ Recharge ____ Other ____

Method: Rotary ____ Cable Tool ____ Jet ____ Combination ____

Other AUGER

Casing: Black Steel ____ Galvanized ____ PVC ____ Other SS

Screened From 20 Ft. to 30 Ft.

Bags of Grout 12.5 Interval Grouted 0 Ft. to 31 Ft.

Static Water Level 10 Ft. below Top of Casing

Pumping Water Level ____ Ft. after ____ Hrs. at ____ GPM

Pump Size ____ H.P. Capacity ____ GPM

N

WELL LOCATION

Address 3100 ORANGE BLOSSOM TRAIL, ORLANDO

Subdivision Lot #

Latitude - Longitude

County ORANGE

Section 23 Township 22S Range 29E

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/17			0	17	HOLE PLUG 5.5 BAGS
2"/14			17	31	20/30 SAND 7 bags
	2"	31	0	31	SAND

Cuttings sent to District? ( ) Yes ( ) No

3 10 0723

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

TASK ENVIRONMENTAL (Owner) 710 S. HOWARD (Address) TAMPA (City) FLORIDA (State) 33606-2415 (Zip) WELL MWRS

Contractors Signature | 2805 (License No.) | 8-19-93 (Completion Date) | 58 (CASING DEPTH) | 15 (Total Depth)

HOMER RODGERS (Drillers Signature) | Registration No.

Type of work: Construct X Repair ____ Abandon ____

Well Use: Private ____ Public ____ Monitor X Irrigation ____

Industrial ____ Recharge ____ Other ____

Method: Rotary ____ Cable Tool ____ Jet ____ Combination ____

Other AUGER

Casing: Black Steel ____ Galvanized ____ PVC ____ Other SS

Screened From 5 Ft. to 15 Ft.

Bags of Grout 7.75 Interval Grouted 0 Ft. to 16 Ft.

Static Water Level 8 Ft. below Top of Casing

Pumping Water Level ____ Ft. after ____ Hrs. at ____ GPM

Pump Size ____ H.P. Capacity ____ GPM

N

WELL LOCATION

Address 3100 W. ORANGE BLOSSOM TRAIL, ORLANDO

Subdivision | Lot #

Latitude - Longitude

County ORANGE

23 (Section) 22S (Township) 29E (Range)

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/3			0	3	HOLE PLUG .75 bags
2"/13			3	16	20/30 SAND 7 bags
	2	5	00	5	SAND
	2	11	5	16	SILTY SAND

Cuttings sent to District? ( ) Yes ( ) No

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

TASK ENVIRONMENTAL (Owner) 710 S. HOWARD (Address) TAMPA (City) FLORIDA (State) 33606-2415 (Zip) WELL MW7

Contractors Signature | 2805 (License No.) | 8-18-93 (Completion Date) | 20 (CASING DEPTH) | 31 (Total Depth)

HOMER RODGERS (Drillers Signature) | Registration No.

Type of work: Construct X Repair ____ Abandon ____

Well Use: Private ____ Public ____ Monitor X Irrigation ____

Industrial ____ Recharge ____ Other SS

Method: Rotary ____ Cable Tool ____ Jet ____ Combination ____

Other AUGER

Casing: Black Steel ____ Galvanized ____ PVC ____ Other SS

Screened From 20 Ft. to 30 Ft.

Bags of Grout 10.5 Interval Grouted 0 Ft. to 31 Ft.

Static Water Level 8 Ft. below Top of Casing

Pumping Water Level ____ Ft. after ____ Hrs. at ____ GPM

Pump Size ____ H.P. Capacity ____ GPM

N

WELL LOCATION

Address 3100 W. ORANGE BLOSSOM TRAIL, ORLANDO

Subdivision | Lot #

Latitude - Longitude

County ORANGE

22 (Section) 22S (Township) 29E (Range)

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/17			0	17	HOLE PLUG 3.5 Bags
2"/14			17	31	20/30 SAND 7 BAGS
	2	5	0	5	SAND
	2	25	5	30	SILTY SAND
	2	1	30	31	Clay

Cuttings sent to District? ( ) Yes ( ) No

3 10 0724

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

Owner	Address	City	State	Zip
TASK ENVIRONMENTAL	710 S. HOWARD	TAMPA	FLORIDA	33606-2415 WELL MW8S

Contractors Signature	License No.	Completion Date	CASING DEPTH	Total Depth
	2805	8-19-93	5	15

Drillers Signature: HOEMR RODGERS — Registration No.:

Type of work: Construct X Repair ___ Abandon ___

Well Use: Private ___ Public ___ Monitor X Irrigation ___

Industrial ___ Recharge ___ Other SS

Method: Rotary ___ Cable Tool ___ Jet ___ Combination ___

Other AUGER

Casing: Black Steel ___ Galvanized ___ PVC ___ Other SS

Screened From 5 Ft. to 15 Ft.

Bags of Grout 7.75 Interval Grouted 0 Ft. to 15 Ft.

Static Water Level 89 Ft. below Top of Casing

Pumping Water Level ___ Ft. after ___ Hrs. at ___ GPM

Pump Size ___ H.P. Capacity ___ GPM

N

WELL LOCATION

Address 3100 ORANGE BLOSSOM TRAIL, ORLANDO

Subdivision ___ Lot # ___

Latitude - Longitude ___

County ORANGE

Section 23 Township 22S Range 29E

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/3			0	3	HOLE PLUG .75 bags
2"/12			3	15	20/30 SAND 7 bags
	2	10	0	10	SAND
	2	5	10	15	SILEY SAND
	2	5	10	15	

Cuttings sent to District? ( ) Yes ( ) No

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

Owner	Address	City	State	Zip
TASK ENVIRONMENTAL	710 S. HOWARD	TAMPA	FLORIDA	33606-2415 MW8D

Contractors Signature	License No.	Completion Date	CASING DEPTH	Total Depth
	2805	8-20-93	20	31

Drillers Signature: ___ Registration No.: ___

Type of work: Construct X Repair ___ Abandon ___

Well Use: Private ___ Public ___ Monitor X Irrigation ___

Industrial ___ Recharge ___ Other ___

Method: Rotary ___ Cable Tool ___ Jet ___ Combination ___

Other AUGER

Casing: Black Steel ___ Galvanized ___ PVC ___ Other SS

Screened From 20 Ft. to 30 Ft.

Bags of Grout 10.5 Interval Grouted 0 Ft. to 31 Ft.

Static Water Level 8 Ft. below Top of Casing

Pumping Water Level ___ Ft. after ___ Hrs. at ___ GPM

Pump Size ___ H.P. Capacity ___ GPM

N

WELL LOCATION

Address 3100 W. ORANGE BLOSSOM TRAIL, ORLANDO

Subdivision ___ Lot # ___

Latitude - Longitude ___

County ORANGE

Section 23 Township 22S Range 29E

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/17			0	17	HOLE PLUG 3.5 BAGS
2"/14			17	31	20/30 SAND 7 BAGS
	2	5	0	5	SAND
	2	25	5	30	SILTY SAND
	2	1	30	31	CLAY

Cuttings sent to District? ( ) Yes ( ) No

3 10 0725

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

TASK ENVIRONMENTAL (Owner) 710 S. HOWARD (Address) TAMPA (City) FLORIDA (State) 33606-2415 (Zip) ~~MW-9D~~

(Contractors Signature) 2805 (License No.) 8-20-93 (Completion Date) 20 (CASING DEPTH) 31 (Total Depth)

HOMER RODGERSS (Drillers Signature) (Registration No.)

Type of work: Construct X Repair ____ Abandon ____

Well Use: Private ____ Public ____ Monitor X Irrigation ____

Industrial ____ Recharge ____ Other ____

Method: Rotary ____ Cable Tool ____ Jet ____ Combination ____

Other AUGER

Casing: Black Steel ____ Galvanized ____ PVC ____ Other SS

Screened From 20 Ft. to 30 Ft.

Bags of Grout 12 Interval Grouted 0 Ft. to 31 Ft.

Static Water Level 10 Ft. below Top of Casing

Pumping Water Level ____ Ft. after ____ Hrs. at ____ GPM

Pump Size ____ H.P. Capacity ____ GPM

N

WELL LOCATION

Address 3100 W. ORANGE BLOSSOM TRAIL, ORANGE

Subdivision Lot #

Latitude - Longitude

County ORANGE

22 Section 22S Township 29E Range

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/17			0	17	HOLE PLUG 6 BAGS
2"/14			17	31	20/30 SAND 7 BAGS
	2	10	0	10	SAND
	2	20	10	30	SILTY SAND
	2	1	30	31	CLAY

Cuttings sent to District? ( ) Yes ( ) No

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

TASK ENVIRONMENTAL (Owner) 710 S. HOWARD (Address) TAMPA (City) FLORIDA (State) 33606-2415 (Zip) WELL MW10S

(Contractors Signature) 2805 (License No.) 8-22-93 (Completion Date) 17 (CASING DEPTH) 28 (Total Depth)

HOMER RODGERS (Drillers Signature) (Registration No.)

Type of work: Construct X Repair ____ Abandon ____

Well Use: Private ____ Public ____ Monitor X Irrigation ____

Industrial ____ Recharge ____ Other ____

Method: Rotary ____ Cable Tool ____ Jet ____ Combination ____

Other AUGER

Casing: Black Steel ____ Galvanized ____ PVC ____ Other SS

Screened From 17 Ft. to 27 Ft.

Bags of Grout 11 Interval Grouted 0 Ft. to 28 Ft.

Static Water Level 8 Ft. below Top of Casing

Pumping Water Level ____ Ft. after ____ Hrs. at ____ GPM

Pump Size ____ H.P. Capacity ____ GPM

N

WELL LOCATION

Address 3100 W. ORANGE BLOSSOM TRAIL, ORLANDO

Subdivision Lot #

Latitude - Longitude

County ORANGE

23 Section 22S Township 29E Range

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/15			0	15	HOLE PLUG 4 BAGS
2"/13			15	28	20/30 SAND 7 BAGS
	2"	8	0	8	SAND
	2"	18	8	26	SILTY SAND
	2"	2	26	28	CLAY

Cuttings sent to District? ( ) Yes ( ) No

3 10 0726

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

Owner: TASK ENVIRONMENTAL Address: 710 S. HOWARD City: TAMPA State: FLORIDA Zip: 33606-2415 MW 100

Contractors Signature: License No. 2805 Completion Date: 8-25-93 CASING DEPTH: 17 Total Depth: 28

Drillers Signature: HOMER RODGERS Registration No.

Type of work: Construct X Repair X Abandon ____

Well Use: Private ____ Public ____ Monitor X Irrigation ____

Industrial ____ Recharge ____ Other ____

Method: Rotary ____ Cable Tool ____ Jet ____ Combination ____

Other AUGER

Casing: Black Steel ____ Galvanized ____ PVC ____ Other SS

Screened From 17 Ft. to 27 Ft.

Bags of Grout 12 Interval Grouted 0 Ft. to 28 Ft.

Static Water Level 10 Ft. below Top of Casing

Pumping Water Level ____ Ft. after ____ Hrs. at ____ GPM

Pump Size ____ H.P. Capacity ____ GPM

N

WELL LOCATION

Address 3100 W. ORANGE Blossom Trail, ORLANDO

Subdivision Lot #

Latitude - Longitude

County ORANGE

Section 22 Township 22S Range 29E

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/15			0	15	HOLE PLUG & BAGS
8"/13			15	28	20/30 SAND 8 BAGS
	2	8	0	8	SAND
	2	19	8	27	SILTY SAND
	2	1	27	28	CLAY

Cuttings sent to District? ( ) Yes ( ) No

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

Owner: TASK ENVIRONMENTAL Address: 710 S. HOWARD City: TAMPA State: FLORIDA Zip: 33606-2415 WELL MW10PZ1

Contractors Signature: License No. 2805 Completion Date: 8-26-93 CASING DEPTH: 18 Total Depth: 28

Drillers Signature: Registration No.

Type of work: Construct X Repair ____ Abandon ____

Well Use: Private ____ Public ____ Monitor XZ Irrigation ____

Industrial ____ Recharge ____ Other ____

Method: Rotary ____ Cable Tool ____ Jet ____ Combination ____

Other AUGER

Casing: Black Steel ____ Galvanized ____ PVC ____ Other ____

Screened From 17 Ft. to 27 Ft.

Bags of Grout 19 Interval Grouted 0 Ft. to 28 Ft.

Static Water Level ____ Ft. below Top of Casing

Pumping Water Level ____ Ft. after ____ Hrs. at ____ GPM

Pump Size ____ H.P. Capacity ____ GPM

N

WELL LOCATION

Address 3100 W. ORANGE BLOSSOM TRAIL, ORLANDO

Subdivision Lot #

Latitude - Longitude

County ORANGE

Section 22 Township 22S Range 29E

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/15			0	15	HOLE PLUG, 7 BAGS
8"/13			15	23	20/30/SAND 12 BAGS
	2	8	0	8	SAND
	2	19	8	27	SILTY & SHARPY SAND
	8	1	27	28	CLAY

Cuttings sent to District? ( ) Yes ( ) No

3 10 0727

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

Owner	Address	City	State	Zip
TASK ENVIRONMENTAL	710 S. HOWARD	TAMPA, FLORIDA	33606-2415	WELL MW11

Contractors Signature	License No.	Completion Date	CASING DEPTH	Total Depth
	2805	8-23-93	10	20

Drillers Signature: SANDY CARRICO Registration No.

Type of work: Construct X Repair ____ Abandon ____

Well Use: Private ____ Public ____ Monitor X Irrigation ____

Industrial ____ Recharge ____ Other ____

Method: Rotary ____ Cable Tool ____ Jet ____ Combination ____

Other AUGER

Casing: Black Steel ____ Galvanized ____ PVC ____ Other SS

Screened From 10 Ft. to 20 Ft.

Bags of Grout 9 Interval Grouted 0 Ft. to 20 Ft.

Static Water Level ____ Ft. below Top of Casing

Pumping Water Level ____ Ft. after ____ Hrs. at ____ GPM

Pump Size ____ H.P. Capacity ____ GPM

N

WELL LOCATION

Address 3100 W. ORANGE BLOSSOM TRAIL, ORLANDO

Subdivision Lot #

Latitude - Longitude

County ORANGE

22 (Section) 22S (Township) 29E (Range)

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/8			0	8	HOLE PLUG 2 BAGS
2"/12			8	20	20/30 SAND 7 BAGS
	2	8	0	8	SAND
	2	12	8	20	SILTY SAND
	2	1	20	21	SAND CLAY

Cuttings sent to District? ( ) Yes ( ) No

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

Owner	Address	City	State	Zip
TASK ENVIRONMENTAL	710 S. HOWARD	TAMPA, FLORIDA	33606-2415	WELL MW12

Contractors Signature	License No.	Completion Date	CASING DEPTH	Total Depth
	2805	8-23-93	10	20

Drillers Signature: SANDY CARRICO Registration No.

Type of work: Construct X Repair ____ Abandon ____

Well Use: Private ____ Public ____ Monitor X Irrigation ____

Industrial ____ Recharge ____ Other ____

Method: Rotary ____ Cable Tool ____ Jet ____ Combination ____

Other AUGER

Casing: Black Steel ____ Galvanized ____ PVC ____ Other SS

Screened From 10 Ft. to 20 Ft.

Bags of Grout 9 Interval Grouted 0 Ft. to 20 Ft.

Static Water Level 9 Ft. below Top of Casing

Pumping Water Level ____ Ft. after ____ Hrs. at ____ GPM

Pump Size ____ H.P. Capacity ____ GPM

N

WELL LOCATION

Address ORANGE, ORANGE BLOSSOM TRAIL, ORLANDO

Subdivision Lot #

Latitude - Longitude

County ORANGE

22 (Section) 22S (Township) 29E (Range)

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/8			0	8	HOLE PLUG 2 BAGS
2"/12			8	20	20/30 SAND 7 BAGS
	8	8	0	8	SAND
	2	12	8	20	SILTY SAND
	2	1	20	21	SAND CLAY

Cuttings sent to District? ( ) Yes ( ) No

3 10 0728

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

Owner	Address	City	State	Zip
TASK ENVIRONMENTAL	710 S. HOWARD	TAMPA, FLORIDA	33606-2415	WELL MW13

Contractors Signature	License No.	Completion Date	CASING DEPTH	Total Depth
	2805	9-23-93	10	20

Drillers Signature: SANDY CARRICO — Registration No.

Type of work: Construct X Repair ___ Abandon ___

Well Use: Private ___ Public ___ Monitor X Irrigation ___

Industrial ___ Recharge ___ Other ___

Method: Rotary ___ Cable Tool ___ Jet ___ Combination ___

Other AUGER

Casing: Black Steel ___ Galvanized ___ PVC ___ Other SS

Screened From 10 Ft. to 20 Ft.

Bags of Grout 9 Interval Grouted 0 Ft. to 20 Ft.

Static Water Level ___ Ft. below Top of Casing

Pumping Water Level ___ Ft. after ___ Hrs. at ___ GPM

Pump Size ___ H.P. Capacity ___ GPM

N

WELL LOCATION

Address 3100 W. ORANGE BLOSSOM TRAIL, ORLANDO

Subdivision ___ Lot # ___

Latitude - Longitude ___

County ORANGE

Section	Township	Range
22	22S	29E

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
2"/8			0	8	HOLE PLUG 2 BAGS
8"/12			8	20	20/30 SAND 7 BAGS
	2	8	0	8	SAND
	2	12	8	20	SILTY SAND
	2	1	20	21	SAND CLAY

Cuttings sent to District? ( ) Yes ( ) No

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

Owner	Address	City	State	Zip
TASK ENVIRONMENTAL	710 S. HOWARD	TAMPA	FLORIDA	33606-2415

Contractors Signature	License No.	Completion Date	CASING DEPTH	Total Depth
	2805	9-20-93	93	95 WELL#4DF

Drillers Signature: HOMER RODGERS — Registration No.

Type of work: Construct X Repair ___ Abandon ___

Well Use: Private ___ Public ___ Monitor X Irrigation ___

Industrial ___ Recharge ___ Other ___

Method: Rotary ___ Cable Tool ___ Jet ___ Combination ___

Other AUGER

Casing: Black Steel ___ Galvanized ___ PVC ___ Other ___

Screened From 83 Ft. to 95 Ft.

Bags of Grout 29 Interval Grouted 0 Ft. to 985 Ft.

Static Water Level ___ Ft. below Top of Casing

Pumping Water Level ___ Ft. after ___ Hrs. at ___ GPM

Pump Size ___ H.P. Capacity ___ GPM

N

WELL LOCATION

Address 3100WQ ORANGE BLOSSOM TRAIL ORLANDO

Subdivision ___ Lot # ___

Latitude - Longitude ___

County ORANGE

Section	Township	Range
23	22S	29E

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
10/80 ~~100/80~~			0	80	HOLE PLUG 23 bags
2"/15			80	95	20 ~~220~~/30 SAND 6 bags
	2	10	0	10 ~~80~~	SAND
	2	18	10	28	SILTY SAND
	2	50	28	76	GREEN CLAY
	2	17	78	95	GRAY LIMEROCK W/CLAY STREAKS

Cuttings sent to District? ( ) Yes ( ) No

3 10 0729

WELL COMPLETION REPORT (USE BALL POINT PEN - PRESS FIRMLY)

PERMIT NO. N/A

TASK ENVIRONMENTAL (Owner) 710 S. HOWARD (Address) TAMPA (City) FLORIDA (State) 33606-2415 (Zip)

(Contractors Signature) (License No.) 9-16-93 (Date) CASING DEPTH Total Depth

HOMER RODGERS (Driller's Signature) (Registration No.)

Type of work: Construct _____ Repair _____ Abandon X

Well Use: Private _____ Public _____ Monitor _____ Irrigation _____

Industrial _____ Recharge _____ Other _____

Method: Rotary _____ Cable Tool _____ Jet _____ Combination _____

Other _____

Casing: Black Steel _____ Galvanized _____ PVC _____ Other _____

Screened From _____ Ft. to _____ Ft.

Bags of Grout 4 Interval Grouted _____ Ft. to _____ Ft.

Static Water Level _____ Ft. below Top of Casing

Pumping Water Level _____ Ft. after _____ Hrs. at _____ GPM

Pump Size _____ H.P. Capacity _____ GPM

N

WELL LOCATION

Address 3100 W. ORANGE BLOSSOM TRAIL, ORLANDO

Subdivision Lot #

Latitude - Longitude

County ORANGE

22 Section 22S Township 29E Range

Located Near

Grout Thickness & Depth	Casing Diam.	Casing Depth	Depth (ft.) From	Depth (ft.) To	Examine cuttings at 20 ft. or smaller intervals and at changes. Give color, grain-size and type of material. Note any cavities. Indicate producing zones. Attach additional sheets if necessary.
					PLUGGED - 5 WELLS
15					MWM - .66 BAGS CEMENT
30					MWK - 1 BAG
15					MWL - .66 BAG
80					MW3D - 1 BAG
155					MW3S - .66 BAG

Cuttings sent to District? ( ) Yes ( ) No

3 10 0730

APPENDIX C
PURGE RECORDS

3 10 0731

WELL SAMPLING PURGE RECORD

SITE: Chevron Orlando

WELL CODE: CO-MW-A

DATE: 9/28/93

SAMPLERS: PEK, SKT, BHS

MEASURING POINT: N.

TOTAL DEPTH (TD): 19.90 FT.

WATER LEVEL (WL): 11.74 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 8.16 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

2.58 gal/30 sec
5 gal/min

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal/ft^3) 1.39 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 4.16 TO 6.95 GAL.

9 gal

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	45	1:45	2:45		
pH	5.8	5.8	5.8		
TEMPERATURE	27°C	27°C	27°C		
CONDUCTIVITY	350	350	352		
COLOR	brown	brown	brown		
CLARITY	cloudy	cloudy	cloudy		

COMMENTS: ~6 min pumping time

3 10 0732

WELL SAMPLING PURGE RECORD

SITE: Chevron Orlando

WELL CODE: CO-MW-D

DATE: 9/28/93

SAMPLERS: ZEK, SKT, BWS

MEASURING POINT: N.

TOTAL DEPTH (TD): 20.0 FT.

WATER LEVEL (WL): 8.80 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 11.21 FT.

18 sec/2.25

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal/ft^3) 1.91 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 5.72 TO 9.55 GAL.

8 sec/gal

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	[illegible]	[illegible]	[illegible]		
pH	6.0	6.0	6.0		
TEMPERATURE	27°C	27°C	27°C		
CONDUCTIVITY	350	300	300		
COLOR	brown	brown	brown		
CLARITY	cloudy	cloudy	cloudy		

COMMENTS: pumped for ~5 min

3 10 0733

Needs 54 gallons in Amber glass to Houston/-
Also- 1 extra Amber liter
Sulfate
Nitrate
Phosphate
?

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: CO-MW-P

DATE: 9/28/93

SAMPLERS: PEK, BWS, SKT

MEASURING POINT: N.

TOTAL DEPTH (TD): 26.01 FT.

WATER LEVEL (WL): 13.02 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 11.99 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal/ft^3) 2.04 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 6.11 TO 10.2 GAL. 30sec/gal

5l/min

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	1:15	2:30	4:00	5:30	6:30
pH	5.6	5.4	5.4	5.4	5.4
TEMPERATURE	30°	29°	29°	29°	29
CONDUCTIVITY	280	275	264	250	250
COLOR	pale yell	pale yel	yellow	N/C	NC
CLARITY	cloudy	cloudy	partly cldy	clear	clear

COMMENTS: 12 min pump time

3 10 0734

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: CO-MW-1S

DATE: 9/28/93

SAMPLERS: PEK, BWJ, SKT

MEASURING POINT: N.

TOTAL DEPTH (TD): 14.98 FT.

WATER LEVEL (WL): 10.06 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 4.92 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal./ft^3) .84 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 2.51 TO 4.2 GAL.

40 sec
2.25 cy

74 sec

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	1:15	2:00	3:15		
pH	5.4	5.4	5.4		
TEMPERATURE	30°	30°	30°		
CONDUCTIVITY	510	510	510		
COLOR	pale yellow	pale yellow	pale yellow		
CLARITY	clear	clear	clear		

COMMENTS: foamy stinky

4 min 40 sec pump time.

3 10 0735

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: CO-MW-1D

DATE: 9/28/93

SAMPLERS: SKT, PEK, BLS

MEASURING POINT: N.

TOTAL DEPTH (TD): 29.56 FT.

WATER LEVEL (WL): 10.05 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 19.51 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal./ft^3) 3.32 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 9.96 TO 16.6 GAL.

1 min/2 gal

8½ min

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	1:30	2:30	3:45	5:00	6:30
pH	4.7	5.2	5.2	5.3	5.3
TEMPERATURE	32°C	32°	31°	31°	31°
CONDUCTIVITY	300	300	250	250	250
COLOR	pale yellow	pale yellow	—	pale yellow	pale yellow
CLARITY	clear			partly cloudy	cloudy

COMMENTS: pump [illegible] 5 min

3 10 0736

WELL SAMPLING PURGE RECORD

SITE: Cherton

WELL CODE: CO-MW-2S

DATE: 9/28/93

SAMPLERS: PEK, SKT, BWJ

MEASURING POINT: N.

TOTAL DEPTH (TD): 14.90 FT.

WATER LEVEL (WL): 7.37 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 7.53 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

30/2.25gal

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal/ft^3) 1.28 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 3.84 TO 6.4 GAL.

85 sec

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	1:30	2:30	3:30	5:00	
pH	6.4	6.4	6.4	6.4	
TEMPERATURE	27°C	27°C	27°C	27°C	
CONDUCTIVITY	700	700	750	750	
COLOR					
CLARITY					

COMMENTS: pm in pumphouse

3 10 0737

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: CD-MW-2D

DATE: 9/28/93

SAMPLERS: DEL, SKT, BWS

MEASURING POINT: M.

TOTAL DEPTH (TD): 28.99 FT.

WATER LEVEL (WL): ~~[illegible]~~ 7.31 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 21.68 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

45 sec
2.25 gal

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal/ft^3): 3.7 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 11.1 TO 18.5 GAL.

6 min 15 sec.

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	1:10	2:15	3:30	5:30	6:15
pH	6.1	6.1	6.1	6.1	6.1
TEMPERATURE	29°C	28°	28°	28°	[illegible]
CONDUCTIVITY	350	300	300	250	250
COLOR	yellow	pale		pale	
CLARITY	clear	clear	[illegible]	clear	[illegible]

COMMENTS: [illegible]

3 10 0738

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: CO-MW-3S

DATE: 9/28/93

SAMPLERS: PEK, BWJ, SKT

MEASURING POINT: N.

TOTAL DEPTH (TD): 1729 FT.

WATER LEVEL (WL): 9.11 FT. Dupe
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 8.18 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.) 1.5 min/gal.
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal/ft^3) 1.39 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 4.17 TO 6.95 GAL.

10.5 min

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	5:00	6:30	7:30	9:00	10:00
pH	7.6	7.6	7.6	7.6	7.6
TEMPERATURE	32°	32°	32°	32°	32°
CONDUCTIVITY	410	410	410	400	400
COLOR	grayish	→	→	→	→
CLARITY	cloudy	→	→	→	→

COMMENTS: ~12 min pumptime.

3 10 0739

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: CO-MW-3D

DATE: 9/26/93

SAMPLERS: PEK, BWT, SKT

MEASURING POINT: N.

TOTAL DEPTH (TD): ~~31.~~ 32.02 FT.

WATER LEVEL (WL): 8.43 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

Eqpt blank

WATER COLUMN (h = TD - WL): 23.59 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

40 ml/gal

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal/ft^3) 4.01 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 12.03 TO 20.05 GAL.
6.67 min

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	1:30	1:40	4:00	5:30	7:00
pH	6.3	6.2	6.2	6.2	6.2
TEMPERATURE	28°C	28°	28°	28°	28°
CONDUCTIVITY	215	190	181	165	165
COLOR	greyish	→			→
CLARITY	cloudy	→			→

COMMENTS: 8:15 pm purge terminated

3 10 0740

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: 20-MW-4~~0~~5

DATE: 9/28/93

SAMPLERS: PEK, BWJ, SKT

MEASURING POINT: N.

TOTAL DEPTH (TD): ~~32.03~~ 18.02 FT.

WATER LEVEL (WL): ~~10.04~~ 10.69 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 21.99 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF. 1.26

WELL VOLUME IN GALLONS ($V \times 7.48$ gal/ft^3) ~~3.74~~ GAL. 6.3

PURGE VOLUME (3 to 5 WELL VOLUMES): ~~11.21~~ 3.77 TO ~~18.7~~ 5.25 GAL.
1000cc/3gal

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5	
TIME	4:[illegible]	6:30	7:30	9:30	10:30	13.00
pH	6.~~5~~	6.4	6.6	6.9	7.1	7.1
TEMPERATURE	34°	33~~[illegible]~~°	33°	32°	32°	32°
CONDUCTIVITY	490	490	490	490	490	490
COLOR	yellow	pale yellow		yellow	yellow	yellow
CLARITY	cloudy	partly cloudy		cloudy	cloudy	partly cloudy

COMMENTS: Stinky 15:30 pump turned

3 10 0741

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: CO-MW-48D

DATE: 9/28/93

SAMPLERS: PEK, BWS, SCT

MEASURING POINT: N.

TOTAL DEPTH (TD): ~~18.02~~ 32.03 FT.

WATER LEVEL (WL): ~~10.59~~ 10.04 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 7.43 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal./ft^3) ~~1.26~~ 3.74 GAL. 18.7 .85 min

PURGE VOLUME (3 to 5 WELL VOLUMES): ~~3.79~~ 11.21 TO ~~6.3~~ GAL.

8 sec/gal

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	:30	1:30	2:00		
pH	5.2	5.2	5.2		
TEMPERATURE	27°	26°	26°		
CONDUCTIVITY	180	180	180		
COLOR	yellow	yellow	yellow		
CLARITY	Cloudy	Cloudy	Cloudy		

COMMENTS: total pump time 4 minutes

3 10 0742

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: CO·MW·5S

DATE: 9/28/93

SAMPLERS: PSK, BWJ, SICT.

MEASURING POINT: N.

TOTAL DEPTH (TD): 14.84 FT.

WATER LEVEL (WL): 11.81 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 4.03 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = {}^1/_2\ d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal./ft^3) 0.685 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 2.05 TO 3.425 GAL.

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	2:30	4:15	5:15	7:15	
pH	6.3	6.3	6.4	6.4	
TEMPERATURE	28°C	28°C	28°C	28	
CONDUCTIVITY	400	400	400	400	
COLOR	brown	brown	brown	brown	
CLARITY	cloudy	cloudy	cloudy	cloudy	

COMMENTS: 8:35 pumping time

3 10 0743

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: CO-MW-5D

DATE: 9/28/93

SAMPLERS: PEK, SKT, BWJ

MEASURING POINT: N.

TOTAL DEPTH (TD): 29.47 FT.

WATER LEVEL (WL): 10.54 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 18.93 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal./ft^3) 3.22 GAL.

30 sec/gal

PURGE VOLUME (3 to 5 WELL VOLUMES): 9.66 TO 16.1 GAL.

4 min

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	1:00	2:00	3:00		
pH	5.6	5.6	5.6		
TEMPERATURE	25°C	25°C	25°C		
CONDUCTIVITY	300	300	300		
COLOR	Brown	Brown	Brown		
CLARITY	Cloudy	Cloudy	Cloudy		

COMMENTS: 5:20 pump time

3 10 0744

WELL SAMPLING PURGE RECORD

SITE: Chevron Orlando

WELL CODE: CO-MW-05

DATE: 9/28/93

SAMPLERS: PEK, BWT, SLT

MEASURING POINT: N.

TOTAL DEPTH (TD): 14.83 FT.

WATER LEVEL (WL): 9.81 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 5.02 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF. 0.85

WELL VOLUME IN GALLONS ($V \times 7.48$ gal/ft^3) ~~5.02~~ _____ GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 2.56 TO 4.25 GAL. 2 gal/2 min

m

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	2:30		4:00		
pH	6.0	6.0	6.0		
TEMPERATURE	30°C	30°C	30°C		
CONDUCTIVITY	300	300	300		
COLOR	gray-brn	gray-brn	gray-brn		
CLARITY	cloudy	cloudy	cloudy		

COMMENTS: 6:30 pump turn

3 10 0745

WELL SAMPLING PURGE RECORD

SITE: Chevron Orlando

WELL CODE: CO·MW·~~[illegible]~~ 6D

DATE: 9/28/93

SAMPLERS: PEK, SKT, BWK

MEASURING POINT: N.

TOTAL DEPTH (TD): ~~19.69~~ 29.75 FT.

WATER LEVEL (WL): ~~7.37~~ 9.67 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): ~~12.32~~ FT. 20.08

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal/ft^3) ~~2.09~~ 3.14 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): ~~6.28~~ 10.23 TO ~~10.45~~ 17.07 GAL. ← 1.5 min

5 1/3 sec/gal

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	:30	1:00	1:30		
pH	5.1	5.1	5.1		
TEMPERATURE	25°C	25	25		
CONDUCTIVITY	120°	120	120		
COLOR	pale greyish	greyish	grey		
CLARITY	cloudy	cloudy	[illegible]		

COMMENTS: 3 min 20 sec pump time.

3 10 0746

WELL SAMPLING PURGE RECORD

Field? Egpt Blank

SITE: Chevron

WELL CODE: CO-MW-7S

DATE: 9/28/95

SAMPLERS: PEK, BWJ, SKT

MEASURING POINT: N.

TOTAL DEPTH (TD): 17.08 FT.

WATER LEVEL (WL): 6.76 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 10.32 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

30 sec/2 gal

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal./ft^3) 1.75 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 5.26 TO 8.75 GAL.

FIELD MEASUREMENTS 2 1/4 min

WELL VOLUME	1	2	3	4	5
TIME	1:00	2:30	4:00	6:30	7:45
pH	6.5	6.5	6.5	6.5	6.5
TEMPERATURE	28°	28°	28°	28°	28°
CONDUCTIVITY	180	150	140	130	130
COLOR	yellow	yellow-brn	yell-brn		yellowish-brn
CLARITY		cloudy	cloudy		cloudy

COMMENTS: _____

3 10 0747

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: CO-MW-7D

DATE: 9/28/93

SAMPLERS: SLT, AEK, BWJ

MEASURING POINT: N.

TOTAL DEPTH (TD): 32.06 FT.

WATER LEVEL (WL): 6.48 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 25.58 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

7 gal/gal

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal./ft^3) 4.35 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 13.05 TO 21.75 GAL.

2.58 mw

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	1:15	2:00	3:00		
pH	5.8				
TEMPERATURE	26°	26°			
CONDUCTIVITY	95	[illegible]			
COLOR	grey		[illegible]		
CLARITY	cloudy	[illegible]	[illegible]		

COMMENTS: [illegible]

3 10 0748

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: CO-MW-8S

DATE: 9/28/93

SAMPLERS: PSK, BWJ, SKT

MEASURING POINT: N.

TOTAL DEPTH (TD): 17.25 FT.

WATER LEVEL (WL): 8.26 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 8.99 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal./ft^3) 1.53 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 4.58 TO 7.65 GAL.

25 sec
2 1/4 sec
4 1/4 sec

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	1:00	2:00	3:30		
pH	5.5	5.4	4		
TEMPERATURE	30°	30°	31		
CONDUCTIVITY	800	800	[illegible]	[illegible]	
COLOR	brown	brown		yellow-brown	
CLARITY	Cloudy	cm		[illegible]	

COMMENTS: 5 min 45 sec - pump time

3 10 0749

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: CO-MW-8D

DATE: 9/28/93

SAMPLERS: SKT, BWT, PEK

MEASURING POINT: _____

TOTAL DEPTH (TD): 31.61 FT.

WATER LEVEL (WL): 9.24 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 22.07 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

35scc/2¼ sec

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal./ft^3) 3.75 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 11.25 TO 18.75 GAL.

4.86

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	:45	[illegible]	3:15	4:15	5:45
pH	5.7	5.7	5.7	5.7	5.7
TEMPERATURE	29.5	28.5	28.5	28.5	28.5
CONDUCTIVITY	275	275	260	240	240
COLOR	yellow	–	grey	yellow	grey
CLARITY	clear	–	cloudy	cloudy	cloudy

COMMENTS: 7:45 pm, [illegible]

3 10 0750

CLP-like Report

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: CO-MW-9D

DATE: 9/28/93

SAMPLERS: DSK, DWJ, SCT

MEASURING POINT: N.

TOTAL DEPTH (TD): ~~31.28~~ 31.31 FT.

WATER LEVEL (WL): 8.72 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 22.59 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
(r = ½ d)

~~15 sec~~ 12.25 gal
27½.25

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal./ft^3) 3.84 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 11.52 TO 19.2 GAL.

Pump ran out of gas ~~2:13 min~~ 3.8 min

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	:30	:30	1:30	2:30	
pH	6.3	6.2	6.2	6.2	
TEMPERATURE		29°	~~27.29~~	29°	
CONDUCTIVITY		400	400	400	
COLOR		brown	brown	brown	
CLARITY		cloudy	cloudy	cloudy	

COMMENTS: 4min 45sec pump ran

3 10 0751

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: CO-MW-~~105~~ 105

DATE: 9/28/93

SAMPLERS: PEK, BWJ, SKT

MEASURING POINT: N

TOTAL DEPTH (TD): 17.22 FT.

WATER LEVEL (WL): 10.04 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 7.18 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

90 sec/2 gal

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal./ft^3) 1.22 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 3.66 TO 6.1 GAL.

1.87 min

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	3:15	4:15	6:30	7:00	8:00
pH	6.4	6.4	6.4	6.4	6.4
TEMPERATURE	35°	33°	33°	33°	33°
CONDUCTIVITY	195	220	195	190	195
COLOR	brown	brown	brown	brown	same
CLARITY		cloudy	cloudy	cloudy	

COMMENTS: 9:35 pump time

3 10 0752

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: COMW-10D

DATE: 9/28/93

SAMPLERS: PEK, BWT, SKT

MEASURING POINT: N.

TOTAL DEPTH (TD): 29.60 FT.

WATER LEVEL (WL): 11.15 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 18.45 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal/ft^3) 12.177 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 36.53 TO 60.89 GAL.
29 min 98 sec/2 gal

DUPE

.64

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5	
TIME	7:45	14:00	23:45	27:00	31:00	33:00
pH	6.0	6.2	6.2	6.0	6.0	6.0
TEMPERATURE	32°	32°	32°	32°	32°	32°
CONDUCTIVITY	255	245	230	220	220	220
COLOR	pale yellow	pale yellow	NC	pale yellow	pale yellow	pale yellow
CLARITY	clear	clear	clear	clear	clear	clear

COMMENTS: 35 min pump time.

3 10 0753

WELL SAMPLING PURGE RECORD

SITE: Chevron CO-PZ-NE-10

WELL CODE: ~~CO-MW-10N~~ (piezometer)

DATE: 9/28/93

SAMPLERS: PEK, BWT, SKT

MEASURING POINT: N.

TOTAL DEPTH (TD): 29.97 FT.

WATER LEVEL (WL): 10.10 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 19.87 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal/ft^3) 3.38 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 10.14 TO 16.9 GAL.

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME					
pH					
TEMPERATURE					
CONDUCTIVITY					
COLOR					
CLARITY					

COMMENTS: _____

3 10 0754

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: ~~CO-MW-10D 2-PZE~~ (CO-PZE-10D)

DATE: 9/28/93

SAMPLERS: SKT, PEK, BWS

MEASURING POINT: N.

TOTAL DEPTH (TD): 28.64 FT.

WATER LEVEL (WL): 12.23 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 16.41 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal./ft^3) 2.79 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 8.37 TO 13.95 GAL.

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME					
pH					
TEMPERATURE					
CONDUCTIVITY					
COLOR					
CLARITY					

COMMENTS: _____

3 10 0755

CLP-Like Report

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: CO-MW-11

DATE: 9/28/93

SAMPLERS: PEK, SKT, BWS

MEASURING POINT: N

TOTAL DEPTH (TD): 19.82 FT.

WATER LEVEL (WL): 7.22 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 12.6 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = \pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal/ft^3) 2.14 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 6.43 TO 10.7 GAL.

Pump out of gas - restart

5gal/1min

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	1:30	2:30	3:00	4:00	1:30
pH	5.6	5.6	5.4	5.4	5.4
TEMPERATURE	28°C	28°C	27.5°C	27°C	27°C
CONDUCTIVITY	300	250	290	200	200
COLOR	grey-brn	grey-brown	grey	greyish	greyish
CLARITY	cloudy	cloudy	cloudy	cloudy	cloudy

COMMENTS: presence of gas at 2:45

3 10 0756

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: ~~CO-MW-0D~~ CO-MW-12 Dupe

DATE: 9/28/93

SAMPLERS: PEK, SKT BWT

MEASURING POINT: N.

TOTAL DEPTH (TD): ~~29.75~~ 19.69 FT.

WATER LEVEL (WL): ~~8.07~~ 7.37 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): ~~20.08~~ FT. 12.32

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal/ft^3) ~~3.97~~ GAL. 2.07

PURGE VOLUME (3 to 5 WELL VOLUMES): ~~10.23~~ 6.28 TO ~~17.07~~ 10.45 GAL.

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	2"	3"	4.5	5.5	6.5
pH	5.6	5.4	5.4	5.3	5.4
TEMPERATURE	28	28	28	28	28
CONDUCTIVITY	120	120	110	110	110
COLOR	gray	gray	gray	gray	gray
CLARITY	cloudy	cloudy	cloudy	cloudy	cloudy

COMMENTS: 7:55 ~~[illegible]~~ pump time
min

3 10 0757

WELL SAMPLING PURGE RECORD

SITE: Chevron

WELL CODE: CO-MW-13

DATE: 9/28/93

SAMPLERS: PEK, SKT, BWT

MEASURING POINT: N

TOTAL DEPTH (TD): 19.72 FT.

WATER LEVEL (WL): 6.25 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 13.47 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal/ft^3) 2.29 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 6.87 TO 11.45 GAL.

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	4	5
TIME	2:30	3:00	3:30	4:30	[illegible]
pH	6.8	6.4	6.2	6.2	6.2
TEMPERATURE	31°C	27°C	29°C	29°C	29°C
CONDUCTIVITY	170	170	165	156	150
COLOR					
CLARITY					

COMMENTS: CO pump broke

3 10 0758

EPA Split CLP-Report Like

WELL SAMPLING PURGE RECORD

SITE: CHEVRON

WELL CODE: CO-MW-14

DATE: 9/28/93

SAMPLERS: PEK, SKT, BWJ

MEASURING POINT: N.

TOTAL DEPTH (TD): 93.71 FT.

WATER LEVEL (WL): 30.58 FT.
(WL = HOLD - WET)

HOLD AT: _____ FT.

WET AT: _____ FT.

WATER COLUMN (h = TD - WL): 63.13 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17ft.; 4 in. = 0.33ft.)
($r = \frac{1}{2} d$)

VOLUME ($V = 2\pi \times r^2 \times h$): _____ CF.

WELL VOLUME IN GALLONS ($V \times 7.48$ gal/ft^3) 10.73 GAL.

PURGE VOLUME (3 to 5 WELL VOLUMES): 32.20 TO 53.65 GAL.

9/30/93 - shut pump

FIELD MEASUREMENTS

WELL VOLUME	1	2	3	0822	5	
TIME	80 min	100 min	120 min	1 hr.	1 hr. 5 min	1hr-10mi
pH	8.4	8.4	8.4	7.9	7.8	7.8
TEMPERATURE	24°C	24°C	24°C	24°	24°	24°
CONDUCTIVITY	350	350	350	350	350	350
COLOR	pale yellow	No color	NO COLOR	NC	no color	nc
CLARITY	clear	clear	CLEAR	clear	clear	clear.

COMMENTS: _____

3 10 0759

WELL SAMPLING PURGE RECORD

SITE: Chem Orlando

WELL CODE: GW-MW-A

DATE: 4/27/93

SAMPLERS: AJT AJM SCK

MEASURING POINT: TOC

TOTAL DEPTH (TD): 19.7 FT. WATER LEVEL (WL): 11.21 FT.

WATER COLUMN (h = TD - WL): 8.49 FT.

DIAMETER (d): .17 FT. (2 in. = 0.17 ft.; 4 in. = 0.33 ft.)

VOLUME (V = 0.785 x d^2 x h): .385 CF. $2\pi r^2 = 0.0454$

WELL VOLUME IN GALLONS (V x 7.5): 2.88 GAL.

PURGE VOLUME (3 - 5 WELL VOLUMES): 8.6 TO _____ GAL.

FIELD MEASUREMENTS 2 galls in 45 second

2.67 gpm

8
+1.34
9.34

WELL VOLUME:	1	2	3	4	5
TIME:	45 sec	3.37	Pump off		
pH:	6.4	6.0			
TEMPERATURE:	26°C	25°C			
CONDUCTIVITY:	225	255			
COLOR:	Brown	Brown			
CLARITY:		Clear			

COMMENTS: 9.34 gallons pumped

3 10 0760

WELL SAMPLING PURGE RECORD

SITE: Chevron Orlando

WELL CODE: MW 0

DATE: 4/27/93

SAMPLERS: AJT AWM SKT

MEASURING POINT: TOC

19
8.24

TOTAL DEPTH (TD): 19.9 FT. WATER LEVEL (WL): 8.24 FT.

WATER COLUMN (h = TD - WL): 11.66 FT.

DIAMETER (d): .17 FT. (2 in. = 0.17 ft.; 4 in. = 0.33 ft.)

VOLUME (V = 0.785 x d^2 x h): .52 CF.

WELL VOLUME IN GALLONS (V x 7.5): 3.96 GAL.

PURGE VOLUME (3 - 5 WELL VOLUMES): 11.8 TO _____ GAL.

FIELD MEASUREMENTS

11:41 start

2 gall in 25 sec
2 gall in 33 sec

WELL VOLUME:	1	2	3	4	5
TIME: Min Secs	1.25	2.30	4.05	5.35	7.30
pH:	6.0	6.0	6.0	6.0	6.0
TEMPERATURE:	25.5	23.5	23.5	23.5	23.5
CONDUCTIVITY:	450	310	310	310	310
COLOR:	Brown				
CLARITY:					

9 min shut off

36 gallons

COMMENTS:

3 10 0761

WELL SAMPLING PURGE RECORD

SITE: Chevron Orlando

WELL CODE: MW-P

DATE: 4/27/93

SAMPLERS: AJT, AJM, SKT

MEASURING POINT: TOC

TOTAL DEPTH (TD): 24.97 FT. WATER LEVEL (WL): 12.57 FT.

WATER COLUMN (h = TD - WL): 12.40 FT.

DIAMETER (d): .17 FT. (2 in. = 0.17 ft.; 4 in. = 0.33 ft.)

VOLUME (V = 0.785 x d^2 x h): .563 CF.

WELL VOLUME IN GALLONS (V x 7.5): 4.22 GAL.

PURGE VOLUME (3 - 5 WELL VOLUMES): 12.7 TO _____ GAL.

FIELD MEASUREMENTS

√ collected w/bailer

WELL VOLUME:	1	2	3	4	5
TIME:	2' D	~~13~~ 45			
pH:	5.5-5.6	5.2			
TEMPERATURE:	23	23			
CONDUCTIVITY:	250	225			
COLOR:	Brown	BROWN			
CLARITY:	Milky	MILKY			

COMMENTS:

3 10 0762

1543 purging

WELL SAMPLING PURGE RECORD

SITE: Cheron Orlando

WELL CODE: MW-M

DATE: 4/27/93

SAMPLERS: AJT, SKT, AJM

MEASURING POINT: TOC

TOTAL DEPTH (TD): 19.25 FT. WATER LEVEL (WL): 12.22 FT.

WATER COLUMN (h = TD - WL): 7.03 FT.

DIAMETER (d): .17 FT. (2 in. = 0.17 ft.; 4 in. = 0.33 ft.)

VOLUME (V = 0.785 x d^2 x h): .319 CF.

WELL VOLUME IN GALLONS (V x 7.5): 2.40 GAL.

PURGE VOLUME (3 - 5 WELL VOLUMES): 7.18 TO _____ GAL.

2 GPM

FIELD MEASUREMENTS

WELL VOLUME:	1	2	3	4	5
TIME:	1'	2'30"	5'06"	6'30"	
pH:	5.4	4.9	4.7	4.7	
TEMPERATURE:	24	23.5	23.5	23.5	
CONDUCTIVITY:	455	310	405	390	
COLOR:	Brown			Brown	
CLARITY:	Murky			Clear	

9' pump off

COMMENTS: Purged but not sampled - well is broken off at land surface. Protective casing set back in place by Removal contractor (?) to look like it hasn't been damaged.

3 10 0763

WELL SAMPLING PURGE RECORD

SITE: Chevron Orlando

WELL CODE: MW-15

DATE: 4/28/93

SAMPLERS: SLT AJT AJM

MEASURING POINT: TOC

TOTAL DEPTH (TD): 14.9 FT. WATER LEVEL (WL): 10.00 FT.

WATER COLUMN (h = TD - WL): 4.9 FT.

DIAMETER (d): .17 FT. (2 in. = 0.17 ft.; 4 in. = 0.33 ft.)

VOLUME (V = 0.785 x d^2 x h): .222 CF. 0.0454

WELL VOLUME IN GALLONS (V x 7.5): 1.66 GAL.

PURGE VOLUME (3 - 5 WELL VOLUMES): 4.99 TO 8.30 GAL.

1gall 12:

FIELD MEASUREMENTS

WELL VOLUME:	1	2	3	4	5
TIME:	12"	1.50	3.18	5.00	
pH:	6.4	5.6	5.5	shut off	
TEMPERATURE:	25	23.5	23.5		
CONDUCTIVITY:	435	365	365		
COLOR:					
CLARITY:					

COMMENTS:

3 10 0764

WELL SAMPLING PURGE RECORD

SITE: Chevron Orlando OVA = >1000

WELL CODE: MW-1D

DATE: 4/28/93

SAMPLERS: SJT AJT AJM

MEASURING POINT: TOC

TOTAL DEPTH (TD): 29.~~78~~5 FT. WATER LEVEL (WL): 9.78 FT.

WATER COLUMN (h = TD - WL): 19.72 FT.

DIAMETER (d): .177 FT. (2 in. = 0.17 ft.; 4 in. = 0.33 ft.)

VOLUME (V = 0.785 x d^2 x h): .892 CF. .0454

WELL VOLUME IN GALLONS (V x 7.5): 6.7 GAL.

PURGE VOLUME (3 - 5 WELL VOLUMES): 20 TO 33.5 GAL.

FIELD MEASUREMENTS

Pump stopped purge pipe added

WELL VOLUME:	1	2	3	4	5	1 gall per 40"	
TIME:	40"	4'	restart 1'47"	3.02	4.27	6.45	9.0
pH:	5.3		5.2	5.1	5.0	5.0	5.0
TEMPERATURE:	32	28	28	26	26	25	252
CONDUCTIVITY:	320		297	252	245	238	2392
COLOR:							
CLARITY:							

COMMENTS:

3 10 0765

WELL SAMPLING PURGE RECORD

1311

SITE: Chevron Orlando

WELL CODE: CO-GW-MW-25

OVA = 0

DATE: 4/28/93

SAMPLERS: AJT SKT AJH

MEASURING POINT: TOC

TOTAL DEPTH (TD): 14.5 FT. WATER LEVEL (WL): 6.64 FT.

WATER COLUMN (h = TD - WL): 7.86 FT.

DIAMETER (d): .17 FT. (2 in. = 0.17 ft.; 4 in. = 0.33 ft.) .0454

VOLUME (V = 0.785 x d^2 x h): .37 CF.

WELL VOLUME IN GALLONS (V x 7.5): 2.7 GAL.

PURGE VOLUME (3 - 5 WELL VOLUMES): 8 TO 13.5 GAL.

1gal in 20"

FIELD MEASUREMENTS

WELL VOLUME:	1	2	3	4	5
TIME:	20"	1.30	3.30	5'	
pH:	6.6	6.6	6.5	6.5	
TEMPERATURE:	30	25	25	25	
CONDUCTIVITY:	380	470	560	560	
COLOR:					
CLARITY:					

shut down 5.30

COMMENTS: Brown - very sandy

3 10 0766

WELL SAMPLING PURGE RECORD

SITE: Chevron ~~Orlando~~ Orlando

OVA = >1000

WELL CODE: MW-2D

DATE: 4/28/93

SAMPLERS: AJT SKT AJM

MEASURING POINT: TOC

TOTAL DEPTH (TD): 28.9 FT. WATER LEVEL (WL): 6.61 FT.

WATER COLUMN (h = TD - WL): 22.3 FT.

DIAMETER (d): _____ FT. (2 in. = 0.17 ft.; 4 in. = 0.33 ft.)

VOLUME (V = 0.785 x d^2 x h): 1.01 CF.

WELL VOLUME IN GALLONS (V x 7.5): 7.57 GAL.

PURGE VOLUME (3 - 5 WELL VOLUMES): ~~22~~ 23 TO 38 GAL.

FIELD MEASUREMENTS

1 gal in 17 sec

WELL VOLUME:	1	2	3	4	5
TIME:	1.30	3.0	4.30	6.0	
pH:	6.0	5.8	5.8	5.8	
TEMPERATURE:	26	26	26	26	
CONDUCTIVITY:	330	280	285	280	
COLOR:					
CLARITY:					

7 min

1340

COMMENTS:

3 10 0767

WELL SAMPLING PURGE RECORD

SITE: Chevron Orlando

WELL CODE: GWS-4

DATE: 4/27/93

SAMPLERS:

MEASURING POINT:

TOTAL DEPTH (TD): 17.84 FT. WATER LEVEL (WL): 9.99 FT.

WATER COLUMN (h = TD - WL): 7.85 FT.

DIAMETER (d): .17 FT. (2 in. = 0.17 ft.; 4 in. = 0.33 ft.)

VOLUME (V = 0.785 x d^2 x h): .356 CF. 2gal per m

WELL VOLUME IN GALLONS (V x 7.5): 2.67 GAL.

PURGE VOLUME (3 - 5 WELL VOLUMES): 8.02 TO _____ GAL.

FIELD MEASUREMENTS

WELL VOLUME:	1	2	3	4	5
TIME:	1:30"	4:23"	6:07		
pH:	6.0	5.8	5.9		
TEMPERATURE:	23.5	23.5	24		
CONDUCTIVITY:	590	550	550		
COLOR:					
CLARITY:					

COMMENTS:

3 10 0768

WELL SAMPLING PURGE RECORD

SITE: Cheron Orlando

WELL CODE: GWD-4

DATE: 4/27/93

SAMPLERS:

MEASURING POINT: TOC

TOTAL DEPTH (TD): 31.8 FT. WATER LEVEL (WL): 9.01 FT.

WATER COLUMN (h = TD - WL): 22.79 FT.

DIAMETER (d): .17 FT. (2 in. = 0.17 ft.; 4 in. = 0.33 ft.)

VOLUME (V = 0.785 x d^2 x h): 1.04 CF.

WELL VOLUME IN GALLONS (V x 7.5): 7.76 GAL.

PURGE VOLUME (3 - 5 WELL VOLUMES): 23.28 TO _____ GAL.

FIELD MEASUREMENTS

WELL VOLUME:	1	2	3	4	5
TIME:	18 sec	2:32	4.00		
pH:	6.4	5.0	5.1		
TEMPERATURE:	24	24	24		
CONDUCTIVITY:	190	215	215		
COLOR:	tan				
CLARITY:	foamy				

2gall - 18sec

COMMENTS: odor H_2S

3 10 0769

APPENDIX D
PUMPING TEST DATA AND EVALUATION

PUMPING TEST EVALUATION

A test to determine hydraulic characteristics of the surficial aquifer at the Chevron Orlando Site was conducted on October 13, 1993. The locations of the test well and distances between observation wells are shown on Figure 1 . Monitor well MW-10D was the pump well for the aquifer test and is 6-inches in diameter. Observation wells PZ-10-E and PZ-10-NE are both 2-inches in diameter. All three wells are 27 feet deep. PZ-10-E is 31.3 feet east of MW-10D, and PZ-10-NE is 62.2 feet northeast of MW-10D. The observation wells are constructed of Schedule 40 PVC, with 10-feet of 0.010-inch slotted screen, at the bottom portion of the well. A 20/30 graded silica sand surrounds each screen forming a three-inch filter pack.

The surficial aquifer is principally comprised of fine sand. Some mud matrix occurs toward the bottom of monitor well MW-10D and throughout the lower 25 feet of observation well PZ-10-NE. Plastic, green clay was found below a depth of about 27 feet, in observation well PZ-10-NE. The clay is part of the Hawthorne Group and represents the effective base of the surficial aquifer. The lithologic logs in Appendix B are based on examination of material that adhered to the drill bit.

On the morning of October 13, 1993, measurements of static water levels in each of the wells were made to calibrate transducers set near the bottom of each well. At 9:23 A.M. the pump in Monitor Well MW-10D was turned on and pumped an average 6.3 gallons per minute for the duration of the test. The water was discharged to a tank for storage and subsequent treatment. The datalogger recorded changes in water levels in each well as compiled in this Appendix. The transducer in the pumped well, monitor well MW-10D malfunctioned, however, several manual measurements were made by electric sounder throughout the test. The manual readings are also included in this Appendix,along with periodic discharge measurements. Manual measurements were periodically recorded at each observation well throughout the duration of the test. At 3:51 P.M., after pumping 388 minutes, the pump was turned off and water level recovery in each well was measured for an additional 147 minutes.

Test Analysis

The hydrogeologic setting at the Chevron Orlando site suggests that the surficial aquifer is unconfined, and that delayed yield from storage will be a factor in a short-term test. Partial penetration of the aquifer was also expected to affect the results. The effects of partial penetration were kept to a minimum by screening all wells at the same depth in the aquifer; from 7 or 8-feet below the water table to the top of the Hawthorn clay, at approximately 27-feet below land surface.

Stallman (1965) computed various values of the parameters for different penetrations of both pumping and observation wells in an anisotropic aquifer. Type curves for several of Stallman's well configurations are provided in Lohman (1972). The type curve solution of partial-penetration effects was used, in lieu of Hantush's (1964) equation, because of the large number of variables involved. Stallman's curves are nondimensional logarithmic plots of sT/Q versus Tt/r^2S, for observation

wells at different values of Y where:

T= transmissivity (ft^2/day)
S= storativity (nondimensional)
Q= pumpage (ft^3/day)
s= drawdown (ft)
t= time (days)
r= distance from pumped well to observation well (ft)
b= saturated thickness of aquifer (ft)
K_v= vertical hydraulic conductivity (ft/day)
K_h= horizontal hydraulic conductivity (ft/day = T/b)
Y= $\frac{r}{b}\sqrt{\frac{K_v}{K_H}}$ nondimensional
z= distance above base of aquifer (ft)

Stallman's type curves for a pumping well finished in the bottom three tenths of an anisotropic aquifer were used (Lohman, 1972, Plate 7). The sets of curves for piezometers finished at the midpoint (z=0.5b) and the bottom (z=0b) of the aquifer nearly duplicate the well configuration at the site and were found to fit the test data closely.

Drawdown data from observation wells PZ-10-E and PZ-10-NE were plotted against time on log-log paper and superposed on the appropriate curves for z=0.5b and z=0b. Match points were found for sT/Q, Tt/r^2S, s, and t such that sT/Q and Tt/r^2S were equal to 1.0. The four values from the matchpoints were then substituted in the following equations:

$$T = \left(\frac{sT}{Q}\right)\frac{Q}{s} = (1.0)\frac{Q}{s}$$

$$S = \frac{Tt}{r^2}\left(\frac{Tt}{r^2}S\right) = \frac{Tt}{r^2}(1.0)$$

$$Y = \frac{r}{b}\sqrt{\frac{K_v}{K_h}} \qquad K_v = \left(\frac{Yb}{r}\right)^2 K_h \qquad \text{where } K_h = \frac{T}{b}$$

Data fit to the type curves and calculations for solutions by Stallman's method are shown on Figures 2, 3, 8, and 9.

Boulton (1963), published a set of type curves that compensate for delayed yield from storage, due to gravity drainage, in an anisotropic, unconfined aquifer. Drawdown data from PZ-10-E and PZ-10-NE were plotted against time on log-log

paper and superposed on the appropriate curve in the Boulton series. Early drawdown data were matched with a type curve for r/B and a matchpoint found for $4\pi Ts/Q$, $4Tt/r^2S_e$, s, and t. Later data were matched with the same r/B curve and a second matchpoint found $4\pi Ts/Q$, $4Tt/r^2S_l$, s, and t, where S_e and S_l are early and late storativity. These four values were again used to determine T and S from the later data. For convenience, matchpoints are found for $4\pi Ts/Q$ and $4Tt/r^2S$ both = 1.0. The four matchpoints were then substituted in the following equations.

$$T = \frac{Q(\frac{4\pi Ts}{Q})}{4\pi s} = \frac{Q(1)}{4\pi s} \qquad S = \frac{4Tt}{r^2(\frac{4Tt}{r^2S})} = \frac{4Tt}{r^2(1)}$$

Data fit and calculations for solutions by Boulton's method are shown on figures 4,5,10, and 11.

Streltsova (1974), also derived a set of type curves that compensate for partial penetration, delayed yield from storage, and provides a solution for K_h and K_v. Use of the Streltsova method is similar to that of Boulton. In the Steltsova notation D is the saturated thickness of the aquifer, b_1 depth of the pump well, and b_2 depth to the center of the observation well screen. Data compiled by Streltsova were used to plot a family of type curves where b_1/D and b_2/D are both 0.6. At the Chevron Orlando site, b_1 and b_2 are 1.0 and 0.68. Thus, the Streltsova curves bracket the actual situation at the Chevron Orlando site, although not as closely as Stallman's curves. Again, the data are superimposed on the family of type curves for various values of B,

$$\text{where } B = \frac{r}{b}\sqrt{\frac{K_v}{K_h}}$$

first the early data, then the later data on the same curve. matchpoints are selected, for convenience, at $W(u_A, B, b_1/D, b_2/D)$, $1/u_A$, and $1/u_B$ all equal to 1.0, and for s and t, then:

$$T = \frac{Q}{4\pi s(\frac{b_1}{D})}\left(W_u, B, \frac{b_1}{D}, \frac{b_2}{D}\right) = T = \frac{Q}{4\pi s(\frac{b_1}{D})}(1.0)$$

$$S = \frac{4Tt}{r^2\frac{1}{u}} = \frac{4Tt}{r^2\frac{1}{(1.0)}}$$

$$K_v = \frac{Bb^2}{r^2}K_h \qquad \text{where} \qquad K_h = \frac{T}{D}$$

Data fits and calculations for solution by Streltsova's method are shown on Figure 6,7,12, and 13.

The Theis (1935) equation, on which all these refinements are based, is designed for non-leaky artesian aquifers and could not be matched to the Chevron Orlando data except for the earliest measurements, before gravity drainage began, and toward the end of the test, when leakage was approaching steady-state.

Straight-line data plots for time/drawdown, time/recovery, or distance/drawdown, such as described by Cooper-Jacob (1946), were not useful in this analysis because the test did not last long enough for groundwater flow to reach steady state at either of the observation wells.

Water level measurement in the pumped well MW-10D indicate the water level dropped below the top of the screen, in less than 95 minutes of pumping, and declined to 6.04 feet below the top of screen toward the end of the test. Given the construction of well MW-10D it seems likely that well loss, due to turbulent flow at the screen, would be in excess of 50 percent of total drawdown. Pumping level within the well does not represent water levels in the aquifer beyond the filter pack. Drawdown at PZ-10-E, for example, was only 0.5 feet after 6 hours of pumping. It seems unlikely that the aquifer was dewatered to the extent necessary to affect the results of the test.

Results of Analyses

Aquifer characteristics determined from the various analyses of the pump test data are compiled in Table D-1, rounded to one or two significant figures. The results from the four different sets of assumptions are not identical. The results do fall within a close range of values, however, that confirms the validity of the assumptions, and of the test itself.

The analyses of data from observation well PZ-10-E, using Stallmans type curves for a piezometer open only at the very base of the aquifer (z=0b), yield a value of transmisssivity one third greater than the average. The assumption z=0b may not be valid at PZ-10-E. It would seem prudent to exclude this anomalous value and average only the three more closely spaced results that yield an average value of transmissivity of 800 ft^2/day.

A similar anomaly occurs in the analyses of the data for observation well PZ-10-NE. The Streltsova method yields a value of transmissivity that is nearly double the average of the other three values. Again, it would seem prudent to discard the anomalous value, and average the three more closely spaced values of transmissivity. The adjusted value of transmissivity at PZ-10-NE then, may be 700 ft^2/day.

This subjective manipulation of results may be justified on the grounds that no unique solution exists for any of the equations used. Yet, the four different approaches to the data set have been clearly defined and documented. The results

yield a set of answers both reasonable and internally consistent.

In both the Boulton and Streltsova methods, late values of storativity are an order of magnitude greater than early values, and approach the value of specific yield. Even so, the average values of storativity derived, $8x10^{-3}$ and $4x10^{-2}$, seem low for an unconfined aquifer; on the order of values typical of a very leaky confined aquifer. However, the data plots could not be analyzed under the assumptions for leaky artesian conditions (Hantush-Jacob, 1955.) The conclusion that delayed yield from storage was still operative, and that a true value of storativity (specific yield) was not reached in 388 minutes, seems reasonable.

3 10 0775

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Cooper, H.H., Jr., and Jacob, C.E., A generalized graphical method for evaluating formation constants and summarizing well-field history: Am. Geophys. Union Trans., v. 27, no. 4, p. 526-534.

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Table 1 Results of Analysis of Aquifer-Test Data
Chevron Orlando Site

PZ-10-E r= 31.33 b= 17.5										
	Early Data					Late Data				
Method	**T**	**S**	**Kh**	**Kv**	**Kv/Kh**	**T**	**S**	**Kh**	**Kv**	**Kv/Kh**
Stallman										0.15
z=0.5b						990	0.004	56	8	0.15
z=0b						1200	0.004	69	10	
Boulton	420	0.003				570	0.02			
Streltsova	420	0.003	24	2	0.1	850	0.004	48	5	0.10
Average						900	0.008	52	8	0.15
Average without Stallman z=0b						800	0.009	46	6	0.15

PZ-10-NE r= 62.25 b= 17.5										
	Early Data					Late Data				
Method	**T**	**S**	**Kh**	**Kv**	**Kv/Kh**	**T**	**S**	**Kh**	**Kv**	**Kv/Kh**
Stallman										
z=0.5b						530	0.06	30	5	0.17
z=0b						640	0.06	36	6	0.17
Boulton	920	0.001				950	0.04			
Streltsova	1200	0.002	69	3	0.04	1900	0.02	107	4	0.04
Average	1060	0.002	58	6	0.01	1010	0.04	56	5	0.12
Average without Streltsova results										
	920	0.001	47	7	0.15	700	0.05	40	6	0.14

Note: T= ft^2/day
K= ft/day
z = distance of piezometer above base of aquifer (b) in ft.

3 10 0777

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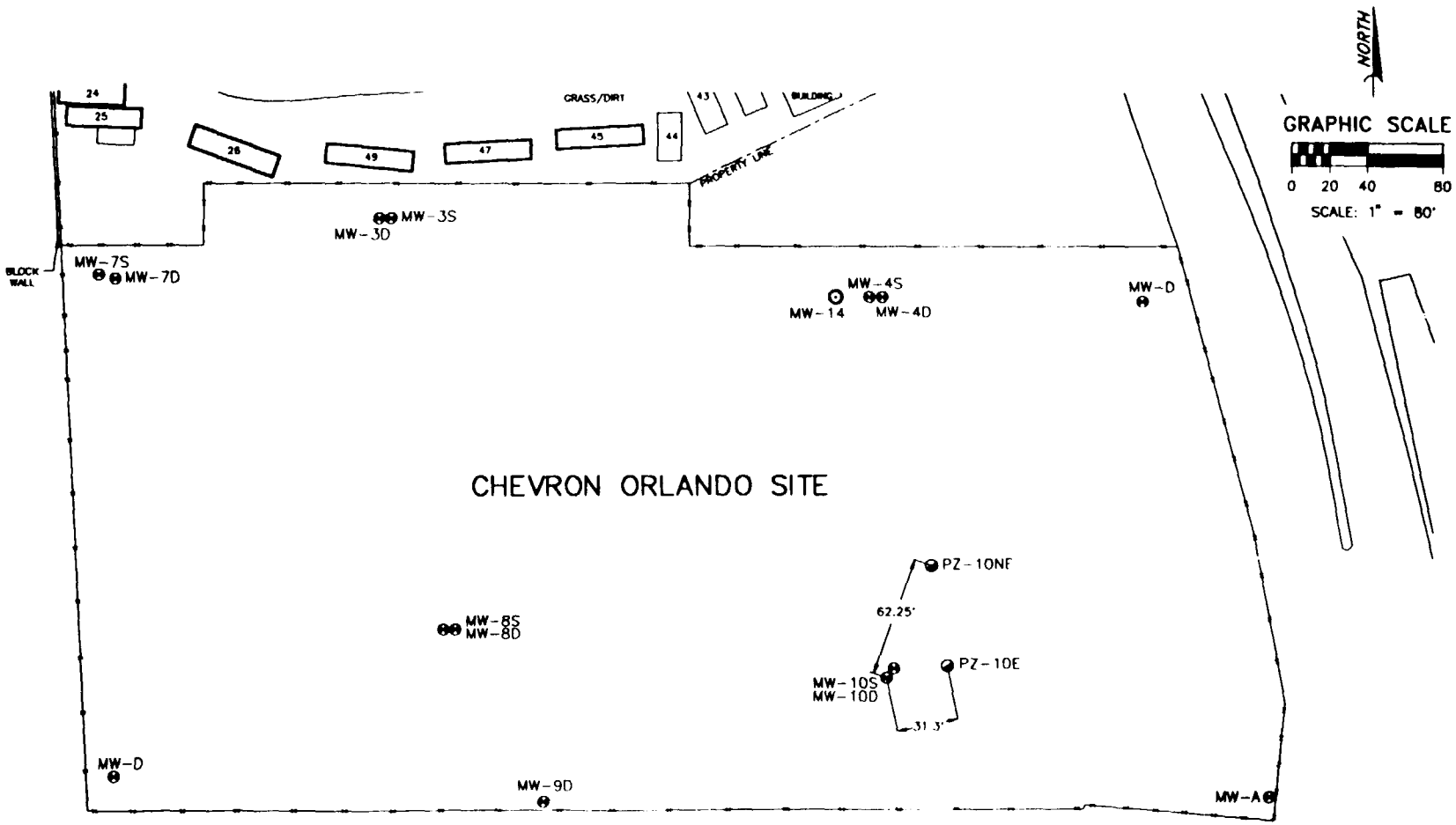

LEGEND

MONITOR WELL

TASK ENVIRONMENTAL

FIGURE: 1
CHEVRON ORLANDO SITE
PUMPING TEST WELL AND PIEZOMETER LOCATIONS

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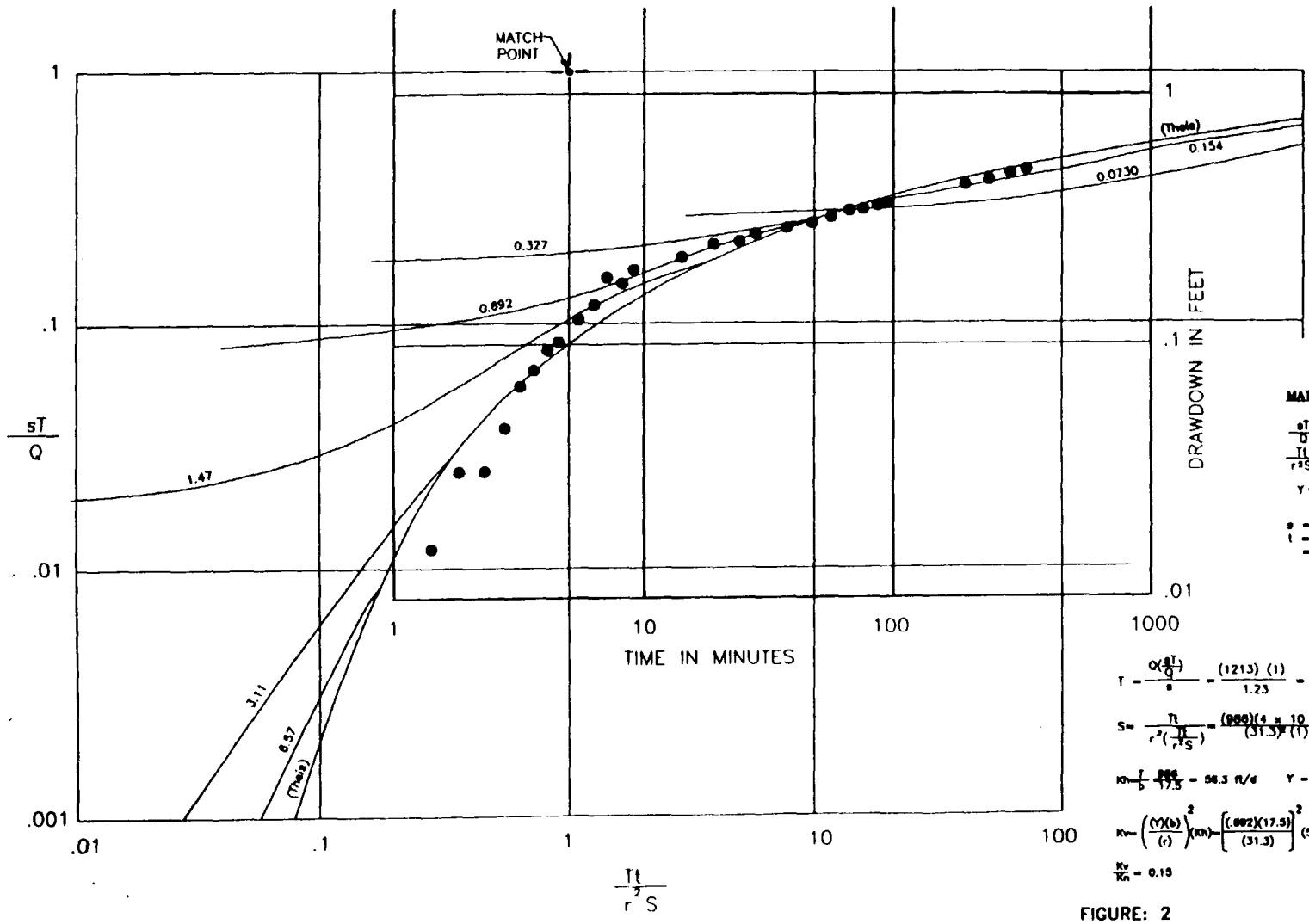

MATCH POINT

$\frac{sT}{Q} = 1$

$\frac{Tt}{r^2S} = 1$

$Y = .692$

$s = 1.23$ ft

$t = 5.8$ min $= 4 \times 10^{-3}$ days

$$T = \frac{Q\left(\frac{sT}{Q}\right)}{s} = \frac{(1213)\ (1)}{1.23} = 986\ ft^2/d$$

$$S = \frac{Tt}{r^2\left(\frac{Tt}{r^2S}\right)} = \frac{(986)(4 \times 10^{-3})}{(31.3)^2\ (1)} = 4 \times 10^{-3}$$

$$Kh = \frac{T}{b} = \frac{986}{17.5} = 56.3\ ft/d \qquad Y = .692 = \frac{r}{b}\sqrt{\frac{Kv}{Kh}}$$

$$Kv = \left(\frac{(Y)(b)}{(r)}\right)^2 (Kh) = \left[\frac{(.692)(17.5)}{(31.3)}\right]^2 (56.3) = 8.4\ ft/d$$

$$\frac{Kv}{Kh} = 0.15$$

FIGURE: 2

CHEVRON ORLANDO SITE

DRAWDOWN DATA FROM PZ-E PLOTTED AGAINST STALLMAN TYPE CURVES FOR PARTIALLY PENETRATED, UNCONFINED AQUIFER WITH PUMPED WELL OPEN TO 0.3b AND OBSERVATION WELL OPEN AT z = 0.5b

TASK ENVIRONMENTAL

3 10 0278

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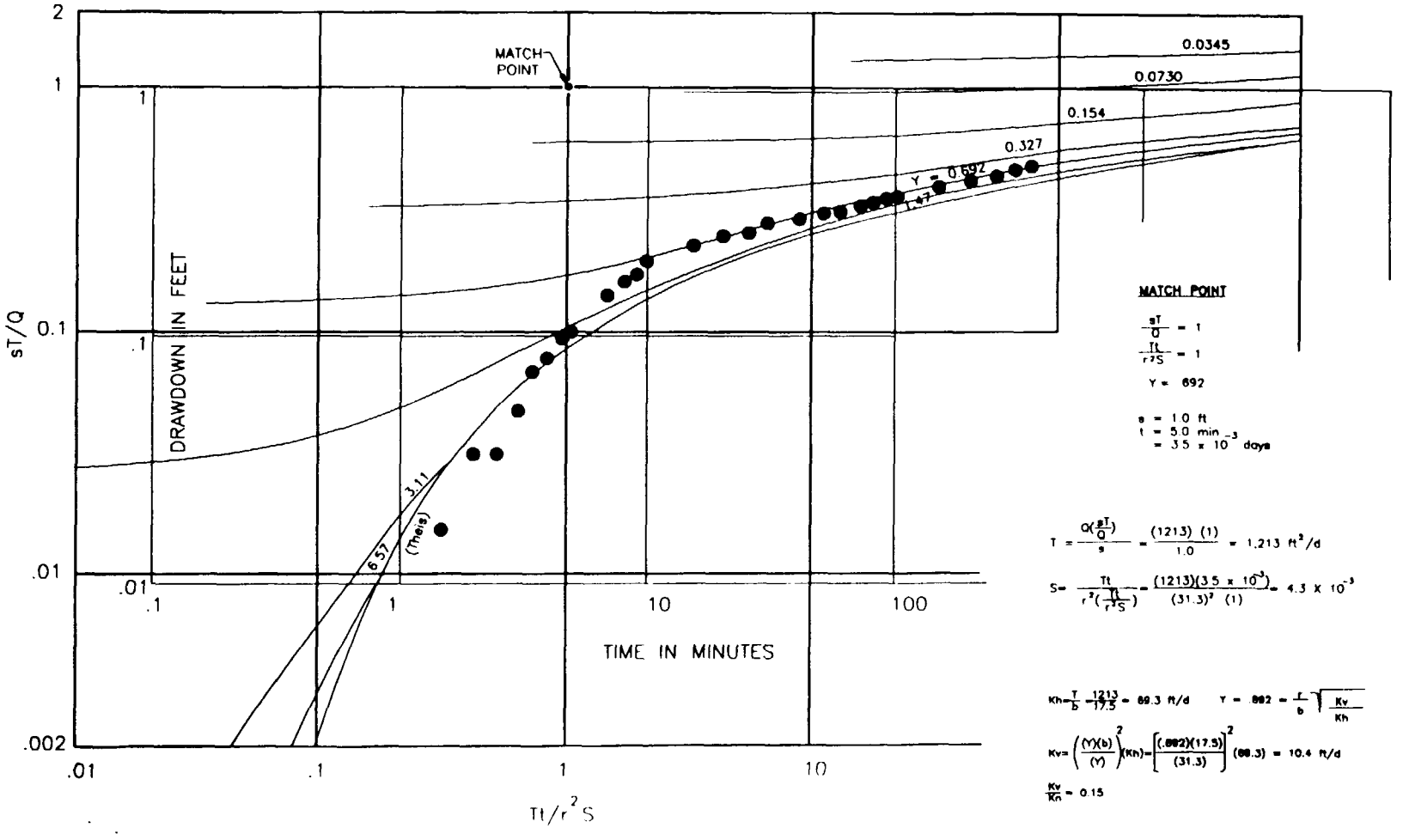

MATCH POINT

$\frac{sT}{Q} = 1$

$\frac{Tt}{r^2S} = 1$

$Y = .692$

$s = 1.0$ ft
$t = 5.0$ min
$= 3.5 \times 10^{-3}$ days

$$T = \frac{Q(\frac{sT}{Q})}{s} = \frac{(1213)\ (1)}{1.0} = 1{,}213\ ft^2/d$$

$$S = \frac{Tt}{r^2(\frac{Tt}{r^2S})} = \frac{(1213)(3.5 \times 10^{-3})}{(31.3)^2\ (1)} = 4.3 \times 10^{-3}$$

$$Kh = \frac{T}{b} = \frac{1213}{17.5} = 69.3\ ft/d \qquad Y = .692 = \frac{r}{b}\sqrt{\frac{Kv}{Kh}}$$

$$Kv = \left(\frac{(Y)(b)}{(r)}\right)^2 (Kh) = \left[\frac{(.692)(17.5)}{(31.3)}\right]^2 (69.3) = 10.4\ ft/d$$

$$\frac{Kv}{Kh} = 0.15$$

FIGURE: 3

CHEVRON ORLANDO SITE

DRAWDOWN DATA FROM PZ-E PLOTTED AGAINST STALLMAN TYPE CURVES FOR PARTIALLY PENETRATED, UNCONFINED AQUIFER WITH PUMPED WELL OPEN TO 0.3b AND OBSERVATION WELL OPEN AT z = 0

TASK ENVIRONMENTAL

3 10 0279

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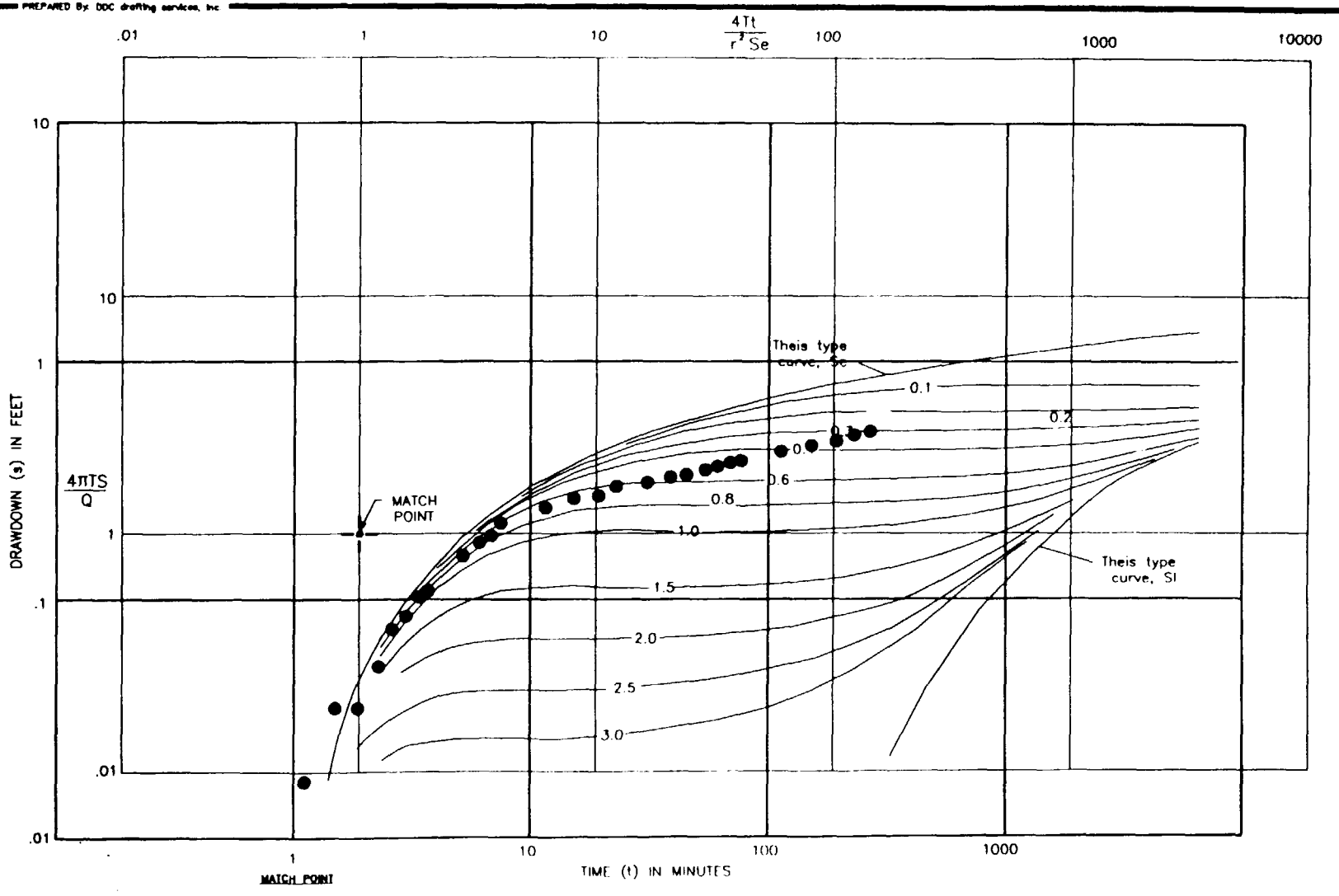

MATCH POINT

$\frac{4\pi Ts}{Q} = 1$

$\frac{4Tt}{Se} = 1$

$\frac{r}{B} = 0.6$

$s = 0.23$

$t = 2.55$ min

$= 1.8 \times 10^{-3}$ day

$$T = \frac{Q\left(\frac{4\pi Ts}{Q}\right)}{4\pi s} = \frac{(1213)(1)}{(12.57)(.23)} = 418\ ft^2/d$$

$$S = \frac{4Tt}{r^2\left(\frac{4Tt}{Se}\right)} = \frac{(4)(418)(1.8 \times 10^{-3})}{(31.3)^2(1)} = 3 \times 10^{-1}$$

TASK ENVIRONMENTAL

FIGURE: 4

CHEVRON ORLANDO SITE

EARLY DRAWDOWN DATA FROM PZ-E PLOTTED AGAINST BOULTON TYPE CURVES FOR DELAYED YIELD FROM AN ANISOTROPIC, UNCONFINED AQUIFER.

3 10 0780

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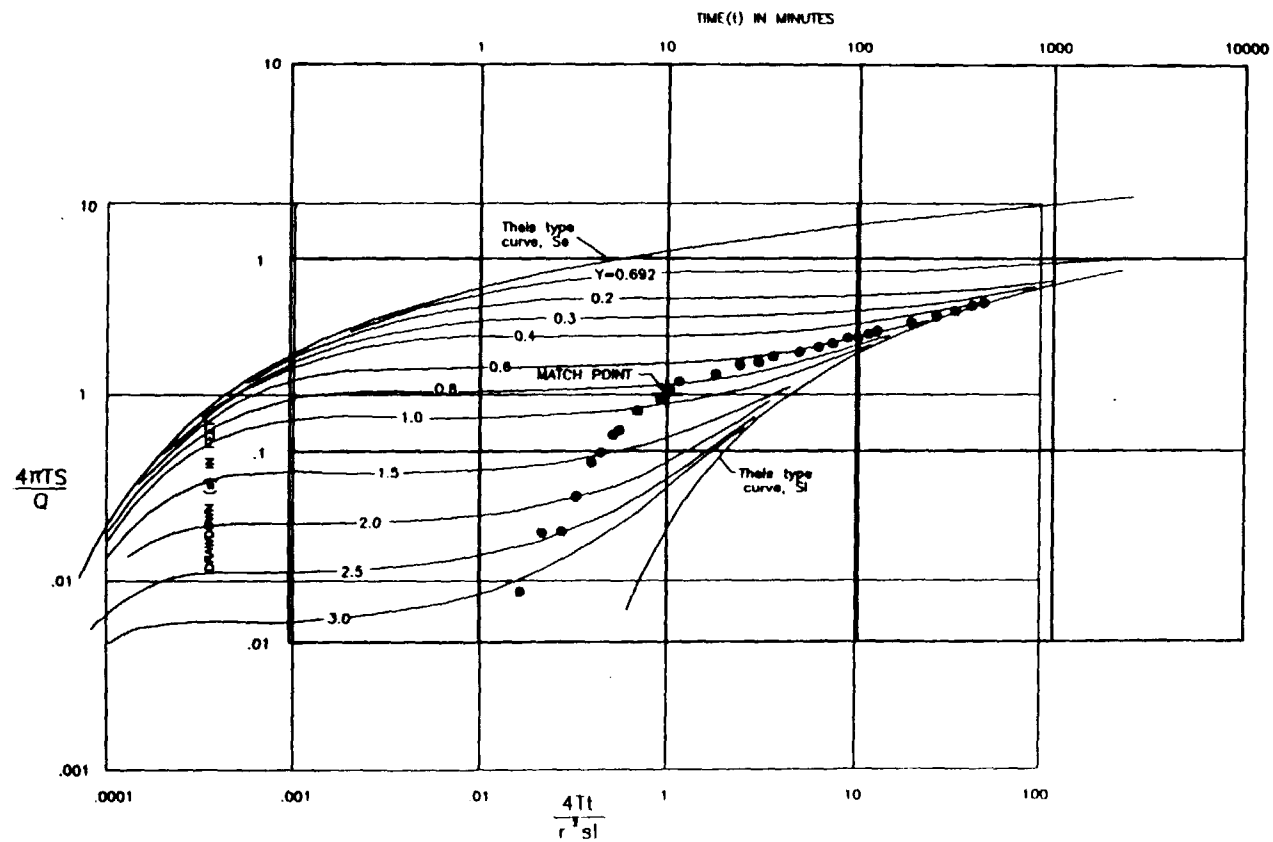

MATCH POINT

$\frac{4\pi Ts}{Q} = 1$

$\frac{4Tt}{r^2 S} = 1$

$\frac{r}{s} = .8$

$s = 0.17$ ft

$t = 10$ min

$= 6.9 \times 10^{-3}$ day

$$T = \frac{Q(\frac{4\pi s}{Q})}{4\pi s} = \frac{(1213)(1)}{(12.57)(.17)} = 567.6 \text{ ft}^2/\text{d}$$

$$S = \frac{4Tt}{r^2(\frac{4Tt}{r^2 S})} = \frac{(4)(567.6)(6.9 \times 10^{-3})}{(31.3)^2(1)} = 1.8 \times 10^{-4}$$

TASK ENVIRONMENTAL

FIGURE: 5

CHEVRON ORLANDO SITE

LATE DRAWDOWN DATA FROM PZ-E PLOTTED AGAINST BOULTON TYPE CURVES FOR DELAYED YIELD FROM AN ANISOTROPIC, UNCONFINED AQUIFER.

3 10 0781

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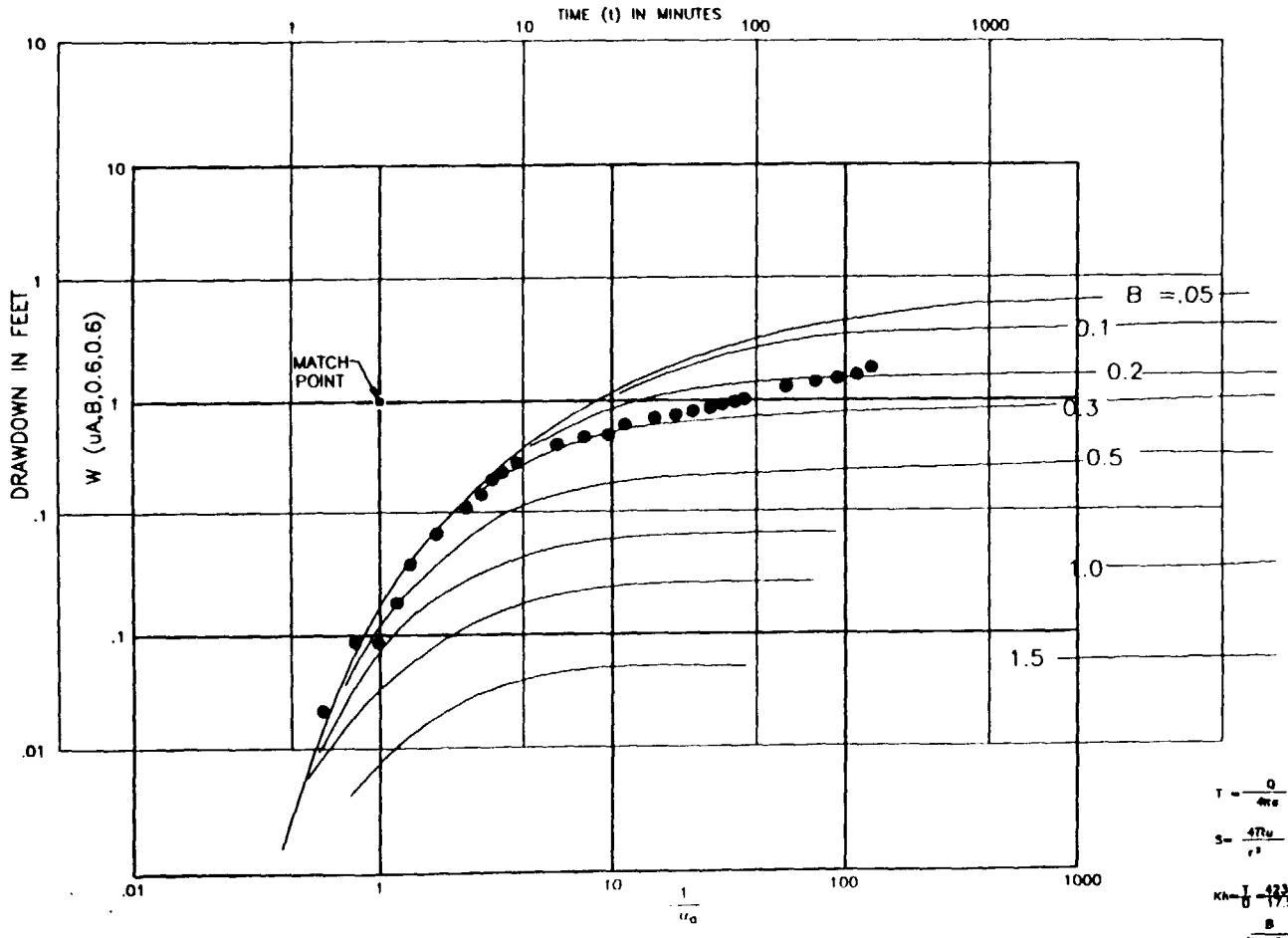

MATCH POINT

$W(u_A, B, 0.6, 0.6) = 1$

$\frac{1}{u_A} = 1$

$B = .3$

$r = 0.4$ ft

$t = 2.5$ min

$= 1.7 \times 10^{-3}$ day

$$T = \frac{Q}{4\pi s}\left(\frac{Bt}{D}\right)W(u_A, B, 0.6, 0.6) = \frac{(1213)(1)}{(12.57)(.4)(.10)(17.3)} = 423 \text{ ft}^2/\text{d}$$

$$S = \frac{4Tu}{r^2} = \frac{(4)(423)(1.7 \times 10^{-3})(1)}{(31.5)^2} = 2.0 \times 10$$

$$Kh = \frac{T}{D} = \frac{423}{17.3} = 24.2 \text{ ft/d}$$

$$Kv = \left(\frac{r^2}{D^2}\right)^{B}(Kh) = \frac{(.3)}{\frac{(380)}{(308)}}(24.2) = 2.27 \text{ ft/d}$$

$$\frac{Kv}{Kh} = 0.10$$

FIGURE: 6

CHEVRON ORLANDO SITE

EARLY DRAWDOWN DATA FROM PZ-E PLOTTED AGAINST STRELTSOVA TYPE CURVES FOR A WELL PARTIALLY PENETRATING AN UNCONFINED AQUIFER

TASK ENVIRONMENTAL

3 10 0782

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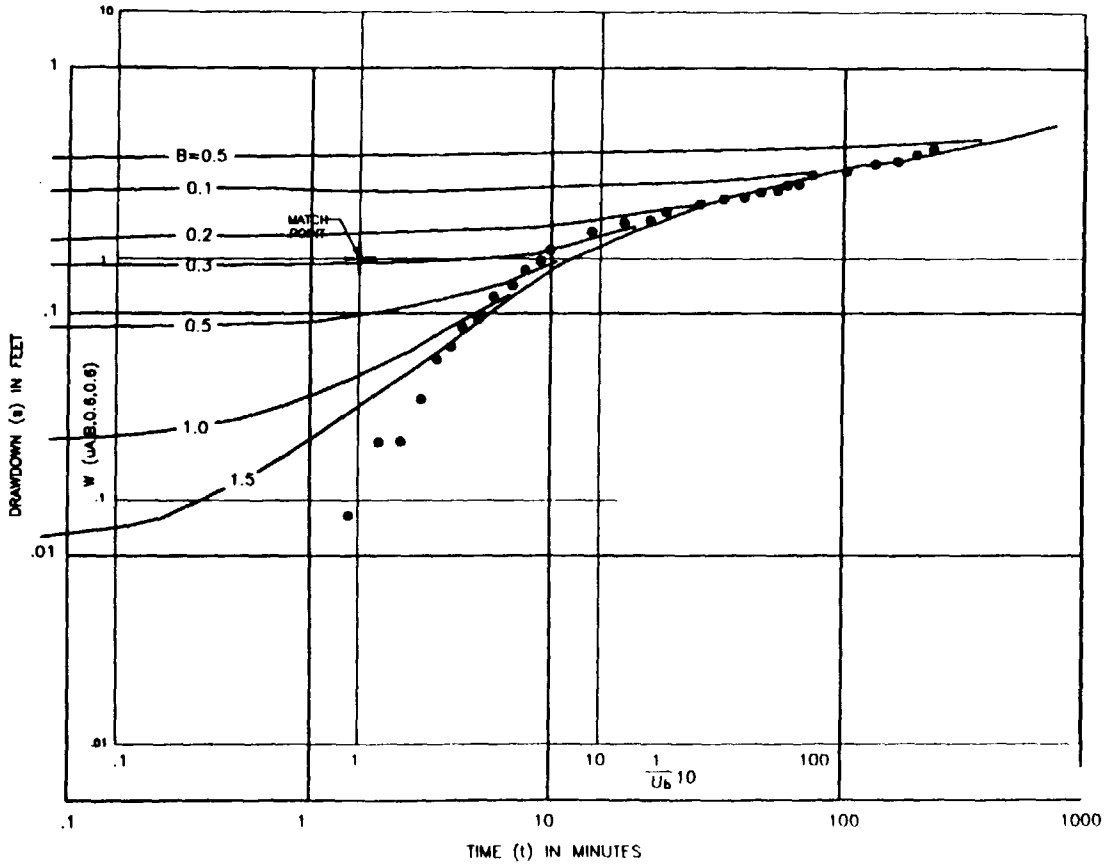

MATCH POINT

$W(u,B,\frac{b}{D},\frac{b}{D}) = 1$

$\frac{1}{u} = 1$

$B = .3$

$s = 0.2$ ft
$t = 1.8$ min
$= 1.1 \times 10^{-3}$ day

$T = \frac{Q}{4\pi s}\left(\frac{b}{D}\right)(U(u,B,\frac{b}{D},\frac{b}{D})) = \frac{(121.7)(1)}{(12.57)(.2)\left(\frac{10}{17.5}\right)} = 648$ ft²/d

$S = \frac{4Tu}{r^2} = \frac{(4)(648)(1.1 \times 10^{-3})(1)}{(31.3)^2} = 3.8 \times 10^{-3}$

$Kh = \frac{T}{D} = \frac{648}{17.5} = 48.3$ ft/d

$Kv = \left(\frac{\frac{B}{r^2}}{D^2}\right)(Kh) = \frac{(.3)}{\frac{(380)}{(308)}}(48.3) = 4.5$ ft/d

$\frac{Kv}{Kh} = 0.10$

TASK ENVIRONMENTAL

FIGURE: 7

CHEVRON ORLANDO SITE

LATE DRAWDOWN DATA FROM PZ-E PLOTTED AGAINST STRELTSOVA TYPE CURVES FOR A WELL PARTIALLY PENETRATING AN UNCONFINED AQUIFER

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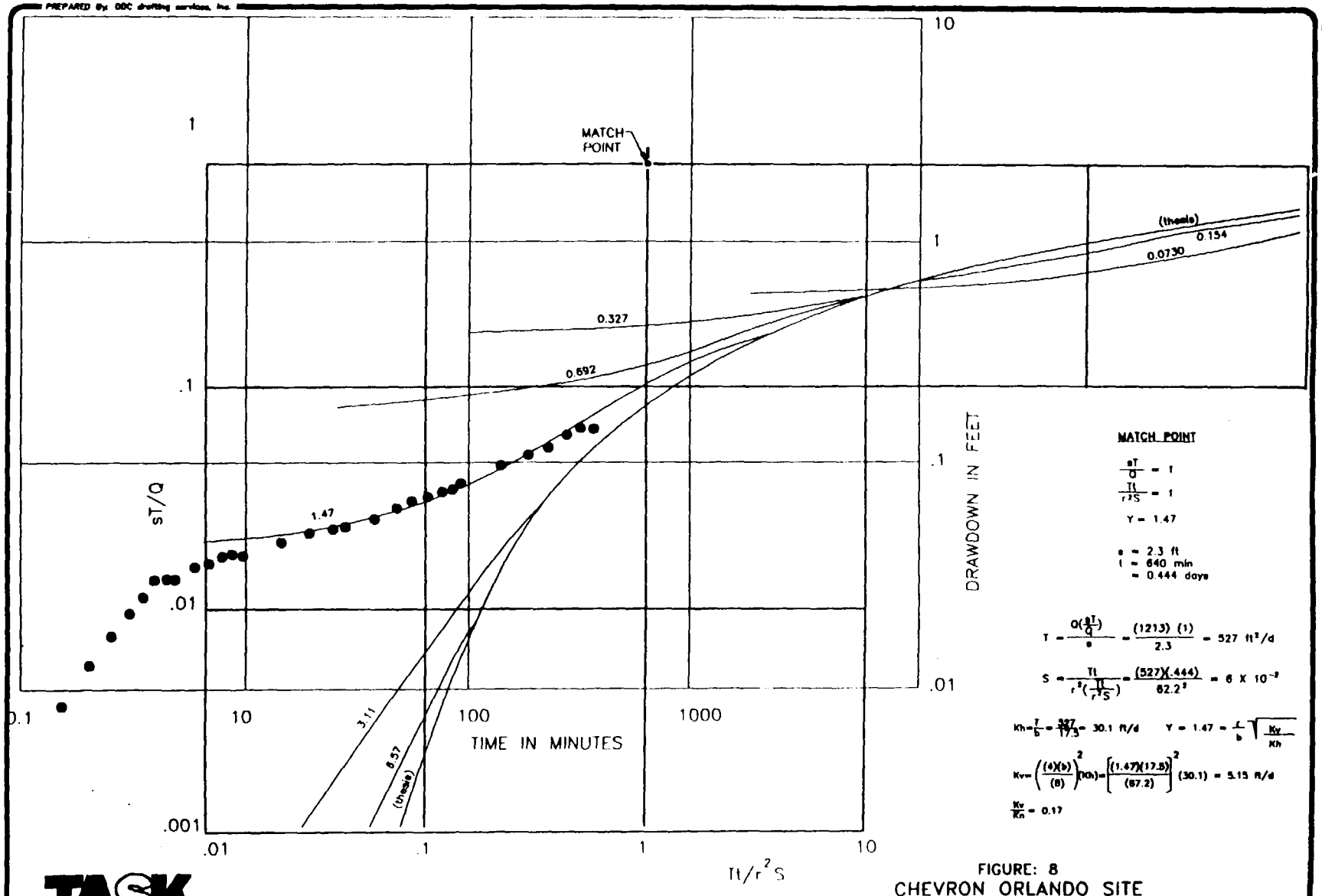

MATCH POINT

$\frac{sT}{Q} = 1$

$\frac{Tt}{r^2S} = 1$

$Y = 1.47$

$s = 2.3$ ft
$t = 640$ min
$= 0.444$ days

$$T = \frac{Q(\frac{sT}{Q})}{s} = \frac{(1213)\ (1)}{2.3} = 527\ ft^2/d$$

$$S = \frac{Tt}{r^2(\frac{Tt}{r^2S})} = \frac{(527)(.444)}{62.2^2} = 6 \times 10^{-3}$$

$$Kh = \frac{T}{b} = \frac{527}{17.5} = 30.1\ ft/d \qquad Y = 1.47 = \frac{r}{b}\sqrt{\frac{Kv}{Kh}}$$

$$Kv = \left(\frac{(4)(b)}{(8)}\right)^2 (Kh) = \left[\frac{(1.47)(17.5)}{(87.2)}\right]^2 (30.1) = 5.15\ ft/d$$

$$\frac{Kv}{Kh} = 0.17$$

TASK ENVIRONMENTAL

FIGURE: 8
CHEVRON ORLANDO SITE
DRAWDOWN DATA FROM PZ-NE PLOTTED AGAINST STALLMAN TYPE CURVES FOR PARTIALLY PENETRATED, UNCONFINED AQUIFER WITH PUMPED WELL OPEN TO 0.3b AND OBSERVATION WELL OPEN AT z = 0.5b

3 10 0784

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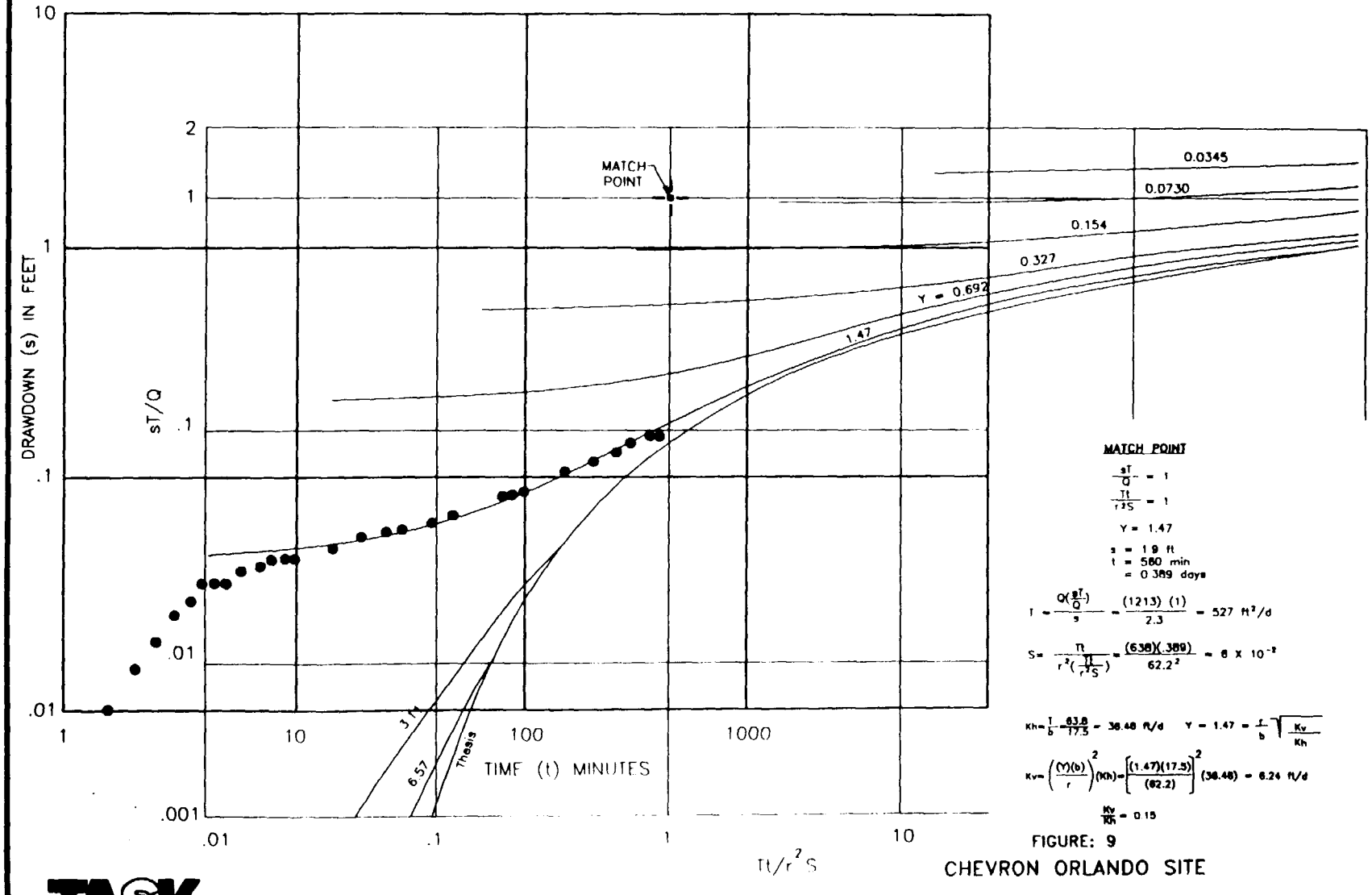

MATCH POINT

$\frac{sT}{Q} = 1$

$\frac{Tt}{r^2S} = 1$

$Y = 1.47$

$s = 1.9$ ft
$t = 560$ min
$= 0.389$ days

$T = \frac{Q(\frac{sT}{Q})}{s} = \frac{(1213)(1)}{2.3} = 527\ ft^2/d$

$S = \frac{Tt}{r^2(\frac{Tt}{r^2S})} = \frac{(638)(.389)}{62.2^2} = 6 \times 10^{-2}$

$Kh = \frac{T}{b} = \frac{63.8}{17.5} = 38.48\ ft/d \qquad Y = 1.47 = \frac{r}{b}\sqrt{\frac{Kv}{Kh}}$

$Kv = \left(\frac{(Y)(b)}{r}\right)^2(Kh) = \left[\frac{(1.47)(17.5)}{(62.2)}\right]^2(38.48) = 6.24\ ft/d$

$\frac{Kv}{Kh} = 0.15$

FIGURE: 9

CHEVRON ORLANDO SITE

TASK ENVIRONMENTAL

DRAWDOWN DATA FROM PZ-NE PLOTTED AGAINST STALLMAN TYPE CURVES FOR PARTIALLY PENETRATED, UNCONFINED AQUIFER WITH PUMPED WELL OPEN TO 0.3b AND OBSERVATION WELL OPEN AT z = 0

3 19 0735

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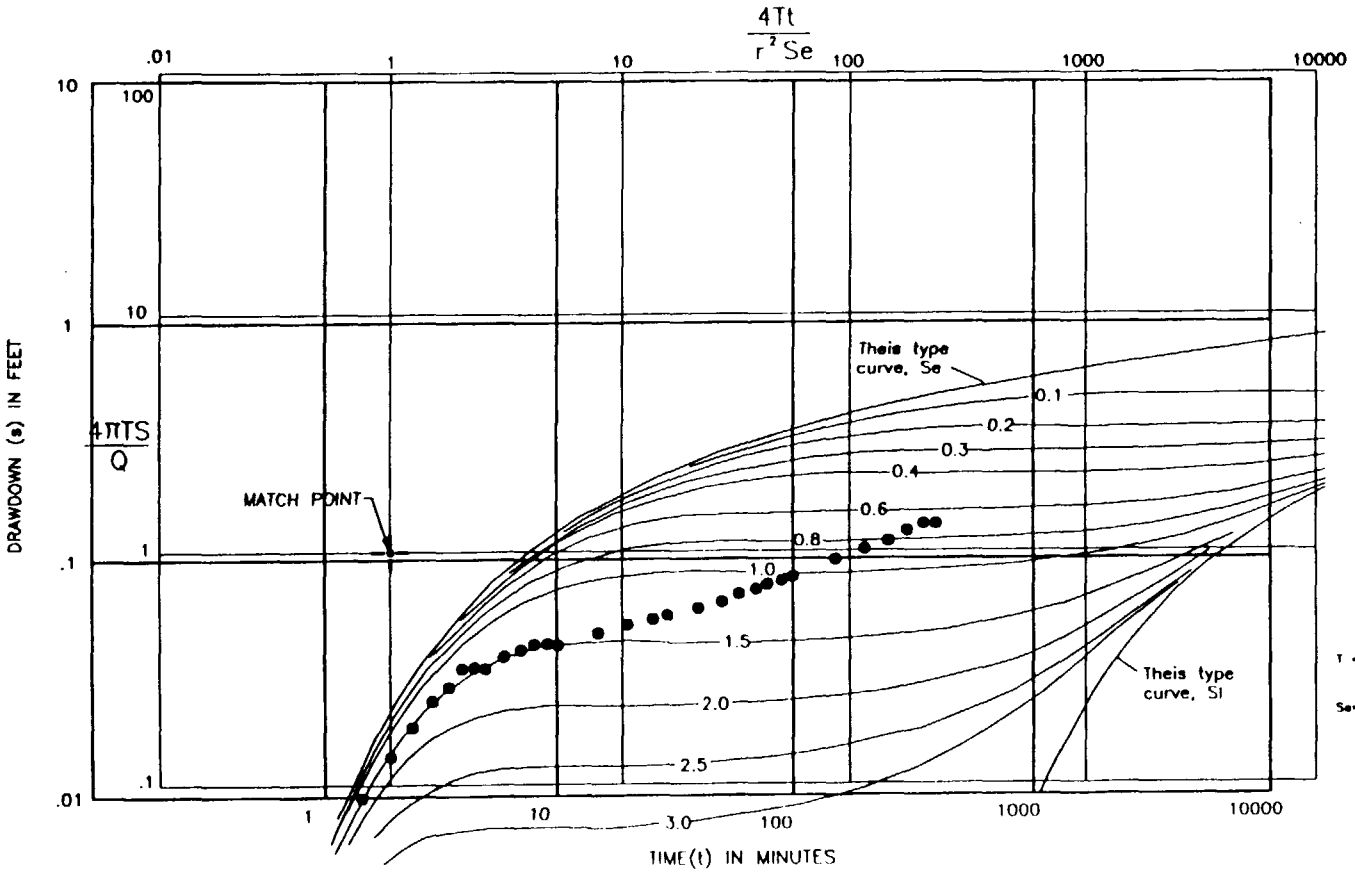


MATCH POINT

$\frac{4\pi Ts}{Q} = 1$

$\frac{4Tt}{r^2 Se} = 1$

$\frac{r}{B} = 1.5$

$s = 0.105$

$t = 1.6$ min $= 1.11 \times 10^{-3}$ day

$T = \frac{Q\left(\frac{4\pi Ts}{Q}\right)}{4\pi s} = \frac{(1213)(1)}{(12.57)(.105)} = 919\ ft^2/d$

$Se = \frac{4Tt}{r^2\left(\frac{4Tt}{r^2 Se}\right)} = \frac{(4)(914)(0.0011)}{(62.2)^2(1)} = 1 \times 10^{-3}$

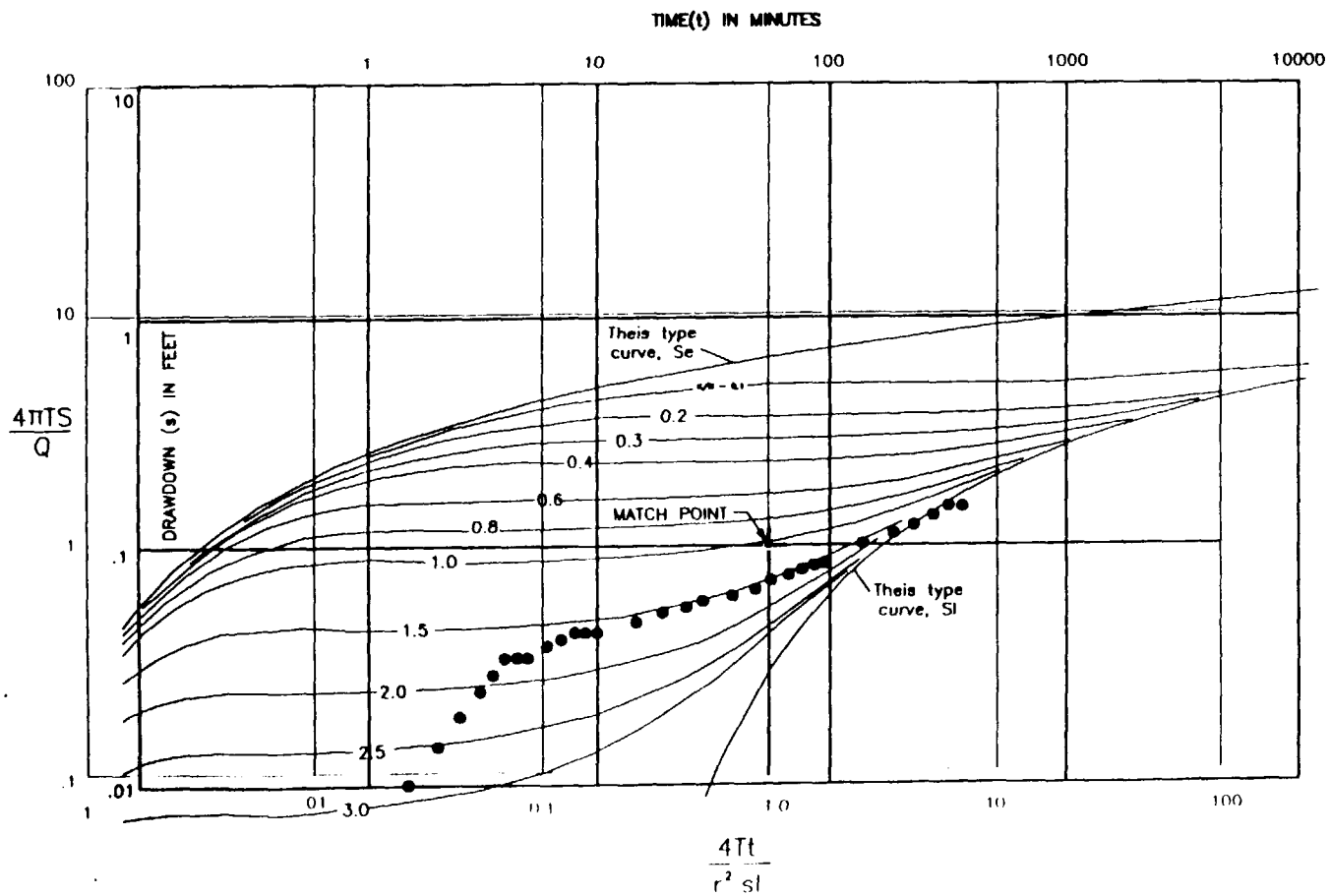
TASK ENVIRONMENTAL

FIGURE: 10

CHEVRON ORLANDO SITE

EARLY DRAWDOWN DATA FROM PZ-NE PLOTTED AGAINST BOULTON TYPE CURVES FOR DELAYED YIELD FROM AN ANISOTROPIC, UNCONFINED AQUIFER.

PREPARED By: ODC drafting services, Inc.



MATCH POINT

$\frac{4\pi Ts}{Q} = 1$

$\frac{4Tt}{r^2 Sl} = 1$

$\frac{r}{B} = 1.6$

$a = 0.102$ ft
$t = 62$ min
$= 3.6 \times 10^{-2}$ day

$T = \frac{Q(\frac{4\pi Ts}{Q})}{4\pi s} = \frac{(1213)(1)}{(12.67)(.102)} = 948$ ft /d

$Sl = \frac{4Tt}{r^2(\frac{4Tt}{r^2 S})} = \frac{(4)(948)(3.6 \times 10^{-2})}{(62.2)^2(1)} = 3.6 \times 10^{-4}$

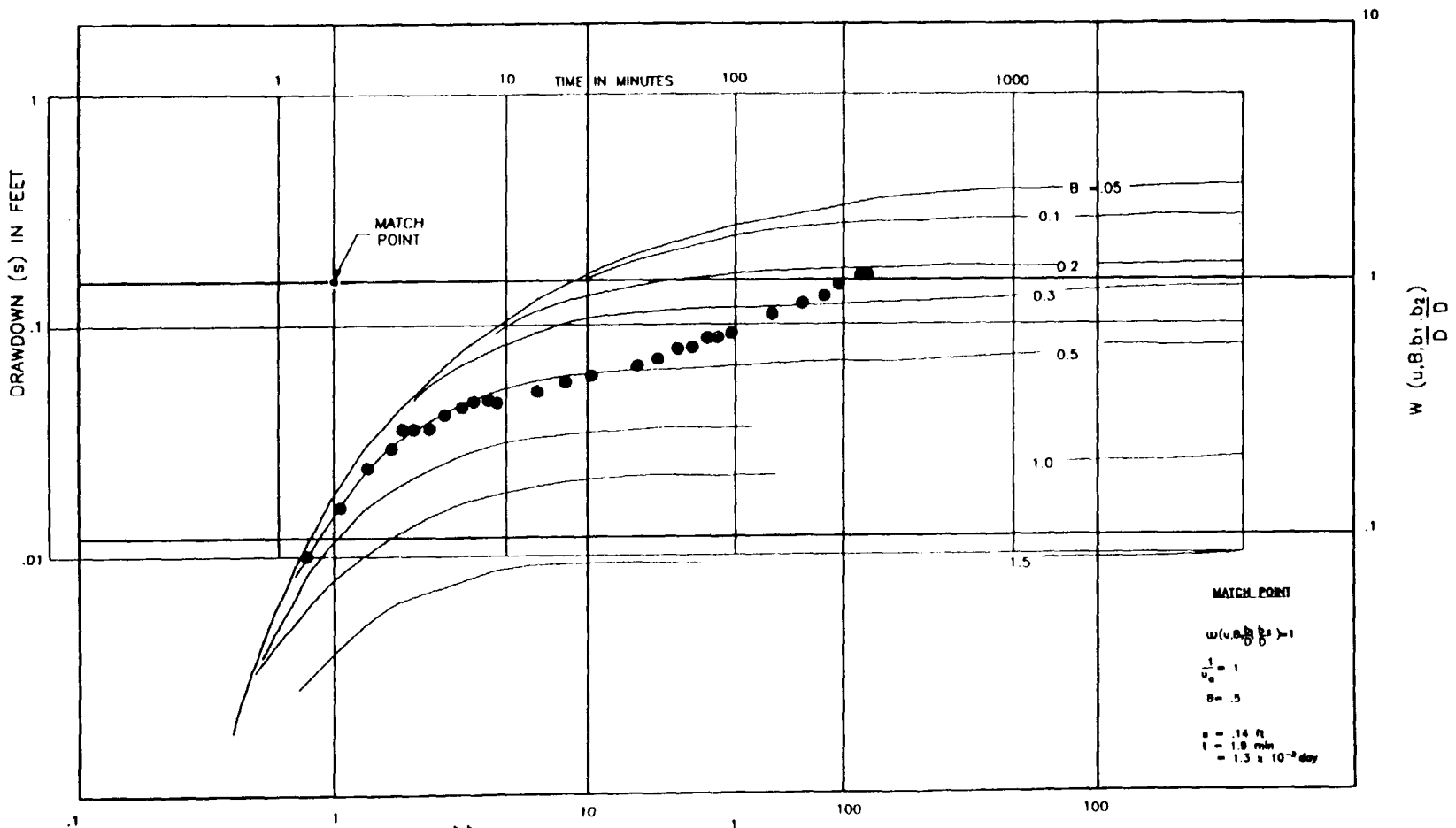
TASK ENVIRONMENTAL

FIGURE: 11

CHEVRON ORLANDO SITE

LATE DRAWDOWN DATA FROM PZ-NE PLOTTED AGAINST BOULTON TYPE CURVES FOR DELAYED YIELD FROM AN ANISOTROPIC, UNCONFINED AQUIFER.

PREPARED By: DOC drafting services, Inc.



$$T = \frac{Q}{4\pi s}\,(1)\,\frac{(u,B,\frac{b_1}{D},\frac{b_2}{D})}{(\frac{B_1}{D})} = \frac{(1213)(1)}{(12.57)(.14)(.57)} = 1,209\ ft^2/d \quad \frac{1}{u_a}$$

$$S = \frac{4Tu}{r^2\,(\frac{1}{u})} = \frac{(4)(1209)(.0013)}{(62.2)^2\,(1)} = 1.8 \times 10^{-3}$$

$$Kh = \frac{T}{D} = \frac{1209}{17.5} = 69.1\ ft/d$$

$$Kv = \left(\frac{B}{\frac{r^2}{D^2}}\right)(Kh) = \frac{(.5)}{\frac{(3869)}{(306)}}\,(69.1) = 2.7\ ft/d$$

$$\frac{Kv}{Kh} = 0.04$$

TASK ENVIRONMENTAL

FIGURE: 12

CHEVRON ORLANDO SITE

EARLY DRAWDOWN DATA FROM PZ-NE PLOTTED AGAINST STRELTSOVA TYPE CURVES FOR A WELL PARTIALLY PENETRATING AN UNCONFINED AQUIFER

3 10 0258

PREPARED By DDC drafting services, Inc

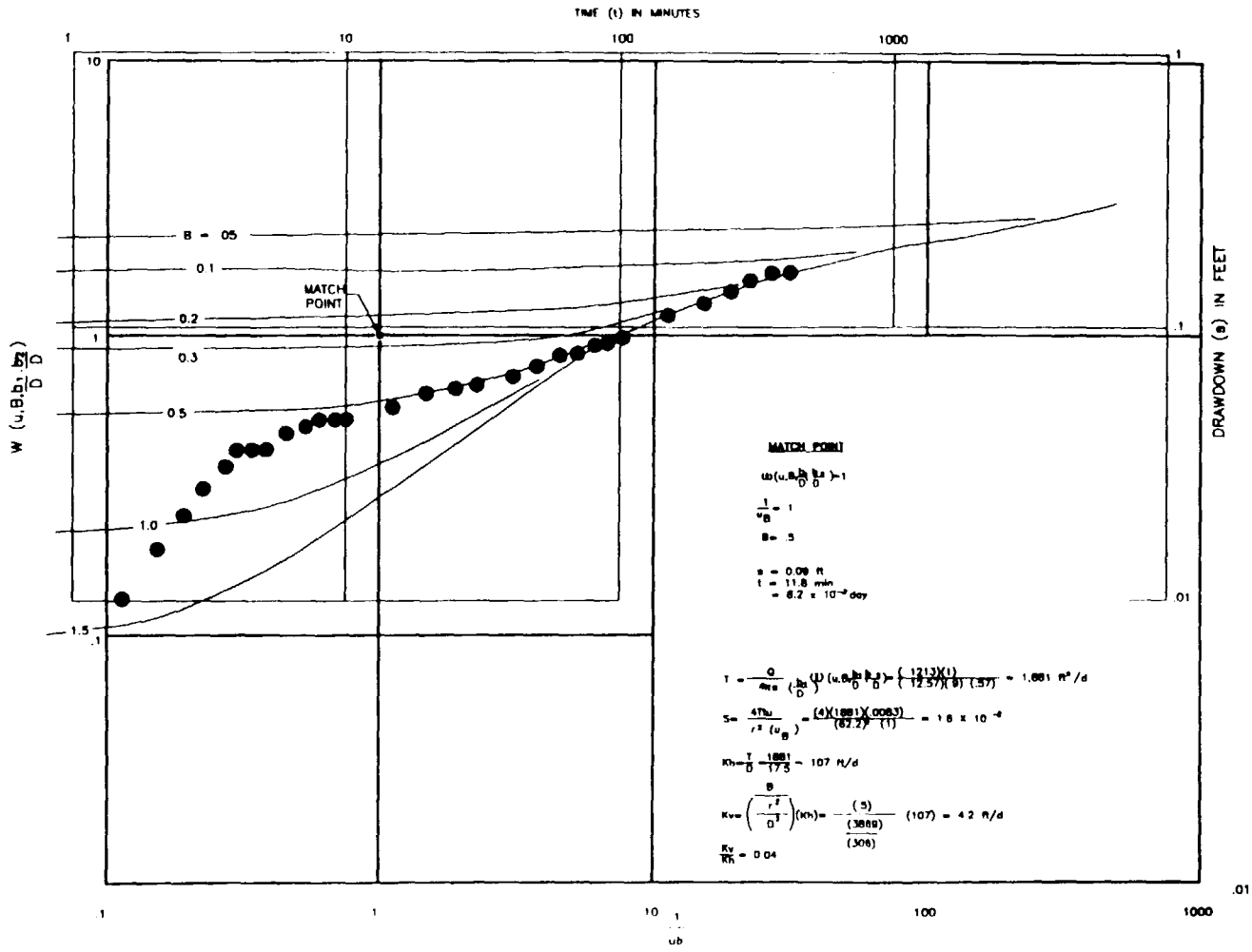


FIGURE: 13

CHEVRON ORLANDO SITE

LATE DRAWDOWN DATA FROM PZ-NE PLOTTED AGAINST STRELTSOVA TYPE CURVES FOR A WELL PARTIALLY PENETRATING AN UNCONFINED AQUIFER

TASK ENVIRONMENTAL

3 10 0789

3 10 0790

10-D 104.40 ft

NE P2 102.82

NE P1 104.43

Pump Test Data

Site Name: Chevron Orlando

Well Number: P2-10-NE ELEV 102.82 FT. / Date: 10/13/93

Pumping or Observation Well? OW Discharge Rate: 6.3 gpm

Time Pump Started: 9:30AM ± Time Pump Stopped: _____

Time Recovery Completed: _____

DEPTH TO WATER 92.35

SEC/MIN/HOURS	ACTUAL TIME (measured)	WATER LEVEL (measured) ft	DRAWDOWN (calculated) ft	inches
6 seconds	92.35	10.~~50~~ 470	0	
18 seconds	92.35	10.~~50~~ 470	0	
30 seconds	92.35	10.~~50~~ 470	0	
60 sec/1 min	92.35	10.470	0	
90 sec/1.5 min	92.34	10.480	0.010	0.12
120 sec/2 min	92.338	10.485	0.015	0.18
150 sec/2.5 min	92.33	10.490	0.020	0.24
180 sec/3.0 min	92.325	10.495	0.025	0.30
210 sec/3.5 min	92.32	10.500	0.030	0.36
240 sec/4 min	92.315	10.505	0.035	0.42
270 sec/4.5 min	92.315	10.505 10.505	0.035	0.42
300 sec/5 min	92.315	10.505	0.035	0.42
6 minutes	92.31	10.510	0.040	0.48
7 minutes	92.3075	10.5125	0.0425	0.51
8 minutes	92.305	10.515	0.0450	0.54
9 minutes	92.305	10.515	0.0450	0.54
10 minutes	92.305	10.515	0.0450	0.54
15 minutes	92.30	10.520	0.050	0.60

3 10 0791

Well No. P2-10-NE

102.84

	SEC/MIN/HOURS	ACTUAL TIME (measured)	WATER LEVEL (measured) ft	DRAWDOWN (calculated) ft	inches
	20 minutes	92.295	10.525	0.0550	0.66
	25 minutes	92.2725	10.5275	0.0575	0.69
	30 minutes	92.29	10.530	0.0600	0.72
	40 minutes	92.285	10.535	0.0650	0.78
	50 minutes	92.28	10.540	0.0700	0.84
	60 minutes/1 hour	92.2725	10.5475	0.0775	0.93
	70 minutes	92.27	10.550	0.080	0.96
	80 minutes	92.265	10.555	0.085	1.02
	90 min/1 hr 30 min	92.2625	10.5575	0.0875	1.05
	100 min/1 hr 40 min	92.26	10.560	0.090	1.08
11:50	150 min/2 hr 30 min	92.2425	10.5775	0.1075	1.29
12:40	200 min/3 hr 20 min	92.23	10.590	0.120	1.44
1:30	250 min/4 hr 10 min	92.22	10.600	0.130	1.56
2:20	300 min/5 hours	92.205	10.615	0.145	1.74
3:10	350 min/5 hr 50 min	92.195	10.625	0.155	1.86
	400 min/6 hr 40 min	Stop 8 min 92.195	10.625	0.155	1.86
3:12 5 gal 43 sec = 6.9767 gpm	450 min/7 hr 30 min				
	480 min/8 hours		92.35		0.470
	RECOVERY 3:55 pump				
3:55 5 gal / 1 min flow dropping	6 seconds	92.195	.625	.155	
	18 seconds	92.1975	.6225	.1525	
	30 seconds	92.1975	.6225	.1525	
	60 sec/1 min	92.1975	.6225	.1525	
	90 sec/1.5 min	92.20	.620	.15	

3 10 0792

Well No. 12-10-105

SEC/MIN/HOURS	ACTUAL TIME (measured)	WATER LEVEL (measured)	DRAWDOWN (calculated)
120 sec/2 min	92.205	10.615	.145
150 sec/2.5 min	92.21	.610	.14
180 sec/3 min	92.215	0.605	.135
210 sec/3.5 min	92.22	0.600	.13
240 sec/4 min	92.225	0.595	.125
270 sec/4.5 min	92.2275	0.5925	.1225
300 sec/ 5 min	92.2275	0.5925	.1225
6 minutes	92.235	0.585	.115
7 minutes	92.24	0.580	.11
8 minutes	92.2425	0.575	.105
9 minutes	92.2425	0.575	.105
10 minutes	92.2425	10.575	.105
15 minutes	92.25	10.560	.09
20 minutes	92.265	10.~~550~~ 0.555	.085
25 minutes	92.27	10.~~500~~ 0.550	.08
30 minutes	92.275	10.545	.075
35 minutes	92.27	10.550	.08
40 minutes	92.275	10.545	.075
45 minutes	92.28	10.540	.07
50 minutes	92.285	10.535	.065
60 min/1 hour	92.29	10.530	.06
70 min/1 hr 10 min	92.29	10.530	.06
80 min/1 hr 20 min	92.30	10.520	.05
90 min/1 hr 30 min	92.30	10.520	.05
100 min/1 hr 40 min	92.31	10.510	.04

3 10 0793

Well No. P2-10-NE

SEC/MIN/HOURS	ACTUAL TIME (measured)	WATER LEVEL (measured)	DRAWDOWN (calculated)
150 min/2 hr 30 min		4.42	
200 min/3 hr 20 min			
250 min/4 hr 10 min			
300 min/5 hours			
350 min/5 hr 50 min			
400 min/6 hr 40 min			
450 min/7 hr 30 min			
480 min/8 hours			

3 10 0794

MW-10D= ELEV= 104.40

PZE= ELEV. 104.43

Pump Test Data

water level d[illegible] meter[illegible]

Site Name: Chevron Orlando

Well Number: 10D/PZE

Date: 10-13-93

Pumping or Observation Well?

Discharge Rate: _____

Time Pump Started: 0923

Time Pump Stopped: _____

Time Recovery Completed: _____

3.55 meter
11.644 ft. 92[illegible]

SEC/MIN/HOURS	ACTUAL TIME (measured)	WATER LEVEL (measured)	DRAWDOWN (calculated)
6 seconds	6	3.550 meters 11.644 ft.	[illegible]
18 seconds	1[illegible]	3.550 11.644	[illegible]
30 seconds	[illegible]	3.550 11.644	[illegible]
60 sec/1 min	6[illegible]	3.550 11.644	
90 sec/1.5 min	7[illegible]	3.555 11.6[illegible]	[illegible]
120 sec/2 min	[illegible]	3.560 11.6768	[illegible]
150 sec/2.5 min		3.560 11.6[illegible]	
180 sec/3.0 min		3.565 11.[illegible]	0.0492
210 sec/3.5 min		3.572 11.71[illegible]	[illegible]
240 sec/4 min	[illegible]	3.575 11.7[illegible]	0.08[illegible]0
270 sec/4.5 min	4.5	3.580 11.7[illegible]	0.09[illegible]4
300 sec/5 min	[illegible]	3.582 11.74[illegible]	[illegible]
6 minutes		3.590 11.7752	0.13120
7 minutes		3.595 11.79[illegible]	0.1[illegible]
8 minutes	[illegible]	3.600 11.808	0.1[illegible]4
9 minutes	[illegible]	3.605 11.8244	0.1[illegible]4
10 minutes		3.611 11.84408	0.20005
15 minutes	[illegible]	3.622 11.8801[illegible]	0.2361[illegible]

3.2[illegible]

3 10 0795

Well No. 10 TRAIN PASSED @ 1155

SEC/MIN/HOURS	ACTUAL TIME (measured)	WATER LEVEL (measured)	DRAWDOWN (calculated)
20 minutes	[illegible]	3.629 metres 11.90312 ft	0.25912
25 minutes	[illegible]	3.631 11.90[illegible]	[illegible]
30 minutes	[illegible]	3.638 11.93264	[illegible]
40 minutes	[illegible]	3.642 11.9457[illegible]	[illegible]
50 minutes	[illegible]	[illegible]	[illegible]
60 minutes/1 hour	[illegible]	3.6[illegible] 11.9[illegible]	[illegible]472
70 minutes	[illegible]	3.653 11.9[illegible]	[illegible]
80 minutes	[illegible]	[illegible]	[illegible]
90 min/1 hr 30 min	90'	[illegible]	[illegible]
100 min/1 hr 40 min	100'	3.662 12.01130	0.36[illegible]
150 min/2 hr 30 min	150'	3.670 12.05728	0.41328
200 min/3 hr 20 min	200'	3.682 12.07696	0.43290
250 min/4 hr 10 min	250'	3.688 12.09664	0.45264
300 min/5 hours	300 min	3.695 12.1196	0.4756
350 min/5 hr 50 min	350'	3.701 12.13928	0.4[illegible]
400 min/6 hr ~~40~~ 30 min	6 hr 28 min	3.688 ~~12.09~~	0.45[illegible]
~~450 min/7 hr 30 min~~			
~~480 min/8 hours~~			
RECOVERY		3.685 12.08668	.4428
6 seconds		3.684 12.08[illegible]	.4395
18 seconds		3.684 12.08352	.4395
30 seconds		3.682 12.07696	.433
60 sec/1 min			
90 sec/1.5 min		3.679 12.[illegible]712	.423

3 10 0796

Well No. 10 E

SEC/MIN/HOURS	ACTUAL TIME (measured)	WATER LEVEL (measured)	DRAWDOWN (calculated)
120 sec/2 min	2	3.678 12.0635	.4198
150 sec/2.5 min	2.5	3.673 12.04744	.4034
180 sec/3 min	3	3.668 12.0307	.387
210 sec/3.5 min	3.5	3.665 12.0212	.3772
240 sec/4 min	4	3.662 [illegible]	.3674
270 sec/4.5 min	4.5	3.658 11.9884	.3542
300 sec/ 5 min	5	3.655 11.9784	[illegible]
6 minutes	6	3.650 11.972	.3[illegible]
7 minutes		3.646 11.9588	.3[illegible]
8 minutes		3.640 11.9[illegible]	.2[illegible]
9 minutes		3.636 11.9[illegible]	[illegible]
10 minutes		3.632 11.91[illegible]	.2[illegible]
15 minutes		3.618 11.5[illegible]	.223
20 minutes		3.612 11.[illegible]	.2[illegible]
25 minutes		3.605 11.8244	.1[illegible]
30 minutes		3.600 11.804	.1[illegible]
35 minutes		3.600 11.80[illegible]	.1[illegible]
40 minutes		3.596 11.79488	.151
45 minutes		3.592 11.79176	.1[illegible]
50 minutes		3.590 11.7752	.1[illegible]
60 min/1 hour		3.588 11.7680[illegible]	.12[illegible]
70 min/1 hr 10 min		3.582 11.7496	.10[illegible]
80 min/1 hr 20 min		3.582 11.7496	.10[illegible]
90 min/1 hr 30 min		3.580 11.7424	.078
100 min/1 hr 40 min		3.580 11.7424	.0[illegible]

3 10 0797

Well No. 10 P2E

SEC/MIN/HOURS	ACTUAL TIME (measured)	WATER LEVEL (measured)	DRAWDOWN (calculated)
150 min/2 hr 30 min	2.26.40	Feet 11.75/3.582	.100
200 min/3 hr 20 min			
250 min/4 hr 10 min			
300 min/5 hours			
350 min/5 hr 50 min			
400 min/6 hr 40 min			
450 min/7 hr 30 min			
480 min/8 hours			

Feet
3.28 / meter

3 10 0798

Deep well - periodic check to see if there's a cone

Pump Test Data

Site Name: Chevron Orlando

Well Number: 14

Date: 4/13/93

Pumping or Observation Well?

Discharge Rate: _____

Time Pump Started: _____

Time Pump Stopped: _____

Time Recovery Completed: _____

SEC/MIN/HOURS	ACTUAL TIME (measured)	WATER LEVEL (measured)	DRAWDOWN (calculated)
6 seconds			
18 seconds			
30 seconds			
60 sec/1 min			
90 sec/1.5 min			
120 sec/2 min			
150 sec/2.5 min			
180 sec/3.0 min			
210 sec/3.5 min			
240 sec/4 min			
270 sec/4.5 min			
300 sec/5 min			
6 minutes			
7 minutes			
8 minutes			
9 minutes			
10 minutes	12	33.35	
15 minutes		33.28	

3 10 0799

Well No. _____

SEC/MIN/HOURS	ACTUAL TIME (measured)	WATER LEVEL (measured)	DRAWDOWN (calculated)
20 minutes	33.30		
25 minutes			
30 minutes			
40 minutes			
50 minutes			
60 minutes/1 hour			
70 minutes			
80 minutes			
90 min/1 hr 30 min			
100 min/1 hr 40 min			
150 min/2 hr 30 min	~~33.27~~	33.27	
200 min/3 hr 20 min	~~33.28~~	33.28	
250 min/4 hr 10 min	~~33.24~~	33.24	
300 min/5 hours		33.24	
350 min/5 hr 50 min			
400 min/6 hr 40 min			
450 min/7 hr 30 min			
480 min/8 hours			
RECOVERY			
6 seconds			
18 seconds			
30 seconds			
60 sec/1 min			
90 sec/1.5 min			

Well No. _____

SEC/MIN/HOURS	ACTUAL TIME (measured)	WATER LEVEL (measured)	DRAWDOWN (calculated)
120 sec/2 min			
150 sec/2.5 min			
180 sec/3 min			
210 sec/3.5 min			
240 sec/4 min			
270 sec/4.5 min			
300 sec/ 5 min			
6 minutes			
7 minutes			
8 minutes			
9 minutes			
10 minutes			
15 minutes			
20 minutes			
25 minutes			
30 minutes			
35 minutes			
40 minutes			
45 minutes			
50 minutes			
60 min/1 hour			
70 min/1 hr 10 min			
80 min/1 hr 20 min			
90 min/1 hr 30 min			
100 min/1 hr 40 min			

Well No. _____

SEC/MIN/HOURS	ACTUAL TIME (measured)	WATER LEVEL (measured)	DRAWDOWN (calculated)
150 min/2 hr 30 min			
200 min/3 hr 20 min			
250 min/4 hr 10 min			
300 min/5 hours			
350 min/5 hr 50 min			
400 min/6 hr 40 min			
450 min/7 hr 30 min			
480 min/8 hours			

3 10 0002

SKT

Pump Test Data

Site Name: Chevron Orlando

Well Number: 4D

Date: 10/13/93

Pumping or (Observation) Well?

Discharge Rate: 6.4 gpm

Time Pump Started: 0930

Time Pump Stopped:

Time Recovery Completed:

steel tape start wl = 10.28 13' Hold wet 2.67' 12' Hold 1.72 wet

SEC/MIN/HOURS	ACTUAL TIME (measured)	WATER LEVEL (measured) wet	DRAWDOWN (calculated) ft
6 seconds		10.28'	
18 seconds			
30 seconds		1.79/10.21	+.007
60 sec/1 min			
90 sec/1.5 min		1.73/10.27	+0.01
120 sec/2 min	2' 15"	1.79/10.21	+0.007
150 sec/2.5 min			
180 sec/3.0 min		1.71/10.29	-0.01
210 sec/3.5 min		1.71/10.29	-0.01
240 sec/4 min		1.71/10.29	-0.01
270 sec/4.5 min		1.72/10.28	-0 - ~~0.015~~
300 sec/5 min	5' 30	1.705	-0.015
6 minutes	6' 30"	1.66/10.34	-0.06
7 minutes			
8 minutes	8.06"	1.71/10.29	-0.01
9 minutes		1.70/10.30	-0.02
10 minutes		1.68/10.32	-0.04
15 minutes	15' 30"	1.69/10.31	-0.03

meter checked 6.4 gpm

3 10 0003 [illegible]
31' 4" [illegible]

Well No. WR-MW-4D [illegible]

10.28 SWL

SEC/MIN/HOURS	ACTUAL TIME (measured)	WATER LEVEL (measured) wet	DRAWDOWN (calculated) −
20 minutes		1.665/10.[illegible]	-0.055
25 minutes	25' 30"	1.660/10.34	-0.06
30 minutes		1.66/10.34	-0.06
40 minutes		1.69/10.31	-0.03
50 minutes		1.65 [illegible]	[illegible]
60 minutes/1 hour		1.67 [illegible]	[illegible]
70 minutes		1.70 [illegible]	[illegible]
80 minutes		1.69 [illegible]	[illegible]
90 min/1 hr 30 min		1.70 [illegible]	[illegible]
100 min/1 hr 40 min		1.67 [illegible]	[illegible]
150 min/2 hr 30 min		1.64 [illegible]	[illegible]
200 min/3 hr 20 min		1.62 [illegible]	[illegible]
250 min/4 hr 10 min		1.64 [illegible]	[illegible]
300 min/5 hours		1.64 [illegible]	[illegible]
350 min/5 hr 50 min		1.63 [illegible]	[illegible]
400 min/6 hr 40 min		1.63 [illegible]	[illegible]
450 min/7 hr 30 min			
480 min/8 hours			
RECOVERY			
6 seconds			
18 seconds			
30 seconds			
60 sec/1 min			
90 sec/1.5 min			

<6.3

Pump shut down

Well No. _____

SEC/MIN/HOURS	ACTUAL TIME (measured)	WATER LEVEL (measured)	DRAWDOWN (calculated)
120 sec/2 min			
150 sec/2.5 min			
180 sec/3 min			
210 sec/3.5 min			
240 sec/4 min		1.63	
270 sec/4.5 min			
300 sec/ 5 min			
6 minutes			
7 minutes			
8 minutes			
9 minutes			
10 minutes	12'3"	1.63	
15 minutes			
20 minutes			
25 minutes	26'	1.63	
30 minutes			
35 minutes			
40 minutes			
45 minutes	46'	1.64	
50 minutes			
60 min/1 hour		1.63	
70 min/1 hr 10 min			
80 min/1 hr 20 min			
90 min/1 hr 30 min			
100 min/1 hr 40 min		1.63	

Well No. _____

SEC/MIN/HOURS	ACTUAL TIME (measured)	WATER LEVEL (measured)	DRAWDOWN (calculated)
150 min/2 hr 30 min			
200 min/3 hr 20 min			
250 min/4 hr 10 min			
300 min/5 hours			
350 min/5 hr 50 min			
400 min/6 hr 40 min			
450 min/7 hr 30 min			
480 min/8 hours			

Task Environmental

Pump Test Conducted: 10-13-93

Water Level Data

MW - 10D Total Well Depth = 29.49 Ft

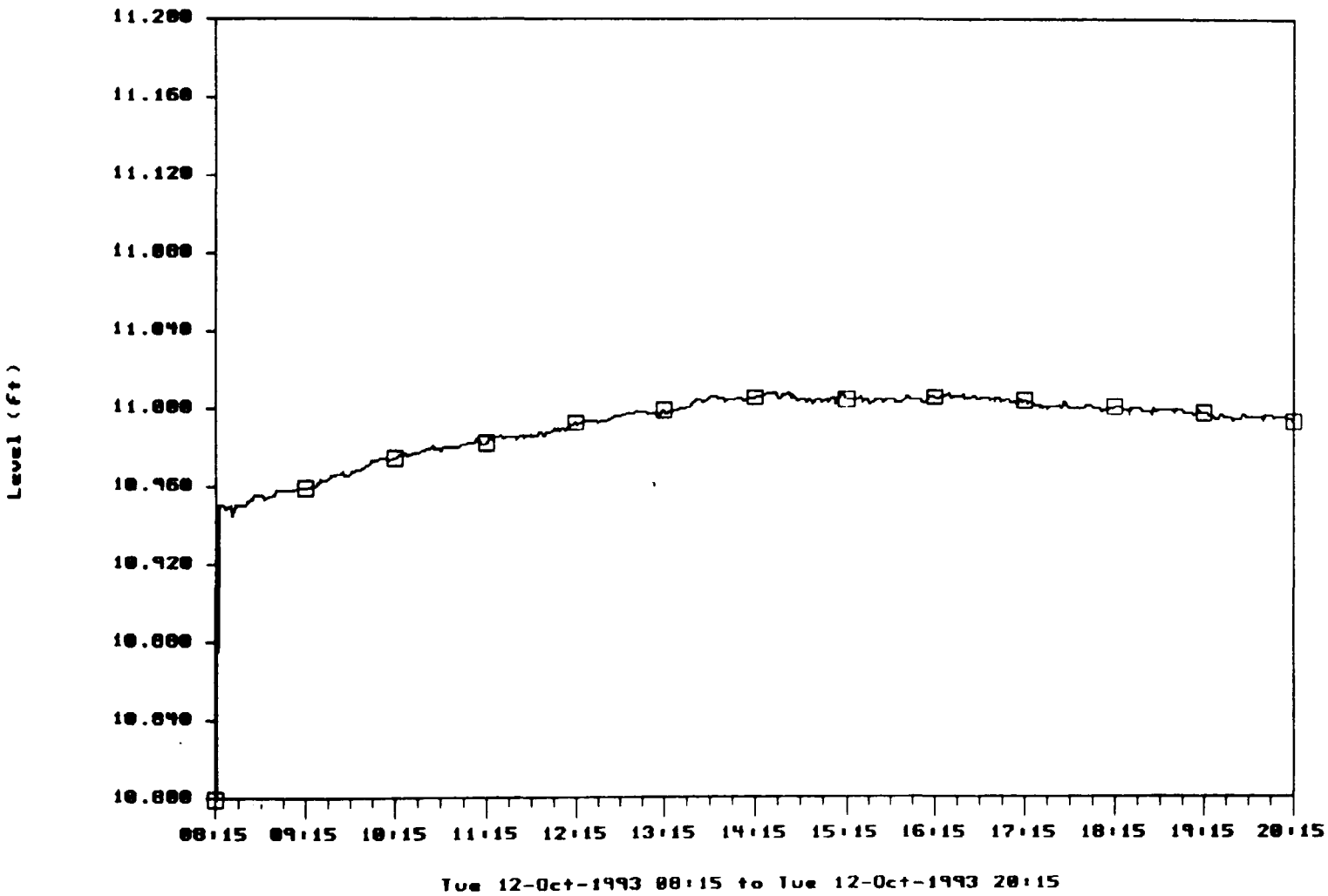
Date	Time(Hr)	Static Depth(Ft)	Column Height(Ft)
10/12/93	07:00	11.48	19.61
10/13/93	08:10	11.48	19.61
	10:56	23.44	7.65
	11:59	23.88	7.21
	13:51	25.19	5.90
	14:22	26.16	4.93
	15:16	27.13	3.96
	15:47	20.73	10.36
	16:03	11.76	19.33
	16:38	11.64	19.45
	17:36	11.60	19.49

MW - 9D Total Well Depth = 31.09 Ft

Date	Time(Hr)	Static Depth(Ft)	Column Height(Ft)
10/12/93	07:00	9.05	22.04
10/13/93	08:15	9.09	22.00
	11:56	9.09	22.00
	13:54	9.07	22.02
	14:26	9.07	22.02
	15:21	9.09	22.00
	16:44	9.09	22.00
	17:43	9.08	22.01

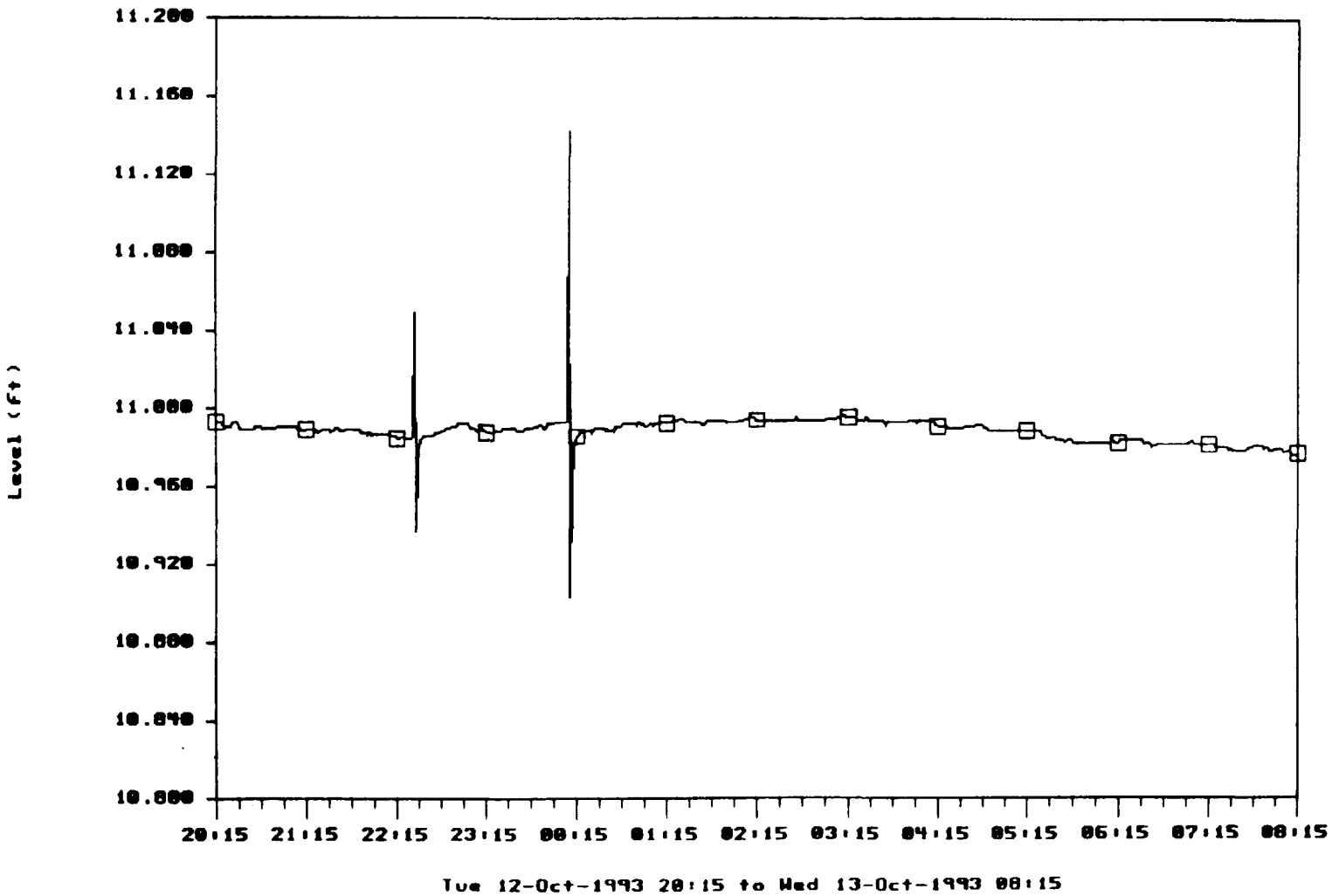
Note: Data recorded using well sounder tape.

Task Environmental MW-9D Level Data 10-12-93



□ = LEVEL

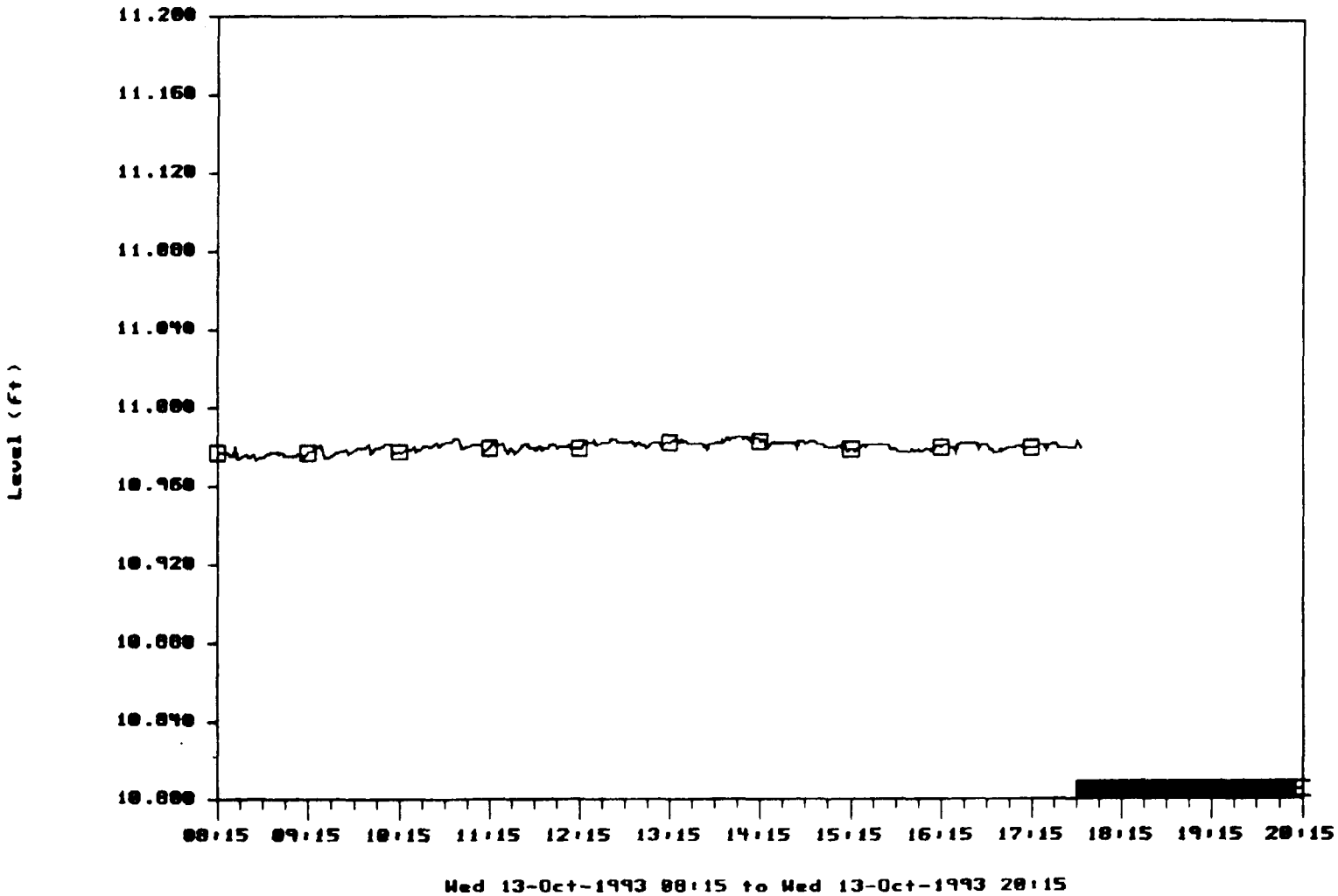
Task Environmental MW-9D Level Data



□ = LEVEL

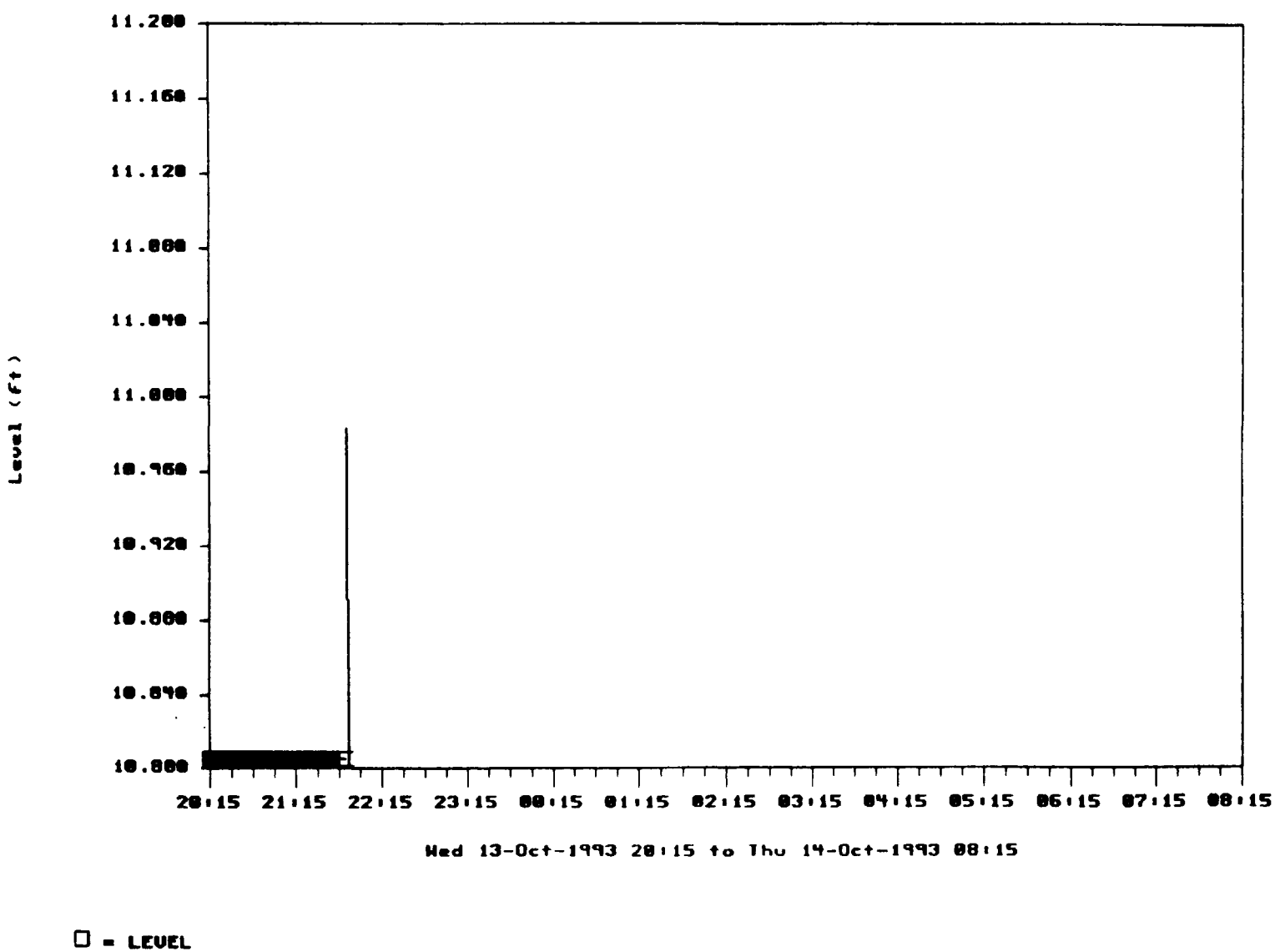
3 10 0009

Task Environmental MW-9D Level Data



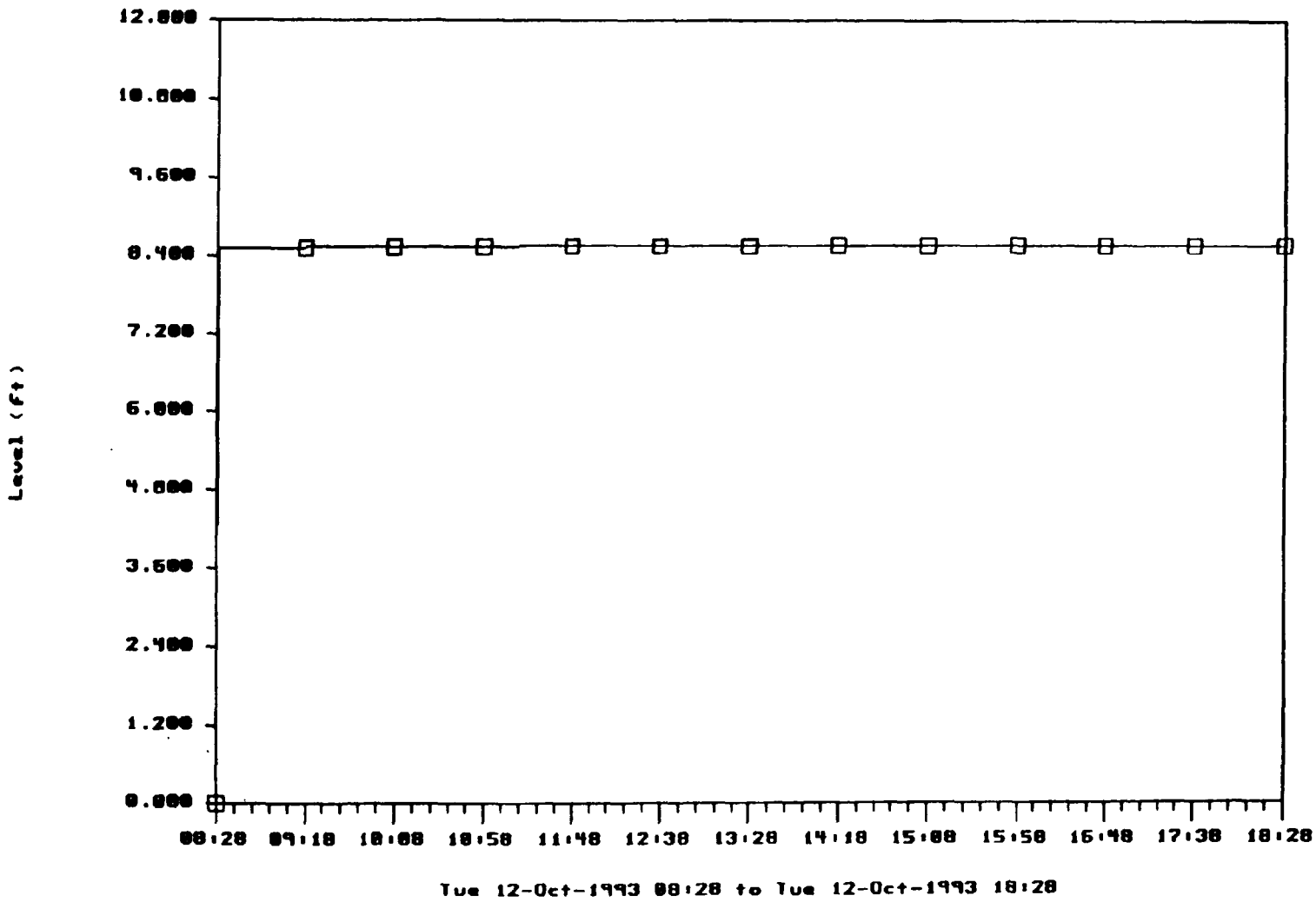
3 10 0610

Task Environmental MW-9D Level Data

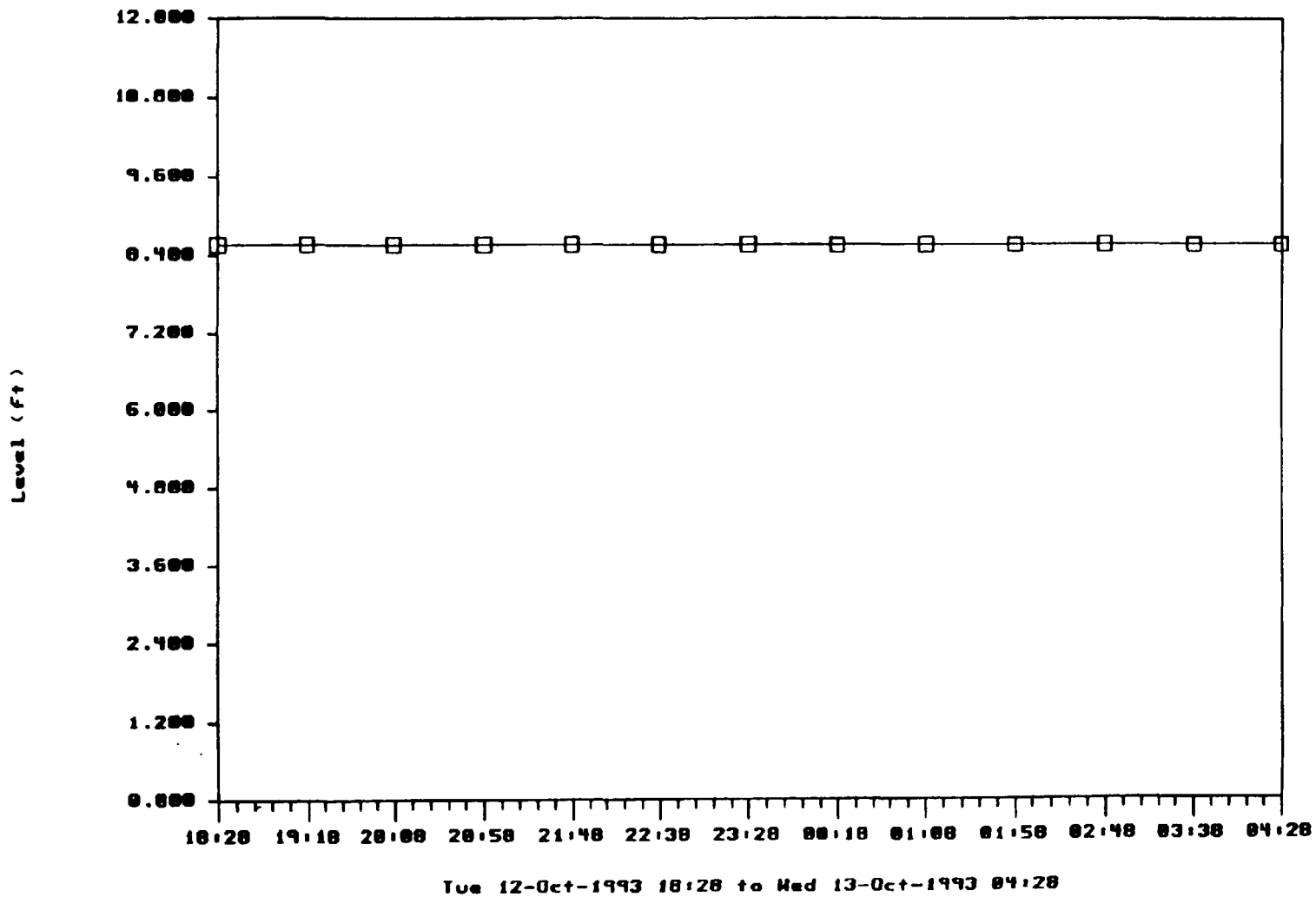


3 10 0011

Task Environmental MW-10D Level Data (Uncorrected)10-13-93



Task Environmental MW-10D Level Data (Uncorrected)10-13-93



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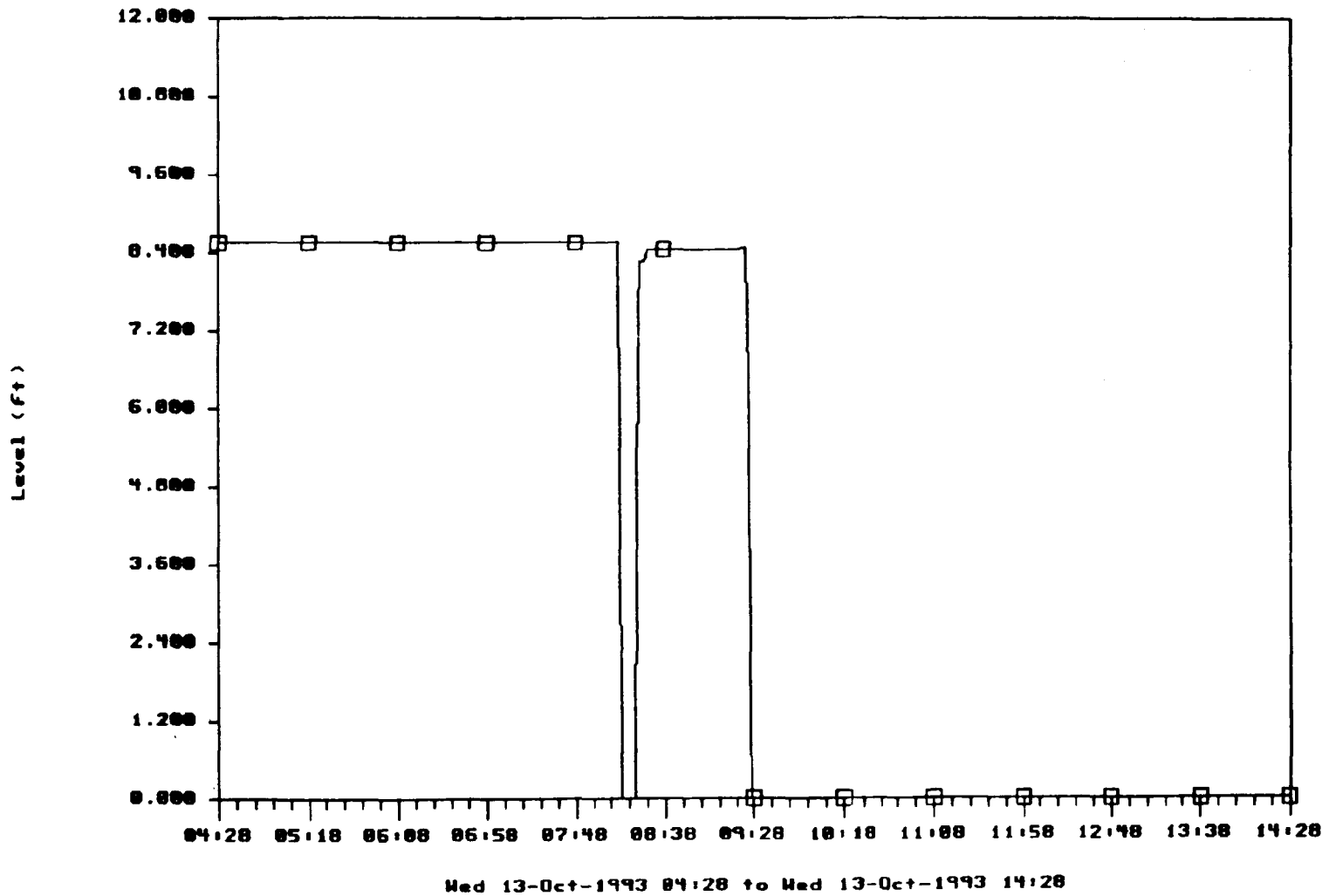
Task Environmental MW-10D Level Data (Uncorrected)10-13-93



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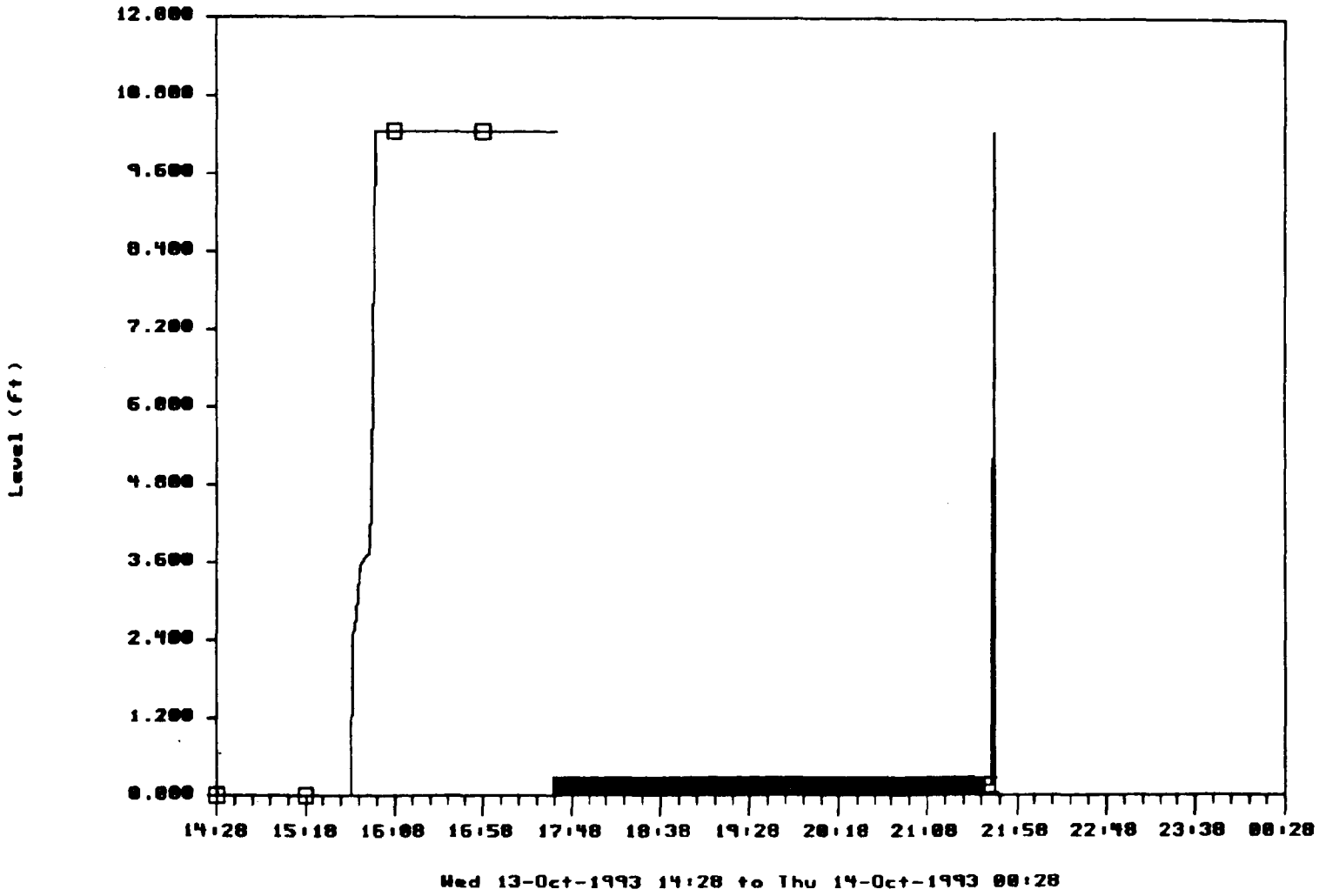
Task Environmental MW-10D Level Data (Uncorrected)10-13-93



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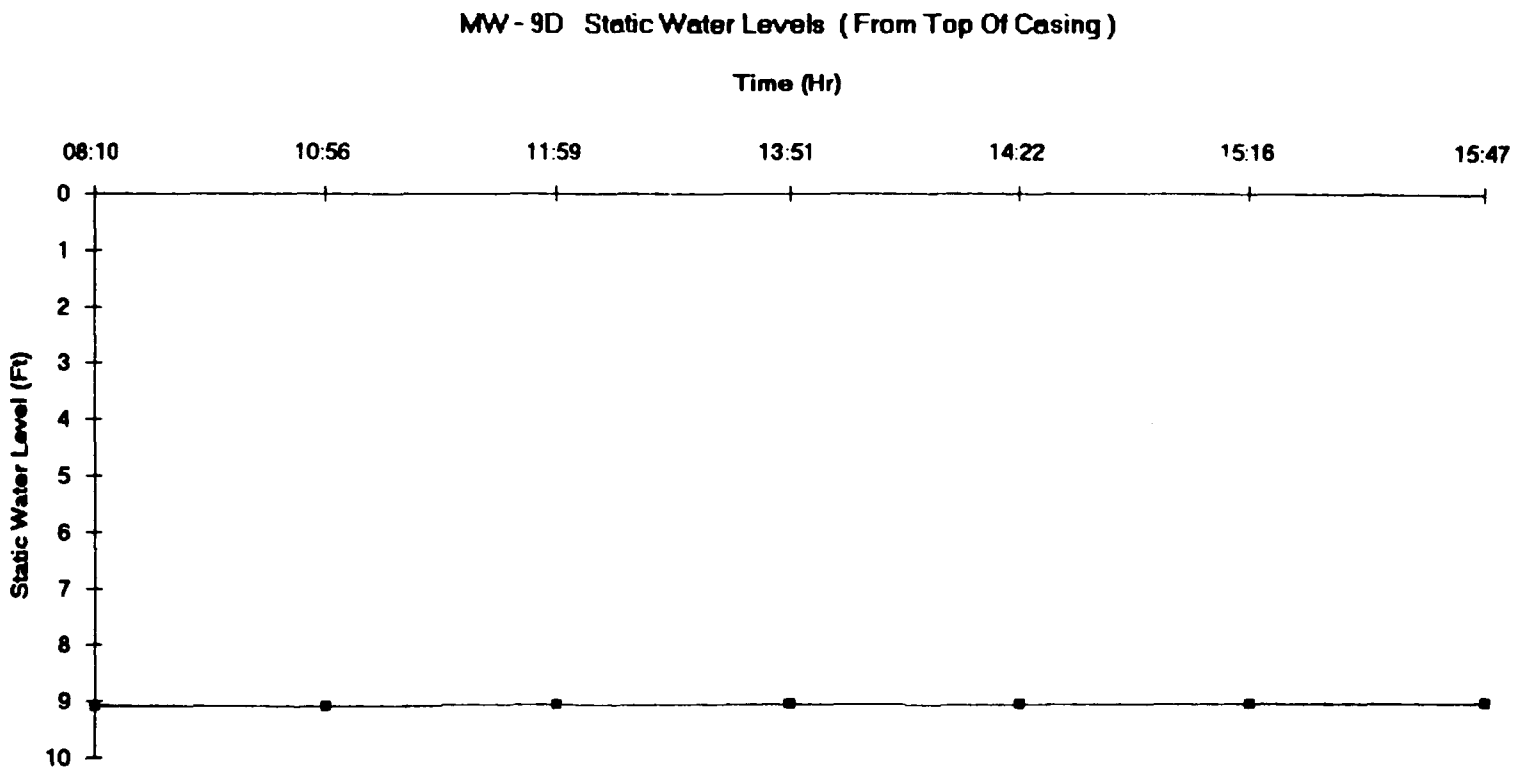
3 10 0014

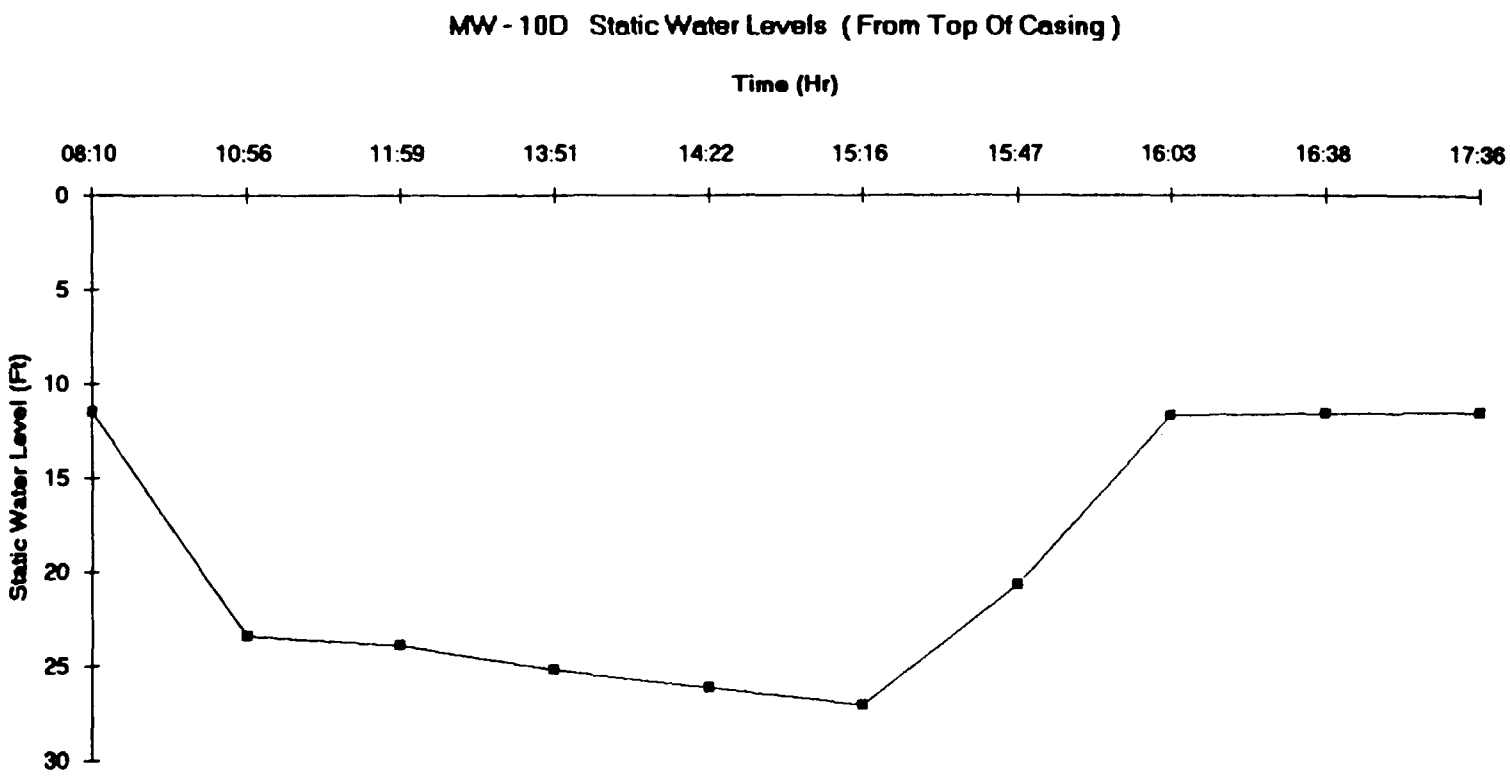
Task Environmental

Pump test Conducted: 10-13-93



Task Environmental

Pump test Conducted: 10-13-93



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APPENDIX E
COMPUTER MODEL INPUT DATA

3 10 0318

APPENDIX E
COMPUTER MODEL SENSITIVITY ANALYSIS AND INPUT AND OUTPUT DATA

MODEL SENSITIVITY ANALYSIS

Sensitivity analysis was used to evaluate model uncertainty by determining how the results of the computer simulations (i.e., predicted chemical concentrations) vary in response to changes in key input parameters. In this process, simulations are run in which a single input parameter is varied within a reasonable range of values for that parameter, while others are kept constant.

Based on the sensitivity analysis, the model results are most sensitive to changes in hydraulic conductivity, recharge rates, and degradation rates. The model is relatively insensitive to changes in aquifer thickness, effective porosity, and bulk density. Some parameters are interrelated; for example, the hydraulic conductivity cannot change without a corresponding change in the recharge rate, so that the mass of water flowing into and out of the groundwater system remains balanced, resulting in accurate prediction of observed gradients.

In addition, model parameters are constrained by the observed solute distribution at the site. During model calibration, the hydraulic parameters (hydraulic conductivity, recharge rate, porosity, aquifer thickness, dispersion) were held constant, and the degradation rate and source parameters were adjusted within the range of literature values to match the concentrations observed onsite and immediately downgradient of the site. If a different hydraulic conductivity is used for the surficial aquifer, the degradation rate would also need to be adjusted to simulate site conditions. For example, if the hydraulic conductivity were determined to be larger than the values measured onsite, the rate of solute transport would increase, and the degradation rate would also need to be increased so that modeled concentrations would remain consistent with observed concentrations in the downgradient wells (e.g., MW-11D, MW-1S, MW-1D, MW-12D).

Due to the constraints imposed by the observed contaminant concentrations at the site, no combination of hydraulic conductivity and degradation rates that resulted in matching onsite concentrations would predict significantly different concentrations offsite (e.g., near Lake Fairview). However, two parameters, longitudinal dispersivity (α_L) and the specified water table elevation at the model boundaries (i.e., specified head boundary conditions), have been subjected to additional analysis to quantitatively establish model sensitivity to them.

Sensitivity was evaluated in terms of ß-BHC, which is the most frequently detected BHC compound in groundwater; the behavior and sensitivity of other compounds would be similar. Simulated ß-BHC concentrations were compared with observed (measured) concentrations, and the results of the sensitivity analysis presented in terms of residuals (i.e., the differences between simulated and observed values). Statistical evaluation of the model residuals included computation of the root mean square of error (RMSE), bias of residuals (BIAS), standard deviation of the residual error (σ_{re}), and coefficient of determination (r^2), where:

$$RMSE = \sqrt{\frac{\sum_{i=1}^{n} (V_i^s - V_i^0)^2}{n}},$$

$$BIAS = \frac{\sum_{i=1}^{n} (V_i^s - V_i^0)}{n},$$

$$\sigma_{re} = \sqrt{\frac{n \sum_{i=1}^{n} (V_i^s - V_i^0)^2 - (\sum_{i=1}^{n} (V_i^s - V_i^0))^2}{n(n-1)}},$$

and

$$r^2 = \frac{(\sum_{i=1}^{n} (V_i^s - V^s)(V_i^0 - V^0))^2}{(\sum_{i=1}^{n} (V_i^s - V^s)^2)(\sum_{i=1}^{n} (V_i^0 - V^0)^2)}.$$

V_i^s and V_i^o are the simulated and observed ß-BHC concentrations, respectively, at location i, and V^s and V^o are the mean values of V_i^s and V_i^o, respectively. RMSE is the root mean square error of the model residuals—a statistical measure of the "average" difference between simulated and observed values. A RMSE value of zero would indicate that all model residuals were zero, and that simulated ß-BHC concentrations, for example, all perfectly matched observed data. BIAS is the mean of the residual distribution. A positive BIAS value, for example, indicates that the model tends to overestimate ß-BHC concentrations, in comparison to observed values. The standard deviation of the residual error, σ_{re} , is a measure of the breadth of the residual distribution. The r^2 defines the linear association between simulated and observed values. The r^2 for the base (reference) case is 0.98 (Table 1), indicating that 98 percent of the variation in simulated ß-BHC concentrations can be accounted for by the variation in the observed contaminant concentrations.

LONGITUDINAL DISPERSIVITY (α_L)

Based on analysis of groundwater data (TASK/PTI 1994, Figure 4-6), the distance of chemical transport (distance from the source to the downgradient extent of detectable concentration of chemicals of concern) is about 50 m. Several authors have suggested that the longitudinal dispersivity in saturated porous media can be estimated as 10 percent of the mean travel distance (Gelhar and Axness 1981; U.S. EPA 1985), or approximately 5 m, which was the value used in the modeling conducted by PTI (TASK/PTI 1994). To evaluate model sensitivity to this parameter, α_L values of 0.1–12 m were used in this study. The transverse dispersivity, α_T , was estimated as $\alpha_T = \alpha_L/3$ (U.S. EPA 1985).

Results of the sensitivity analysis on longitudinal dispersivity are summarized in Table 1. Model results are in good agreement with the observed data when α_L is 5 m (RMSE, BIAS, and σ_{re} are smallest, and r^2 is largest in this case), and residuals increase as α_L diverges from 5 m (Table 1). Thus, the best estimate for α_L is the value used in the model, 5 m. In the reference case for $\alpha_L = 5$ m, the coefficient of determination, r^2, is high (0.98), indicating that the simulation results generally are in good agreement with observed values. The model is relatively insensitive to variations in α_L between 0.1 and 12, with r^2 values all above 90 percent, and RMSE values of 1.59–3.96 μg/L.

SPECIFIED HEAD BOUNDARY CONDITIONS

To evaluate the sensitivity of the model to uncertainty or variations in the elevation of the water table at the model boundary, model simulations were conducted in which the specified constant heads at the boundary were varied within historically observed ranges (Table 2) to obtain the minimum and maximum possible hydraulic gradients across the site. This is probably an artificially large variation, because lake water levels (i.e., model boundary heads) in the area would be expected to rise and fall together, in response to local weather. For these simulations, however, the maximum observed water levels at upgradient lakes were used in conjunction with the minimum observed water levels at downgradient lakes as the model boundary conditions—and vise-versa. Table 3 summarizes the sensitivity analysis results, which demonstrated that the model is not sensitive to changes in specified boundary heads within reasonable (potential) ranges for the site.

REFERENCES

Gelhar, L.W., and C.J. Axness. 1981. Stochastic analysis of macro-dispersion in three-dimensionally heterogeneous aquifers. New Mexico Institute of Mining and Technology, Soccorro, NM. Report No. H-8, Hydraulic Research Program. 140 pp.

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U.S. EPA. 1985. Water quality assessment: A screening procedure for toxic and conventional pollutants in surface and groundwater—part II. U.S. Environmental Protection Agency, Environmental Research Laboratory, Athens, GA. EPA/600/6-85/002b.

TABLE 1. SUMMARY OF SENSITIVITY ANALYSIS ON LONGITUDINAL DISPERSIVITY

Case	α_L (m)	α_t (m)	RMSE (µg/L ß-BHC)	BIAS (µg/L ß-BHC)	σ_{re} (µg/L ß-BHC)	r^2	Comment
1	12	4	3.96	-1.31	4.00	0.91	
2	5	1.67	1.59	0.85	1.44	0.98	Reference case
3	0.5	0.17	3.11	1.36	2.99	0.96	
4	0.1	0.033	3.40	1.38	3.33	0.95	

TABLE 2. LAKE WATER LEVEL ELEVATIONS IN STUDY AREA

	Average Elevation (ft MSL)	Minimum Elevation (ft MSL)	Maximum Elevation (ft MSL)	Maximum Variation (percent)
Lake Fairview	87.4	84.6	88.6	-3.2% to 1.4%
Lake Silver	91.8	91.1	92.1	-0.8% to 0.3%
Lake Wekiva	86.0	NA	NA	- -
Lake Lawne	87.2	84.3	88.6	-3.3% to 1.6%
Bay Lake	90.5	89.2	91.5	-1.4% to 1.1%
Lake Sarah	NA	NA	NA	- -

MSL = Mean sea level elevation datum.

NA = Data not available.

TABLE 3. SUMMARY OF SENSITIVITY ANALYSIS ON SPECIATED HEAD BOUNDARY CONDITIONS

Case	Lake Fairview Water Level (ft MSL)	Lake Silver Water Level (ft MSL)	Bay Lake Water Level (ft MSL)	RMSE (µg/L ß-BHC)	BIAS (µg/L ß-BHC)	σ_{rs} (µg/L ß-BHC)	r^2	Comment
1	88.6	92.1	89.2	1.83	1.17	1.51	0.99	Minimum gradient
2	87.4	91.8	90.5	1.59	0.85	1.44	0.98	Reference case
3	84.6	91.1	91.5	1.67	0.35	1.74	0.98	Maximum gradient

MSL = Mean sea level elevation datum.

NA = Data not available.

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SUTRA SOLUTE TRANSPORT     3 10  0026          ORLANDO.D5
......... CHEVRON ORLANDO BENZENE SIMULATION - MAY 23, 1994 .........
+++++++++   PTI ENVIRONMENTAL SERVICES, CONTRACT C460.  CLT  ++++++++
  761  727  241    0   56   41  761   00   16   10            #3 CONTROL NUMBERS
    0    1    1    1    1                                        #4 MODE OPTIONS
    0.00e0      1.000e-02      1.000e-02                     #5 NUMERICAL CONTROL
   30       0.10e+07       5.04e+08         1       2.0       5.04e+08    1    1
    1    1    0    0    0    0    0    1                      #7 OUTPUT OPTIONS
         1                                                 #8 ITERATION CONTROLS
    0.00e0  0000.e00    1.0e-9       1.0    0.00e0    0.00e0       1.00  #9 FLUID
    0.00e0     0.e00     0.000   2.65e+3                                #10 SOLID
LINEAR        2.0e-4                                        #11 ADSORPTION DATA
    0.00e0    0.00e0  -5.00e-8  -5.00e-8                  #12 PROD (DEGRADATION
    0000e0   00.00e0                                                  #13 GRAVITY
NODE             1.00       1.00      7.30    0.35e0          #14A NODEWISE SCALES
    1         4028.21          0       1.0       1.0
    2         3763.97      35.38       1.0       1.0
    3         3486.04      75.28       1.0       1.0
    4         3191.67     116.37       1.0       1.0
    5          2824.9     169.08       1.0       1.0
    6         2560.66     205.67       1.0       1.0
    7         2129.88     266.65       1.0       1.0
    8         1854.66     501.08       1.0       1.0
    9         1324.37      933.5       1.0       1.0
   10          852.48    1111.91       1.0       1.0
   11          370.39    1285.67       1.0       1.0
   12            5.57     1412.6       1.0       1.0
   13            4.97    1798.35       1.0       1.0
   14            4.97       2185       1.0       1.0
   15               0    2581.58       1.0       1.0
   16          175.71    2792.98       1.0       1.0
   17           466.6    2825.36       1.0       1.0
   18          609.02    2920.96       1.0       1.0
   19          684.77    3110.52       1.0       1.0
   20          796.79    3217.12       1.0       1.0
   21         1156.79    3212.15       1.0       1.0
   22         1415.61    3217.12       1.0       1.0
   23         1720.19    3217.12       1.0       1.0
   24         1968.48    3212.15       1.0       1.0
   25         2276.09    3206.59       1.0       1.0
   26         2272.93    3008.89       1.0       1.0
   27         4036.34     470.36       1.0       1.0
   28         3686.28     531.79       1.0       1.0
   29         3372.35     570.64       1.0       1.0
   30         3071.97     581.93       1.0       1.0
   31         2844.32     598.78       1.0       1.0
   32         2622.39      626.2       1.0       1.0
   33         2291.15     659.76       1.0       1.0
   34         2057.47      777.2       1.0       1.0
   35         1794.28     941.48       1.0       1.0
   36         1704.69    1376.01       1.0       1.0
   37         1420.71    1386.54       1.0       1.0
   38         1045.22    1452.35       1.0       1.0
   39          548.04    1614.96       1.0       1.0
   40          781.43     2021.8       1.0       1.0
   41         1222.87    1945.46       1.0       1.0
   42          791.37    2484.32       1.0       1.0
   43          978.82     2746.3       1.0       1.0
   44         1090.84    2962.68       1.0       1.0
   45          1359.6     2901.7       1.0       1.0
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46	1649.27	2886.93	1.0	1.0
47	1846.98	2856.21	1.0	1.0
48	2060.18	2728.84	1.0	1.0
49	2354.92	2809.01	1.0	1.0
50	4033.63	802.51	1.0	1.0
51	3672.28	858.22	1.0	1.0
52	3341.64	894.05	1.0	1.0
53	3025	924.77	1.0	1.0
54	2808.18	919.03	1.0	1.0
55	2624.8	916.19	1.0	1.0
56	2385.4	913.48	1.0	1.0
57	2182.74	972.2	1.0	1.0
58	1957.64	1032.27	1.0	1.0
59	1979.01	1380.98	1.0	1.0
60	2009.27	1722.91	1.0	1.0
61	1709.66	1854.36	1.0	1.0
62	1508.21	1879.52	1.0	1.0
63	1568.43	2362.96	1.0	1.0
64	1274.68	2418.97	1.0	1.0
65	1313.98	2662.89	1.0	1.0
66	1593.13	2586.55	1.0	1.0
67	1729.99	2118.6	1.0	1.0
68	1796.07	2535.96	1.0	1.0
69	1979.01	2330.89	1.0	1.0
70	2445.47	2601.91	1.0	1.0
71	3864.25	1144.88	1.0	1.0
72	3636	1125.32	1.0	1.0
73	3341.7	1125.34	1.0	1.0
74	3012.67	1137.52	1.0	1.0
75	2886.78	1132.55	1.0	1.0
76	2897.17	1027.89	1.0	1.0
77	2803.06	1025.05	1.0	1.0
78	2697.67	1025.05	1.0	1.0
79	2803.67	1130.29	1.0	1.0
80	2702.04	1129.84	1.0	1.0
81	2622.39	1125.32	1.0	1.0
82	2457.67	1123.52	1.0	1.0
83	2288.28	1130.74	1.0	1.0
84	2149.16	1157.39	1.0	1.0
85	2164.67	1362.46	1.0	1.0
86	2171.29	1571.14	1.0	1.0
87	2192.21	1823.51	1.0	1.0
88	1948.29	2042.13	1.0	1.0
89	2197.25	2195.76	1.0	1.0
90	2577.37	2281.66	1.0	1.0
91	3832.18	1207.08	1.0	1.0
92	3574.12	1193.21	1.0	1.0
93	3293.3	1189.46	1.0	1.0
94	3086.88	1202.24	1.0	1.0
95	2947.17	1272.12	1.0	1.0
96	2879.85	1250.44	1.0	1.0
97	2843.42	1252.38	1.0	1.0
98	2842.51	1207.53	1.0	1.0
99	2800.64	1209.34	1.0	1.0
100	2798.83	1254.2	1.0	1.0
101	2759.08	1253.6	1.0	1.0
102	2759.08	1205.72	1.0	1.0
103	2704.88	1253.6	1.0	1.0
104	2623.44	1253.29	1.0	1.0
105	2520	1252.38	1.0	1.0

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106	2346.69	1257.8	1.0	1.0
107	2253.5	1274.38	1.0	1.0
108	2261.63	1352.52	1.0	1.0
09	2360.69	1340.03	1.0	1.0
110	2261.63	1441.82	1.0	1.0
111	2368.69	1429.31	1.0	1.0
112	2367.47	1529.59	1.0	1.0
113	2373.2	1699.91	1.0	1.0
114	2491.09	1813.7	1.0	1.0
115	2422.89	1938.82	1.0	1.0
116	2467.16	2122.96	1.0	1.0
117	2745.08	2230.62	1.0	1.0
118	3799.52	1273.93	1.0	1.0
119	3505.15	1269.41	1.0	1.0
120	3247.23	1247.41	1.0	1.0
121	3144.25	1251.8	1.0	1.0
122	3100.88	1300.13	1.0	1.0
123	3047.9	1302.07	1.0	1.0
124	3006.07	1302.96	1.0	1.0
125	2948.21	1319.55	1.0	1.0
126	2917.95	1319.1	1.0	1.0
127	2917.95	1305.1	1.0	1.0
128	2879.85	1305.1	1.0	1.0
129	2841.61	1304.33	1.0	1.0
130	2818.12	1304.64	1.0	1.0
131	2816.31	1283.87	1.0	1.0
132	2798.25	1283.55	1.0	1.0
133	2798.25	1304.33	1.0	1.0
134	2784.7	1281.61	1.0	1.0
135	2786.19	1305.1	1.0	1.0
136	2759.4	1304.64	1.0	1.0
137	2733.2	1305.1	1.0	1.0
138	2730.8	1325.87	1.0	1.0
139	2695.71	1325.87	1.0	1.0
140	2629	1325.87	1.0	1.0
141	2653.25	1346.33	1.0	1.0
142	2653.25	1364.4	1.0	1.0
143	2624.8	1367.88	1.0	1.0
144	2524.97	1324.97	1.0	1.0
145	2538.07	1387.3	1.0	1.0
146	2558.4	1457.77	1.0	1.0
147	2528.58	1641.16	1.0	1.0
148	2524.14	1736.07	1.0	1.0
149	2593.78	1794.15	1.0	1.0
150	2623	1884.64	1.0	1.0
151	2861.48	2037.29	1.0	1.0
152	3759.9	1347.1	1.0	1.0
153	3 35.44	1345.3	1.0	1.0
154	3297.82	1370.14	1.0	1.0
155	3176.18	1366.07	1.0	1.0
156	3204.77	1302.84	1.0	1.0
157	3114.89	1344.39	1.0	1.0
158	3112.18	1362.46	1.0	1.0
159	3065.97	1341.82	1.0	1.0
160	3034.35	1340.03	1.0	1.0
161	2998.8	1336.71	1.0	1.0
162	2947.17	1336.73	1.0	1.0
163	2933.55	1336.69	1.0	1.0
164	2934.82	1329.6	1.0	1.0
165	2918.4	1326.2	1.0	1.0

3 10 0029

166	2899.43	1317.74	1.0	1.0
167	2899.43	1324.94	1.0	1.0
168	2879.85	1324.02	1.0	1.0
169	2857.42	1315.94	1.0	1.0
170	2858.32	1325.19	1.0	1.0
171	2841.61	1315.17	1.0	1.0
172	2825.8	1314.13	1.0	1.0
173	2809.09	1313.68	1.0	1.0
174	2798.25	1313.36	1.0	1.0
175	2792.38	1312.78	1.0	1.0
176	2774.31	1316.84	1.0	1.0
177	2759.4	1316.39	1.0	1.0
178	2745.08	1315.94	1.0	1.0
179	2745.53	1324.42	1.0	1.0
180	2745.38	1331.54	1.0	1.0
181	2730.8	1335.04	1.0	1.0
182	2712.73	1335.36	1.0	1.0
183	2693	1345.3	1.0	1.0
184	2691.33	1364.72	1.0	1.0
185	2690.74	1385.95	1.0	1.0
186	2652.8	1385.95	1.0	1.0
187	2624.8	1408.22	1.0	1.0
188	2689.39	1450.99	1.0	1.0
189	2685.94	1503.74	1.0	1.0
190	2609.89	1501.58	1.0	1.0
191	2595.44	1602.76	1.0	1.0
192	2618.92	1652.45	1.0	1.0
193	2594.08	1691.61	1.0	1.0
194	2615.31	1739.17	1.0	1.0
195	2630.22	1786.6	1.0	1.0
196	2638.03	1814.61	1.0	1.0
197	2715.14	1814.61	1.0	1.0
198	2800.64	1904.95	1.0	1.0
199	3403.82	1501.13	1.0	1.0
200	3290.59	1423.89	1.0	1.0
201	3702.09	1471.32	1.0	1.0
202	3171.8	1407.78	1.0	1.0
203	3112.18	1380.53	1.0	1.0
204	3064.29	1359.89	1.0	1.0
205	3039.45	1357.94	1.0	1.0
206	3017.64	1356.14	1.0	1.0
207	2976.67	1355.23	1.0	1.0
208	2977.12	1346.33	1.0	1.0
209	2946.85	1343.94	1.0	1.0
210	2930.16	1338.06	1.0	1.0
211	2918.11	1330.72	1.0	1.0
212	2899.43	1331.14	1.0	1.0
213	2878.35	1331.57	1.0	1.0
214	2858.17	1330.54	1.0	1.0
215	2842.06	1325.04	1.0	1.0
216	2824.9	1323.57	1.0	1.0
217	2818.12	1321.23	1.0	1.0
218	2809.84	1321.8	1.0	1.0
219	2799.45	1321.49	1.0	1.0
220	2790.57	1321.49	1.0	1.0
21	2785.28	1321.34	1.0	1.0
222	2774.74	1323.38	1.0	1.0
223	2760.15	1323.23	1.0	1.0
224	2759.85	1330.08	1.0	1.0
225	2743.02	1339.7	1.0	1.0

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226	2730.79	1341.98	1.0	1.0
227	2712.88	1344.39	1.0	1.0
228	2712.88	1352.07	1.0	1.0
229	271[illegible].78	1376.46	1.0	1.0
230	2713.78	1385.5	1.0	1.0
231	2714.23	1393.31	1.0	1.0
232	2690.74	1407.63	1.0	1.0
233	2707.46	1427.51	1.0	1.0
234	2707.47	1450.62	1.0	1.0
235	2707.46	1462.29	1.0	1.0
236	2716.49	1482.16	1.0	1.0
237	2706.7	1504.74	1.0	1.0
238	2653.71	1565.87	1.0	1.0
239	2659.26	1602.76	1.0	1.0
240	2670.57	1653.8	1.0	1.0
241	2660.93	1703.49	1.0	1.0
242	2671.77	1767.18	1.0	1.0
243	2684.87	1798.8	1.0	1.0
244	2710.62	1758.6	1.0	1.0
245	2764.96	1739.94	1.0	1.0
246	2845.22	1776.21	1.0	1.0
247	3266.52	1508.81	1.0	1.0
248	3243.93	1472.67	1.0	1.0
249	3146.96	1468.16	1.0	1.0
250	3131.46	1427.51	1.0	1.0
251	3102.69	1415.31	1.0	1.0
252	3065.97	1405.37	1.0	1.0
253	3064.29	1378.27	1.0	1.0
254	3038.86	1378.27	1.0	1.0
255	3001.06	1377.5	1.0	1.0
256	2974.71	1376.01	1.0	1.0
257	2953.63	1363.82	1.0	1.0
258	2946.85	1349.81	1.0	1.0
259	2929.1	1349.83	1.0	1.0
260	2929.1	1346.65	1.0	1.0
261	2918.1	1336.52	1.0	1.0
262	2899.43	1336.52	1.0	1.0
263	2879.85	1336.52	1.0	1.0
264	2858.32	1336.52	1.0	1.0
265	2842.21	1330.37	1.0	1.0
266	2825.35	1330.69	1.0	1.0
267	2818.12	1330.54	1.0	1.0
268	2809.54	1330.54	1.0	1.0
269	2799.6	1330.08	1.0	1.0
270	2790.57	1330.37	1.0	1.0
271	2785.28	1330.37	1.0	1.0
272	2774.74	1330.54	1.0	1.0
273	2774.31	1338.31	1.0	1.0
274	2760.44	1337.71	1.0	1.0
275	2760.44	1347.16	1.0	1.0
276	2742.84	1347.16	1.0	1.0
277	2731.25	1349.81	1.0	1.0
278	2731.26	1359.6	1.0	1.0
279	2731.72	1376.01	1.0	1.0
280	2736.05	1385.2	1.0	1.0
281	2735.76	1392.88	1.0	1.0
282	2736.5	1402.66	1.0	1.0
283	2730.17	1427.96	1.0	1.0
284	2737.85	1450.09	1.0	1.0
285	2737.42	1457.14	1.0	1.0

286	2737.27	1464.54	1.0	1.0
287	2754.45	1481.14	1.0	1.0
288	2747.66	1507.91	1.0	1.0
89	2748.11	1557.59	1.0	1.0
290	2702.62	1558.05	1.0	1.0
291	2695.4	1625.35	1.0	1.0
292	2710.62	1678.65	1.0	1.0
293	2752.63	1705.75	1.0	1.0
294	2781.53	1686.33	1.0	1.0
295	2821.87	1676.39	1.0	1.0
296	2885.42	1731.49	1.0	1.0
297	3106.62	1531.24	1.0	1.0
298	3126.73	1516.7	1.0	1.0
299	3113.98	1501.13	1.0	1.0
300	3118.5	1468.16	1.0	1.0
301	3099.84	1444.08	1.0	1.0
302	3085.98	1425.25	1.0	1.0
303	3063.39	1415.31	1.0	1.0
304	3038.55	1403.56	1.0	1.0
305	3013.86	1402.66	1.0	1.0
306	2997.9	1387.76	1.0	1.0
307	2983.74	1387.3	1.0	1.0
308	2971.7	1400.4	1.0	1.0
309	2953.18	1387.76	1.0	1.0
310	2953.18	1375.56	1.0	1.0
311	2943.3	1362.42	1.0	1.0
312	2917.06	1355.08	1.0	1.0
313	2929.1	1355.08	1.0	1.0
314	2917.36	1349.57	1.0	1.0
315	2917.95	1344.84	1.0	1.0
316	2918.11	1340.45	1.0	1.0
317	2899.58	1339.65	1.0	1.0
318	2880.61	1342.36	1.0	1.0
319	2859.07	1342.96	1.0	1.0
320	2842.97	1336.52	1.0	1.0
321	2825.8	1336.52	1.0	1.0
322	2818.12	1334.87	1.0	1.0
323	2809.54	1334.7	1.0	1.0
324	2799.6	1334.7	1.0	1.0
325	2790.87	1336.52	1.0	1.0
326	2785.28	1338.03	1.0	1.0
327	2774.74	1347.16	1.0	1.0
328	2759.85	1356.14	1.0	1.0
329	2742.84	1360.2	1.0	1.0
330	2742.84	1371.33	1.0	1.0
331	2745.38	1378.42	1.0	1.0
332	2748.86	1385.2	1.0	1.0
333	2752.17	1391.52	1.0	1.0
334	2745.08	1408.22	1.0	1.0
335	2739.98	1421.85	1.0	1.0
336	2745.53	1444.37	1.0	1.0
337	2765.12	1445.27	1.0	1.0
338	2764.35	1449.65	1.0	1.0
339	2761.19	1457.18	1.0	1.0
340	2758.05	1465	1.0	1.0
41	2770.38	1481.71	1.0	1.0
342	2766.18	1507.91	1.0	1.0
343	2765.73	1535.76	1.0	1.0
344	2791.47	1559.4	1.0	1.0
345	2747.21	1605.47	1.0	1.0

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346	2753.67	1649.29	1.0	1.0
347	2794.32	1633.79	1.0	1.0
348	2848.24	1673.54	1.0	1.0
9	2901.23	1716.44	1.0	1.0
50	3089.14	1533.07	1.0	1.0
351	3085.52	1516.64	1.0	1.0
352	3081.01	1502.04	1.0	1.0
353	3079.35	1487.9	1.0	1.0
354	3103.14	1487.13	1.0	1.0
355	3100.88	1466.21	1.0	1.0
356	3077.39	1466.95	1.0	1.0
357	3075.59	1444.08	1.0	1.0
358	3061.58	1423.89	1.0	1.0
359	3037.19	1422.84	1.0	1.0
360	3037.8	1413.2	1.0	1.0
361	3013.12	1412.6	1.0	1.0
362	2997.59	1411.4	1.0	1.0
363	2997.9	1403.11	1.0	1.0
364	2983.27	1402.16	1.0	1.0
365	2983.74	1410.94	1.0	1.0
366	2970.19	1409.44	1.0	1.0
367	2950.47	1401.59	1.0	1.0
368	2935.88	1386.54	1.0	1.0
369	2938.42	1373.72	1.0	1.0
370	2916.77	1362.15	1.0	1.0
371	2901.84	1355.08	1.0	1.0
372	2900.78	1348.76	1.0	1.0
373	2900.03	1344.84	1.0	1.0
74	2881.68	1348.01	1.0	1.0
75	2859.23	1349.5	1.0	1.0
376	2844.32	1342.51	1.0	1.0
377	2827	1342.81	1.0	1.0
378	2818.12	1340.39	1.0	1.0
379	2809.54	1340.23	1.0	1.0
380	2799.9	1339.8	1.0	1.0
381	2791.02	1344	1.0	1.0
382	2785.28	1347.01	1.0	1.0
383	2774.16	1356.44	1.0	1.0
384	2759.4	1363.36	1.0	1.0
385	2759.4	1370.74	1.0	1.0
386	2759.08	1377.97	1.0	1.0
387	2759.25	1385.2	1.0	1.0
388	2763.6	1389.26	1.0	1.0
389	2758.35	1398.3	1.0	1.0
390	2752.48	1413.2	1.0	1.0
391	2752.02	1428.56	1.0	1.0
392	2753.38	1439.4	1.0	1.0
393	2765.57	1438.95	1.0	1.0
394	2779.41	1442.86	1.0	1.0
395	2777.92	1450.09	1.0	1.0
396	2777.32	1457.18	1.0	1.0
397	2774.76	1464.2	1.0	1.0
398	2786.5	1474.03	1.0	1.0
399	2794.32	1495.26	1.0	1.0
00	2792.83	1507.91	1.0	1.0
01	2789.8	1533.65	1.0	1.0
402	2815.41	1559.4	1.0	1.0
403	2792.38	1594.95	1.0	1.0
404	2814.19	1589.96	1.0	1.0
405	2819.63	1619.02	1.0	1.0

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406	2852.9	1633.48	1.0	1.0
407	2877.16	1671.27	1.0	1.0
408	2914.78	1703.04	1.0	1.0
09	3063.39	1534.56	1.0	1.0
.10	3062.49	1517.26	1.0	1.0
411	3059.02	1502.8	1.0	1.0
412	3043.97	1456.41	1.0	1.0
413	3057.07	1488.48	1.0	1.0
414	3055.71	1467.71	1.0	1.0
415	3055.26	1445.12	1.0	1.0
416	3034.03	1444.08	1.0	1.0
417	3022.74	1456.11	1.0	1.0
418	3033.28	1456.86	1.0	1.0
419	3023.34	1444.08	1.0	1.0
420	3024.25	1432.02	1.0	1.0
421	3013.12	1422.08	1.0	1.0
422	2997.9	1421.18	1.0	1.0
423	2983.74	1420.73	1.0	1.0
424	2968.69	1418.79	1.0	1.0
425	2948.21	1415.31	1.0	1.0
426	2935.56	1400.4	1.0	1.0
427	2917.07	1385.6	1.0	1.0
428	2916.64	1370.56	1.0	1.0
429	2902.74	1361.56	1.0	1.0
430	2882.29	1361.84	1.0	1.0
431	2880.09	1358.08	1.0	1.0
432	2881.74	1351.76	1.0	1.0
433	2860.75	1360.79	1.0	1.0
434	2859.27	1352.52	1.0	1.0
35	2845.98	1352.52	1.0	1.0
.36	2845.07	1349.81	1.0	1.0
437	2827.91	1351.47	1.0	1.0
438	2815.71	1349.81	1.0	1.0
439	2808.64	1349.66	1.0	1.0
440	2798.55	1350.27	1.0	1.0
441	2790.42	1355.08	1.0	1.0
442	2785.58	1356.44	1.0	1.0
443	2774.16	1363.67	1.0	1.0
444	2773.86	1371.18	1.0	1.0
445	2774.16	1377.97	1.0	1.0
446	2774.74	1385.2	1.0	1.0
447	2774.31	1389.26	1.0	1.0
448	2766.63	1391.97	1.0	1.0
449	2765.73	1405.97	1.0	1.0
450	2769.79	1412.6	1.0	1.0
451	2769.19	1420.88	1.0	1.0
452	2763.6	1428.11	1.0	1.0
453	2780	1426	1.0	1.0
454	2788.47	1431.45	1.0	1.0
455	2788.61	1442.86	1.0	1.0
456	2788.29	1449.65	1.0	1.0
457	2788.01	1457.47	1.0	1.0
458	2788.39	1464.2	1.0	1.0
459	2795.08	1473.58	1.0	1.0
60	2809.99	1486.22	1.0	1.0
61	2825.35	1498.87	1.0	1.0
462	2820.38	1511.97	1.0	1.0
463	2814.51	1535.46	1.0	1.0
464	2838.45	1558.5	1.0	1.0
465	2837.15	1583.76	1.0	1.0

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466	2837.09	1610.44	1.0	1.0
467	2852	1621.28	1.0	1.0
468	2869.48	1633.48	1.0	1.0
69	2893.4	1661.93	1.0	1.0
470	2928.79	1693.55	1.0	1.0
471	3047.73	1537.72	1.0	1.0
472	3045.93	1516.19	1.0	1.0
473	3043.97	1502.8	1.0	1.0
474	3043.97	1489.09	1.0	1.0
475	3043.97	1467.41	1.0	1.0
476	3032.68	1467.71	1.0	1.0
477	3011	1466.21	1.0	1.0
478	3013.71	1444.67	1.0	1.0
479	3013.4	1432.93	1.0	1.0
480	2997.14	1432.02	1.0	1.0
481	2982.99	1429.63	1.0	1.0
482	2967.18	1428.41	1.0	1.0
483	2948.21	1427.2	1.0	1.0
484	2934.66	1415.31	1.0	1.0
485	2917.04	1400.25	1.0	1.0
486	2900.33	1386.23	1.0	1.0
487	2902.74	1371.18	1.0	1.0
488	2877.5	1374.66	1.0	1.0
489	2865.55	1373.45	1.0	1.0
490	2863.29	1366.22	1.0	1.0
491	2848.24	1361.86	1.0	1.0
492	2828.51	1363.36	1.0	1.0
493	2827.91	1357.63	1.0	1.0
494	2816.31	1357.34	1.0	1.0
495	2805.02	1357.04	1.0	1.0
496	2797.79	1358.4	1.0	1.0
497	2793.01	1362.5	1.0	1.0
498	2785.58	1363.82	1.0	1.0
499	2785.58	1370.74	1.0	1.0
500	2785.28	1376.16	1.0	1.0
501	2785.28	1381.43	1.0	1.0
502	2785.28	1386.85	1.0	1.0
503	2785.28	1392.72	1.0	1.0
504	2774.31	1392.56	1.0	1.0
505	2774.17	1400.33	1.0	1.0
506	2785.33	1404.12	1.0	1.0
507	2785.6	1412.75	1.0	1.0
508	2788.76	1415.31	1.0	1.0
509	2793.73	1420.88	1.0	1.0
510	2795.08	1427.51	1.0	1.0
511	2795.54	1435.33	1.0	1.0
512	2795.54	1442.86	1.0	1.0
513	2795.99	1449.65	1.0	1.0
514	2795.99	1457.18	1.0	1.0
515	2796.29	1464.24	1.0	1.0
516	2807.09	1471.44	1.0	1.0
517	2825.8	1486.68	1.0	1.0
518	2840.25	1501.13	1.0	1.0
519	2840.25	1515.13	1.0	1.0
20	2838.45	1535.76	1.0	1.0
21	2853.35	1558.5	1.0	1.0
522	2852.9	1580.93	1.0	1.0
523	2852	1607.28	1.0	1.0
524	2866.91	1603.67	1.0	1.0
525	2868.26	1618.57	1.0	1.0

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526	2886.78	1626.1	1.0	1.0
527	2908.46	1653.2	1.0	1.0
528	2938.57	1684.07	1.0	1.0
29	3031.19	1539.07	1.0	1.0
530	3033.13	1516.49	1.0	1.0
531	3031.19	1502.49	1.0	1.0
532	3031.77	1488.8	1.0	1.0
533	3020.63	1479.15	1.0	1.0
534	3009.5	1477.34	1.0	1.0
535	2993.83	1463.64	1.0	1.0
536	2996.54	1442.86	1.0	1.0
537	2982.09	1440.6	1.0	1.0
538	2966.28	1438.35	1.0	1.0
539	2948.21	1438.35	1.0	1.0
540	2934.81	1426.17	1.0	1.0
541	2917.04	1415.31	1.0	1.0
542	2899.74	1415.31	1.0	1.0
543	2900.03	1400.25	1.0	1.0
544	2881.06	1385.65	1.0	1.0
545	2865.4	1385.2	1.0	1.0
546	2853.67	1373.47	1.0	1.0
547	2851.09	1368.03	1.0	1.0
548	2833.18	1371.95	1.0	1.0
549	2825.8	1376.16	1.0	1.0
550	2818.12	1364.87	1.0	1.0
551	2805.93	1363.21	1.0	1.0
552	2797.52	1364.03	1.0	1.0
553	2791.02	1368.33	1.0	1.0
554	2791.77	1372.4	1.0	1.0
555	2792.38	1376.46	1.0	1.0
556	2793.28	1380.53	1.0	1.0
557	2800.35	1385.5	1.0	1.0
558	2793.28	1392.56	1.0	1.0
559	2793.13	1400.55	1.0	1.0
560	2794.63	1405.96	1.0	1.0
561	2797.79	1409.89	1.0	1.0
562	2796.89	1415.31	1.0	1.0
563	2799.93	1420.93	1.0	1.0
564	2803.06	1428.56	1.0	1.0
565	2809.84	1435.18	1.0	1.0
566	2809.84	1442.11	1.0	1.0
567	2809.99	1449.65	1.0	1.0
568	2809.84	1457.02	1.0	1.0
569	2810.59	1464.24	1.0	1.0
570	2823.54	1474.93	1.0	1.0
571	2841.16	1488.8	1.0	1.0
572	2854.71	1502.8	1.0	1.0
573	2854.26	1515.45	1.0	1.0
574	2853.8	1539.07	1.0	1.0
575	2869.57	1559.43	1.0	1.0
576	2868.71	1580.19	1.0	1.0
577	2883.17	1600.96	1.0	1.0
578	2884.97	1614.51	1.0	1.0
579	2904.85	1622.5	1.0	1.0
580	2928.79	1641.16	1.0	1.0
81	2948.66	1675.03	1.0	1.0
582	3017.32	1540.58	1.0	1.0
583	3018.37	1516.04	1.0	1.0
584	3019.58	1501.28	1.0	1.0
585	3020.18	1489.84	1.0	1.0

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586	3006.48	1490.29	1.0	1.0
587	2992.78	1475.39	1.0	1.0
588	2979.23	1460.48	1.0	1.0
589	2958.46	1456.75	1.0	1.0
590	2946.4	1451.9	1.0	1.0
591	2931.95	1448.15	1.0	1.0
592	2935.11	1437.31	1.0	1.0
593	2917.04	1428.86	1.0	1.0
594	2898.99	1428.56	1.0	1.0
595	2881.06	1415.31	1.0	1.0
596	2881.36	1400.25	1.0	1.0
597	2865.4	1400.25	1.0	1.0
598	2853.66	1385.5	1.0	1.0
599	2838.45	1380.53	1.0	1.0
600	2828.51	1385.2	1.0	1.0
601	2819.02	1377.2	1.0	1.0
602	2813.45	1367.72	1.0	1.0
603	2810.74	1370.14	1.0	1.0
604	2805.9	1371.81	1.0	1.0
605	2805.93	1366.81	1.0	1.0
606	2799.45	1367.88	1.0	1.0
607	2798.91	1373.75	1.0	1.0
608	2800.78	1377.97	1.0	1.0
609	2806.83	1378.27	1.0	1.0
610	2808.94	1385.95	1.0	1.0
611	2800.35	1393.84	1.0	1.0
612	2809.39	1395.13	1.0	1.0
613	2809.99	1403.8	1.0	1.0
614	2811.8	1417.27	1.0	1.0
615	2804.42	1411.98	1.0	1.0
616	2807.82	1417.15	1.0	1.0
617	3006.33	1502.04	1.0	1.0
618	2808.94	1423.14	1.0	1.0
619	2819.46	1432.47	1.0	1.0
620	2821.87	1437.89	1.0	1.0
621	2823.84	1442.56	1.0	1.0
622	2824.14	1454.17	1.0	1.0
623	2824.45	1464.24	1.0	1.0
624	2839.35	1474.93	1.0	1.0
625	2854.26	1490.59	1.0	1.0
626	2870.52	1503.71	1.0	1.0
627	2870.82	1516.49	1.0	1.0
628	2870.07	1539.98	1.0	1.0
629	2897.62	1575.66	1.0	1.0
630	2882.58	1577.92	1.0	1.0
631	2901.23	1597.66	1.0	1.0
632	2902.59	1609.54	1.0	1.0
633	2928.33	1615.41	1.0	1.0
634	2949.88	1634.83	1.0	1.0
635	2961.16	1663.74	1.0	1.0
636	3001.96	1542.1	1.0	1.0
637	3005.12	1514.68	1.0	1.0
638	2988.86	1500.23	1.0	1.0
639	2990.67	1487.9	1.0	1.0
640	2977.27	1473.58	1.0	1.0
641	2959.97	1469.98	1.0	1.0
642	2943.39	1466.21	1.0	1.0
643	2928.33	1463.64	1.0	1.0
644	2916.74	1453.85	1.0	1.0
645	2917.04	1443.31	1.0	1.0

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646	2917.06	1436.09	1.0	1.0
647	2898.98	1436.09	1.0	1.0
648	2881.06	1428.86	1.0	1.0
49	2865.34	1418.4	1.0	1.0
50	2853.8	1400.25	1.0	1.0
651	2838.75	1389.56	1.0	1.0
652	2828.81	1394.23	1.0	1.0
653	2822.04	1385.65	1.0	1.0
654	2813	1377.97	1.0	1.0
655	2816.18	1386.55	1.0	1.0
656	2816.18	1394.98	1.0	1.0
657	2815.86	1404.92	1.0	1.0
658	2815.86	1409.44	1.0	1.0
659	2819.78	1412.3	1.0	1.0
660	2820.68	1420.88	1.0	1.0
661	2828.51	1428.11	1.0	1.0
662	2830.62	1435.79	1.0	1.0
663	2833.18	1442.86	1.0	1.0
664	2835.59	1453.4	1.0	1.0
665	2838.45	1464.24	1.0	1.0
666	2853.8	1475.54	1.0	1.0
667	2870.52	1490.59	1.0	1.0
668	2884.52	1503.71	1.0	1.0
669	2884.97	1517.84	1.0	1.0
670	2884.52	1538.62	1.0	1.0
671	2896.26	1557.59	1.0	1.0
672	2882.58	1558.5	1.0	1.0
673	2928.33	1591.02	1.0	1.0
74	2928.33	1603.21	1.0	1.0
75	2947.17	1606.83	1.0	1.0
676	2968.69	1629.86	1.0	1.0
677	2975.31	1647.93	1.0	1.0
678	2991.44	1558.5	1.0	1.0
679	2982.09	1544.04	1.0	1.0
680	2982.09	1531.85	1.0	1.0
681	2991.44	1533.65	1.0	1.0
682	2992.78	1524.03	1.0	1.0
683	2983.74	1522.81	1.0	1.0
684	2986.6	1511.97	1.0	1.0
685	2971.7	1508.81	1.0	1.0
686	2973.5	1497.97	1.0	1.0
687	2974.71	1486.22	1.0	1.0
688	2957.7	1483.52	1.0	1.0
689	2940.4	1481.12	1.0	1.0
690	2923.52	1478.55	1.0	1.0
691	2917.04	1464.54	1.0	1.0
692	2898.22	1453.4	1.0	1.0
693	2898.98	1442.88	1.0	1.0
694	2881.51	1435.79	1.0	1.0
695	2864.8	1435.64	1.0	1.0
696	2864.8	1427.51	1.0	1.0
697	2852.45	1413.8	1.0	1.0
698	2839.35	1400.25	1.0	1.0
699	2828.96	1405.37	1.0	1.0
00	2822.32	1394.98	1.0	1.0
01	2820.68	1405.07	1.0	1.0
702	2828.36	1413.8	1.0	1.0
703	2839.2	1411.81	1.0	1.0
704	2831.67	1421.33	1.0	1.0
705	2838.82	1418.28	1.0	1.0

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706	2846.13	1427.51	1.0	1.0			
707	2846.13	1435.64	1.0	1.0			
708	2846.13	1442.86	1.0	1.0			
09	2848.24	1453.7	1.0	1.0			
/10	2851.85	1463.79	1.0	1.0			
711	2869.48	1475.54	1.0	1.0			
712	2881.31	1492.47	1.0	1.0			
713	2898.98	1503.39	1.0	1.0			
714	2897.62	1516.94	1.0	1.0			
715	2952.8	1517.9	1.0	1.0			
716	2918.85	1555.33	1.0	1.0			
717	2922.01	1572.5	1.0	1.0			
718	2945.95	1587.27	1.0	1.0			
719	2947.17	1597.66	1.0	1.0			
720	2964.47	1603.67	1.0	1.0			
721	2986.02	1623.99	1.0	1.0			
722	2995.5	1575.98	1.0	1.0			
723	2982.54	1561.66	1.0	1.0			
724	2971.25	1546.75	1.0	1.0			
725	2968.85	1532.64	1.0	1.0			
726	2968.69	1520.1	1.0	1.0			
727	2953.63	1505.65	1.0	1.0			
728	2956.21	1494.81	1.0	1.0			
729	2938.27	1493.45	1.0	1.0			
730	2920.97	1490.59	1.0	1.0			
731	2897.62	1477.64	1.0	1.0			
732	2896.16	1465.43	1.0	1.0			
733	2881.68	1453.4	1.0	1.0			
734	2881.51	1442.86	1.0	1.0			
35	2864.8	1442.86	1.0	1.0			
736	2866.75	1453.4	1.0	1.0			
737	2868.26	1464.54	1.0	1.0			
738	2881.68	1465	1.0	1.0			
739	2883.62	1477.64	1.0	1.0			
740	2897.17	1490.59	1.0	1.0			
741	2918.85	1503.71	1.0	1.0			
742	2917	1517.9	1.0	1.0			
743	2917.04	1535.46	1.0	1.0			
744	2938.57	1550.82	1.0	1.0			
745	2941.43	1569.34	1.0	1.0			
746	2962.21	1583.2	1.0	1.0			
747	2963.43	1594.18	1.0	1.0			
748	2979.83	1601.27	1.0	1.0			
749	2983.74	1579.27	1.0	1.0			
750	2973.05	1563.46	1.0	1.0			
751	2956.79	1549.91	1.0	1.0			
752	2954.05	1533.53	1.0	1.0			
753	2936.92	1531.24	1.0	1.0			
754	2937.37	1504.29	1.0	1.0			
755	2935.91	1518.01	1.0	1.0			
756	2896.72	1535.76	1.0	1.0			
757	2959.5	1565.72	1.0	1.0			
758	2974.71	1580.63	1.0	1.0			
759	2977.57	1590.11	1.0	1.0			
760	2987.87	1588.37	1.0	1.0			
761	2992.29	1597.6	1.0	1.0			
ELEMENT	1.8e-4	1.8e-4	0.0e0	12.0	12.0	4.0	4.0
1	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
2	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
3	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00

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4	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
5	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
6	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
7	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
8	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
9	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
10	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
11	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
12	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
13	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
14	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
15	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
16	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
17	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
18	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
19	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
20	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
21	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
22	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
23	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
24	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
25	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
26	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
27	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
28	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
29	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
30	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
31	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
32	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
33	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
34	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
35	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
36	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
37	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
38	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
39	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
40	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
41	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
42	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
43	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
44	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
45	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
46	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
47	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
48	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
49	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
50	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
51	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
52	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
53	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
54	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
55	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
56	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
57	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
58	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
59	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
60	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
61	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
62	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
63	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00

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64	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
65	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
66	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
67	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
68	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
69	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
70	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
71	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
72	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
73	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
74	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
75	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
76	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
77	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
78	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
79	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
80	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
81	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
82	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
83	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
84	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
85	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
86	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
87	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
88	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
89	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
90	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
91	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
92	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
93	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
94	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
95	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
96	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
97	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
98	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
99	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
100	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
101	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
102	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
103	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
104	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
105	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
106	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
107	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
108	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
109	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
110	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
111	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
112	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
113	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
114	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
115	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
116	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
117	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
118	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
119	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
120	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
121	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
122	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
123	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00

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124	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
125	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
126	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
.27	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
128	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
129	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
130	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
131	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
132	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
133	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
134	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
135	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
136	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
137	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
138	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
139	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
140	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
141	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
142	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
143	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
144	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
145	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
146	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
147	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
148	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
149	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
150	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
151	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
152	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
153	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
154	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
155	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
156	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
157	1.00E-01	1.00E-01	0.00	1.00	1.00	1.00	1.00
158	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
159	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
160	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
161	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
162	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
163	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
164	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
165	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
166	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
167	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
168	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
169	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
170	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
171	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
172	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
173	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
174	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
175	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
176	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
177	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
178	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
.79	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
180	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
181	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
182	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
183	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00

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184	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
185	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
186	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
187	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
188	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
189	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
190	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
191	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
192	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
193	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
194	0.75E+00	0.75E+00	0.00	1.00	1.00	1.00	1.00
195	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
196	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
197	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
198	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
199	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
200	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
201	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
202	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
203	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
204	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
205	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
206	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
207	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
208	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
209	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
210	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
211	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
212	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
213	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
214	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
215	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
216	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
217	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
218	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
219	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
220	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
221	0.75E+00	0.75E+00	0.00	1.00	1.00	1.00	1.00
222	0.75E+00	0.75E+00	0.00	1.00	1.00	1.00	1.00
223	0.75E+00	0.75E+00	0.00	1.00	1.00	1.00	1.00
224	0.75E+00	0.75E+00	0.00	1.00	1.00	1.00	1.00
225	0.75E+00	0.75E+00	0.00	1.00	1.00	1.00	1.00
226	0.75E+00	0.75E+00	0.00	1.00	1.00	1.00	1.00
227	0.75E+00	0.75E+00	0.00	1.00	1.00	1.00	1.00
228	0.75E+00	0.75E+00	0.00	1.00	1.00	1.00	1.00
229	0.75E+00	0.75E+00	0.00	1.00	1.00	1.00	1.00
230	0.75E+00	0.75E+00	0.00	1.00	1.00	1.00	1.00
231	0.75E+00	0.75E+00	0.00	1.00	1.00	1.00	1.00
232	0.75E+00	0.75E+00	0.00	1.00	1.00	1.00	1.00
233	0.75E+00	0.75E+00	0.00	1.00	1.00	1.00	1.00
234	0.75E+00	0.75E+00	0.00	1.00	1.00	1.00	1.00
235	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
236	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
237	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
238	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
239	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
240	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
241	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
242	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
243	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00

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244	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
245	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
246	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
47	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
248	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
249	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
250	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
251	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
252	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
253	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
254	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
255	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
256	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
257	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
258	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
259	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
260	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
261	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
262	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
263	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
264	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
265	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
266	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
267	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
268	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
269	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
270	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
271	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
272	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
273	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
274	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
275	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
276	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
277	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
278	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
279	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
280	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
281	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
282	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
283	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
284	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
285	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
286	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
287	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
288	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
289	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
290	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
291	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
292	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
293	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
294	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
295	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
296	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
297	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
298	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
299	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
300	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
301	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
302	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
303	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00

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304	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
305	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
306	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
307	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
308	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
309	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
310	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
311	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
312	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
313	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
314	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
315	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
316	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
317	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
318	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
319	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
320	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
321	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
322	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
323	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
324	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
325	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
326	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
327	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
328	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
329	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
330	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
331	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
332	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
333	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
334	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
335	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
336	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
337	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
338	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
339	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
340	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
341	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
342	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
343	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
344	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
345	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
346	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
347	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
348	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
349	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
350	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
351	1. 0E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
352	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
353	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
354	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
355	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
356	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
357	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
358	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
359	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
360	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
361	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
362	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
363	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00

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364	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
365	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
366	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
367	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
368	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
369	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
370	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
371	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
372	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
373	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
374	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
375	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
376	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
377	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
378	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
379	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
380	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
381	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
382	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
383	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
384	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
385	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
386	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
387	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
388	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
389	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
390	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
391	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
392	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
393	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
394	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
395	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
396	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
397	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
398	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
399	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
400	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
401	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
402	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
403	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
404	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
405	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
406	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
407	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
408	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
409	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
410	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
411	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
412	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
413	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
414	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
415	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
416	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
417	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
418	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
419	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
420	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
421	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
422	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
423	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00

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424	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
425	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
426	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
427	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
428	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
429	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
430	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
431	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
432	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
433	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
434	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
435	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
436	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
437	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
438	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
439	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
440	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
441	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
442	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
443	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
444	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
445	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
446	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
447	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
448	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
449	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
450	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
451	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
452	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
453	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
454	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
455	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
456	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
457	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
458	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
459	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
460	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
461	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
462	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
463	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
464	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
465	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
466	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
467	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
468	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
469	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
470	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
471	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
472	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
473	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
474	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
475	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
476	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
477	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
478	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
79	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
480	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
481	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
482	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
483	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00

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484	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
485	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
486	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
487	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
488	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
489	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
490	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
491	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
492	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
493	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
494	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
495	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
496	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
497	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
498	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
499	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
500	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
501	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
502	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
503	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
504	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
505	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
506	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
507	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
508	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
509	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
510	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
511	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
512	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
513	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
514	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
515	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
516	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
517	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
518	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
519	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
520	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
521	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
522	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
523	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
524	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
525	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
526	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
527	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
528	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
529	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
530	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
531	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
532	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
533	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
534	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
535	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
536	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
537	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
538	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
539	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
540	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
541	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
542	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
543	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00

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544	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
545	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
546	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
547	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
548	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
549	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
550	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
551	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
552	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
553	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
554	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
555	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
556	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
557	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
558	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
559	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
560	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
561	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
562	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
563	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
564	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
565	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
566	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
567	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
568	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
569	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
570	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
571	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
572	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
573	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
574	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
575	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
576	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
577	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
578	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
579	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
580	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
581	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
582	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
583	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
584	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
585	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
586	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
587	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
588	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
589	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
590	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
591	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
592	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
593	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
594	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
595	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
596	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
597	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
598	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
599	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
600	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
601	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
602	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
603	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00

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604	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
605	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
606	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
607	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
608	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
609	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
610	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
611	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
612	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
613	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
614	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
615	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
616	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
617	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
618	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
619	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
620	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
621	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
622	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
623	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
624	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
625	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
626	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
627	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
628	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
629	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
630	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
631	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
632	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
633	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
634	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
635	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
636	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
637	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
638	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
639	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
640	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
641	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
642	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
643	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
644	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
645	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
646	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
647	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
648	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
649	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
650	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
651	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
652	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
653	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
654	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
655	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
656	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
657	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
658	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
659	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
660	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
661	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
662	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
663	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00

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664	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
665	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
666	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
667	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
668	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
669	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
670	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
671	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
672	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
673	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
674	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
675	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
676	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
677	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
678	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
679	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
680	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
681	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
682	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
683	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
684	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
685	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
686	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
687	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
688	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
689	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
690	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
691	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
692	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
693	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
694	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
695	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
696	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
697	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
698	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
699	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
700	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
701	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
702	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
703	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
704	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
705	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
706	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
707	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
708	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
709	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
710	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
711	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
712	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
713	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
714	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
715	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
716	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
717	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
718	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
719	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
720	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
721	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
722	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
723	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00

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724	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
725	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
726	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00
727	1.00E+00	1.00E+00	0.00	1.00	1.00	1.00	1.00

1	1.18E-04	0.00E+00
2	2.34E-04	0.00E+00
3	2.28E-04	0.00E+00
4	2.19E-04	0.00E+00
5	1.90E-04	0.00E+00
6	4.27E-04	0.00E+00
7	4.47E-04	0.00E+00
8	4.42E-04	0.00E+00
9	4.11E-04	0.00E+00
10	3.07E-04	0.00E+00
11	2.99E-04	0.00E+00
12	2.84E-04	0.00E+00
13	7.39E-04	0.00E+00
14	9.98E-04	0.00E+00
15	7.81E-04	0.00E+00
16	2.37E-04	0.00E+00
17	4.06E-04	0.00E+00
18	3.20E-04	0.00E+00
19	2.72E-04	0.00E+00
20	1.21E-04	0.00E+00
21	2.44E-04	0.00E+00
22	2.78E-04	0.00E+00
23	2.82E-04	0.00E+00
24	2.82E-04	0.00E+00
25	1.56E-04	0.00E+00
26	2.79E-04	0.00E+00
27	2.12E-04	0.00E+00
28	4.11E-04	0.00E+00
29	3.94E-04	0.00E+00
30	3.60E-04	0.00E+00
31	2.99E-04	0.00E+00
32	6.53E-04	0.00E+00
33	6.68E-04	0.00E+00
34	6.19E-04	0.00E+00
35	7.46E-04	0.00E+00
36	7.94E-04	0.00E+00
37	1.04E-03	0.00E+00
38	1.27E-03	0.00E+00
39	1.43E-03	0.00E+00
40	1.73E-03	0.00E+00
41	1.24E-03	0.00E+00
42	1.48E-03	0.00E+00
43	6.21E-04	0.00E+00
44	5.15E-04	0.00E+00
45	5.26E-04	0.00E+00
46	5.13E-04	0.00E+00
47	6.41E-04	0.00E+00
48	4.42E-04	0.00E+00
49	1.55E-04	0.00E+00
50	1.65E-04	0.00E+00
51	3.11E-04	0.00E+00
52	2.86E-04	0.00E+00
53	2.28E-04	0.00E+00
54	1.35E-04	0.00E+00
55	1.69E-04	0.00E+00
56	1.75E-04	0.00E+00

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57	1.44E-04	0.00E+00
58	1.79E-04	0.00E+00
59	4.95E-04	0.00E+00
60	4.77E-04	0.00E+00
61	3.10E-04	0.00E+00
62	8.15E-04	0.00E+00
63	5.64E-04	0.00E+00
64	8.73E-04	0.00E+00
65	5.39E-04	0.00E+00
66	4.48E-04	0.00E+00
67	4.67E-04	0.00E+00
68	4.66E-04	0.00E+00
69	7.79E-04	0.00E+00
70	1.96E-04	0.00E+00
71	8.43E-05	0.00E+00
72	1.62E-04	0.00E+00
73	1.50E-04	0.00E+00
74	1.10E-04	0.00E+00
75	4.00E-05	0.00E+00
76	3.66E-05	0.00E+00
77	4.21E-05	0.00E+00
78	3.08E-05	0.00E+00
79	2.46E-05	0.00E+00
80	3.48E-05	0.00E+00
81	6.57E-05	0.00E+00
82	9.59E-05	0.00E+00
83	8.69E-05	0.00E+00
84	9.12E-05	0.00E+00
85	1.04E-04	0.00E+00
86	1.41E-04	0.00E+00
87	2.26E-04	0.00E+00
88	4.59E-04	0.00E+00
89	2.56E-04	0.00E+00
90	1.36E-04	0.00E+00
91	2.97E-05	0.00E+00
92	6.02E-05	0.00E+00
93	5.13E-05	0.00E+00
94	3.17E-05	0.00E+00
95	1.08E-06	0.00E+00
96	9.82E-07	0.00E+00
97	4.33E-07	0.00E+00
98	8.00E-06	0.00E+00
99	1.14E-05	0.00E+00
100	2.67E-07	0.00E+00
101	8.37E-06	0.00E+00
102	9.76E-06	0.00E+00
103	1.93E-05	0.00E+00
104	3.24E-05	0.00E+00
105	4.85E-05	0.00E+00
106	4.78E-05	0.00E+00
107	3.02E-05	0.00E+00
108	3.62E-05	0.00E+00
109	3.49E-05	0.00E+00
110	3.19E-05	0.00E+00
111	4.38E-05	0.00E+00
112	8.30E-05	0.00E+00
113	1.03E-04	0.00E+00
114	4.97E-05	0.00E+00
115	1.81E-04	0.00E+00
116	1.47E-04	0.00E+00

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117	9.10E-05	0.00E+00
118	3.50E-05	0.00E+00
119	6.46E-05	0.00E+00
120	4.06E-05	0.00E+00
121	1.51E-05	0.00E+00
122	1.24E-05	0.00E+00
123	1.34E-05	0.00E+00
124	1.41E-05	0.00E+00
125	4.36E-07	0.00E+00
126	1.32E-06	0.00E+00
127	3.03E-06	0.00E+00
128	2.76E-07	0.00E+00
129	1.65E-07	0.00E+00
130	8.99E-08	0.00E+00
131	1.09E-07	0.00E+00
132	1.15E-07	0.00E+00
133	4.32E-08	0.00E+00
134	9.65E-08	0.00E+00
135	8.57E-08	0.00E+00
136	2.83E-06	0.00E+00
137	3.32E-06	0.00E+00
138	1.77E-06	0.00E+00
139	6.91E-06	0.00E+00
140	1.60E-05	0.00E+00
141	2.10E-06	0.00E+00
142	2.60E-06	0.00E+00
143	9.10E-06	0.00E+00
144	3.12E-05	0.00E+00
145	3.10E-05	0.00E+00
146	5.51E-05	0.00E+00
147	4.26E-05	0.00E+00
148	2.23E-05	0.00E+00
149	2.53E-05	0.00E+00
150	5.54E-05	0.00E+00
151	8.40E-05	0.00E+00
152	5.34E-05	0.00E+00
153	8.66E-05	0.00E+00
154	2.35E-05	0.00E+00
155	1.63E-05	0.00E+00
156	3.15E-05	0.00E+00
157	5.69E-06	0.00E+00
158	5.21E-06	0.00E+00
159	5.17E-06	0.00E+00
160	1.98E-07	0.00E+00
161	1.99E-07	0.00E+00
162	9.48E-08	0.00E+00
163	3.30E-07	0.00E+00
164	3.76E-07	0.00E+00
165	4.38E-07	0.00E+00
166	6.13E-07	0.00E+00
167	5.08E-07	0.00E+00
168	4.08E-08	0.00E+00
169	3.71E-08	0.00E+00
170	3.32E-08	0.00E+00
171	3.93E-08	0.00E+00
172	2.20E-08	0.00E+00
173	1.62E-08	0.00E+00
174	1.76E-08	0.00E+00
175	1.04E-08	0.00E+00
176	2.29E-08	0.00E+00

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177	5.53E-07	0.00E+00
178	4.34E-07	0.00E+00
179	4.28E-07	0.00E+00
180	3.57E-07	0.00E+00
181	4.92E-07	0.00E+00
182	5.33E-07	0.00E+00
183	1.89E-06	0.00E+00
184	2.33E-06	0.00E+00
185	1.28E-07	0.00E+00
186	2.27E-06	0.00E+00
187	8.91E-06	0.00E+00
188	5.17E-07	0.00E+00
189	1.07E-05	0.00E+00
190	1.50E-05	0.00E+00
191	1.64E-05	0.00E+00
192	9.38E-06	0.00E+00
193	1.68E-05	0.00E+00
194	7.93E-06	0.00E+00
195	8.05E-06	0.00E+00
196	5.69E-06	0.00E+00
197	2.01E-05	0.00E+00
198	3.83E-05	0.00E+00
199	5.14E-05	0.00E+00
200	2.65E-05	0.00E+00
201	3.47E-05	0.00E+00
202	1.53E-05	0.00E+00
203	3.85E-06	0.00E+00
204	1.33E-07	0.00E+00
205	1.03E-07	0.00E+00
206	1.13E-07	0.00E+00
207	1.65E-06	0.00E+00
208	8.58E-07	0.00E+00
209	4.30E-08	0.00E+00
210	1.65E-07	0.00E+00
211	3.01E-07	0.00E+00
212	3.63E-07	0.00E+00
213	2.39E-08	0.00E+00
214	2.08E-08	0.00E+00
215	2.44E-08	0.00E+00
216	2.03E-08	0.00E+00
217	1.64E-08	0.00E+00
218	1.74E-08	0.00E+00
219	1.52E-08	0.00E+00
220	2.14E-07	0.00E+00
221	2.71E-07	0.00E+00
222	3.33E-07	0.00E+00
223	3.34E-07	0.00E+00
224	3.54E-07	0.00E+00
225	3.72E-07	0.00E+00
226	3.83E-07	0.00E+00
227	6.68E-07	0.00E+00
228	5.67E-07	0.00E+00
229	4.69E-08	0.00E+00
230	5.05E-08	0.00E+00
231	4.30E-08	0.00E+00
232	3.71E-07	0.00E+00
233	9.53E-08	0.00E+00
234	1.00E-07	0.00E+00
235	9.29E-08	0.00E+00
236	2.03E-06	0.00E+00

237	4.68E-06	0.00E+00
238	9.69E-06	0.00E+00
239	5.72E-06	0.00E+00
240	5.52E-06	0.00E+00
241	1.16E-05	0.00E+00
242	7.28E-06	0.00E+00
243	5.07E-06	0.00E+00
244	1.04E-05	0.00E+00
245	9.07E-06	0.00E+00
246	2.25E-05	0.00E+00
247	9.79E-06	0.00E+00
248	1.48E-05	0.00E+00
249	1.11E-05	0.00E+00
250	2.98E-06	0.00E+00
251	1.41E-06	0.00E+00
252	2.94E-06	0.00E+00
253	1.97E-07	0.00E+00
254	1.26E-07	0.00E+00
255	1.25E-07	0.00E+00
256	1.52E-06	0.00E+00
257	3.70E-08	0.00E+00
258	3.44E-08	0.00E+00
259	2.74E-07	0.00E+00
260	1.78E-07	0.00E+00
261	2.35E-07	0.00E+00
262	2.92E-07	0.00E+00
263	2.12E-08	0.00E+00
264	2.10E-08	0.00E+00
265	1.88E-08	0.00E+00
266	1.46E-08	0.00E+00
267	1.00E-08	0.00E+00
268	1.18E-08	0.00E+00
269	1.25E-08	0.00E+00
270	1.70E-07	0.00E+00
271	2.04E-07	0.00E+00
272	3.08E-07	0.00E+00
273	3.37E-07	0.00E+00
274	4.13E-07	0.00E+00
275	4.82E-07	0.00E+00
276	4.53E-07	0.00E+00
277	5.26E-07	0.00E+00
278	8.19E-07	0.00E+00
279	7.12E-07	0.00E+00
280	4.43E-07	0.00E+00
281	6.22E-07	0.00E+00
282	1.32E-06	0.00E+00
283	1.45E-06	0.00E+00
284	1.14E-06	0.00E+00
285	8.32E-07	0.00E+00
286	8.54E-07	0.00E+00
287	1.78E-06	0.00E+00
288	3.52E-06	0.00E+00
289	6.72E-06	0.00E+00
290	7.39E-06	0.00E+00
291	9.39E-06	0.00E+00
292	1.01E-05	0.00E+00
293	6.29E-06	0.00E+00
294	9.43E-06	0.00E+00
295	4.81E-07	0.00E+00
296	5.01E-06	0.00E+00

297	5.77E-07	0.00E+00
298	8.98E-06	0.00E+00
299	2.96E-06	0.00E+00
300	4.66E-06	0.00E+00
301	2.46E-06	0.00E+00
302	2.79E-06	0.00E+00
303	1.19E-06	0.00E+00
304	9.58E-08	0.00E+00
305	6.76E-08	0.00E+00
306	3.20E-08	0.00E+00
307	3.13E-08	0.00E+00
308	4.56E-08	0.00E+00
309	8.42E-07	0.00E+00
310	8.75E-07	0.00E+00
311	4.53E-08	0.00E+00
312	3.18E-07	0.00E+00
313	2.83E-07	0.00E+00
314	2.24E-07	0.00E+00
315	2.44E-07	0.00E+00
316	2.40E-07	0.00E+00
317	2.77E-07	0.00E+00
318	2.21E-08	0.00E+00
319	2.23E-08	0.00E+00
320	1.92E-08	0.00E+00
321	1.42E-08	0.00E+00
322	8.19E-09	0.00E+00
323	8.69E-09	0.00E+00
324	9.66E-09	0.00E+00
325	1.52E-07	0.00E+00
326	2.12E-07	0.00E+00
327	3.69E-07	0.00E+00
328	4.66E-07	0.00E+00
329	5.09E-07	0.00E+00
330	4.30E-07	0.00E+00
331	3.33E-07	0.00E+00
332	3.18E-07	0.00E+00
333	3.60E-07	0.00E+00
334	5.23E-07	0.00E+00
335	5.90E-07	0.00E+00
336	4.88E-07	0.00E+00
337	3.63E-07	0.00E+00
338	3.94E-07	0.00E+00
339	4.70E-07	0.00E+00
340	8.52E-07	0.00E+00
341	1.39E-06	0.00E+00
342	1.89E-06	0.00E+00
343	1.76E-06	0.00E+00
344	3.23E-06	0.00E+00
345	7.26E-06	0.00E+00
346	6.75E-06	0.00E+00
347	5.67E-06	0.00E+00
348	4.33E-06	0.00E+00
349	2.18E-06	0.00E+00
350	1.11E-06	0.00E+00
351	2.26E-06	0.00E+00
352	2.08E-06	0.00E+00
353	2.16E-06	0.00E+00
354	1.67E-06	0.00E+00
355	2.78E-06	0.00E+00
356	2.54E-06	0.00E+00

357	2.72E-06	0.00E+00
358	1.19E-06	0.00E+00
359	6.36E-08	0.00E+00
360	4.68E-08	0.00E+00
361	3.71E-08	0.00E+00
362	2.66E-08	0.00E+00
363	3.44E-08	0.00E+00
364	3.22E-08	0.00E+00
365	2.46E-08	0.00E+00
366	3.55E-08	0.00E+00
367	7.36E-07	0.00E+00
368	4.73E-08	0.00E+00
369	4.25E-08	0.00E+00
370	4.88E-07	0.00E+00
371	3.48E-07	0.00E+00
372	2.98E-07	0.00E+00
373	2.73E-07	0.00E+00
374	1.87E-08	0.00E+00
375	1.69E-08	0.00E+00
376	2.12E-08	0.00E+00
377	1.88E-08	0.00E+00
378	1.29E-08	0.00E+00
379	1.31E-08	0.00E+00
380	1.42E-08	0.00E+00
381	1.97E-07	0.00E+00
382	2.41E-07	0.00E+00
383	3.40E-07	0.00E+00
384	3.93E-07	0.00E+00
385	3.46E-07	0.00E+00
386	3.07E-07	0.00E+00
387	2.48E-07	0.00E+00
388	1.86E-07	0.00E+00
389	3.74E-07	0.00E+00
390	4.88E-07	0.00E+00
391	5.00E-07	0.00E+00
392	3.09E-07	0.00E+00
393	4.25E-07	0.00E+00
394	3.52E-07	0.00E+00
395	2.71E-07	0.00E+00
396	3.16E-07	0.00E+00
397	5.40E-07	0.00E+00
398	4.55E-07	0.00E+00
399	1.38E-06	0.00E+00
400	1.80E-06	0.00E+00
401	2.21E-06	0.00E+00
402	2.05E-06	0.00E+00
403	4.25E-06	0.00E+00
404	2.27E-06	0.00E+00
405	1.86E-06	0.00E+00
406	2.83E-06	0.00E+00
407	2.85E-06	0.00E+00
408	1.59E-06	0.00E+00
409	9.39E-07	0.00E+00
410	1.65E-06	0.00E+00
411	1.37E-06	0.00E+00
412	6.56E-07	0.00E+00
413	1.60E-06	0.00E+00
414	1.13E-06	0.00E+00
415	8.74E-08	0.00E+00
416	4.85E-08	0.00E+00

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417	2.31E-08	0.00E+00
418	3.01E-08	0.00E+00
419	2.96E-08	0.00E+00
420	2.34E-08	0.00E+00
421	3.51E-08	0.00E+00
422	2.89E-08	0.00E+00
423	2.71E-08	0.00E+00
424	3.58E-08	0.00E+00
425	6.57E-07	0.00E+00
426	4.68E-08	0.00E+00
427	4.95E-08	0.00E+00
428	7.12E-07	0.00E+00
429	4.73E-07	0.00E+00
430	4.93E-07	0.00E+00
431	2.36E-08	0.00E+00
432	2.08E-08	0.00E+00
433	2.12E-08	0.00E+00
434	1.85E-08	0.00E+00
435	1.84E-08	0.00E+00
436	1.73E-08	0.00E+00
437	1.92E-08	0.00E+00
438	1.55E-08	0.00E+00
439	1.48E-08	0.00E+00
440	1.47E-08	0.00E+00
441	1.96E-07	0.00E+00
442	2.32E-07	0.00E+00
443	3.07E-07	0.00E+00
444	2.95E-07	0.00E+00
445	2.84E-07	0.00E+00
446	2.28E-07	0.00E+00
447	1.46E-07	0.00E+00
448	1.53E-07	0.00E+00
449	4.48E-07	0.00E+00
450	3.07E-07	0.00E+00
451	5.59E-07	0.00E+00
452	3.58E-07	0.00E+00
453	5.71E-07	0.00E+00
454	2.04E-07	0.00E+00
455	2.50E-07	0.00E+00
456	2.07E-07	0.00E+00
457	2.24E-07	0.00E+00
458	3.30E-07	0.00E+00
459	5.94E-07	0.00E+00
460	5.91E-07	0.00E+00
461	8.74E-07	0.00E+00
462	1.43E-06	0.00E+00
463	1.85E-06	0.00E+00
464	1.51E-06	0.00E+00
465	1.60E-06	0.00E+00
466	6.05E-08	0.00E+00
467	1.08E-06	0.00E+00
468	1.63E-06	0.00E+00
469	2.23E-06	0.00E+00
470	1.22E-06	0.00E+00
471	8.23E-07	0.00E+00
472	1.33E-06	0.00E+00
473	9.84E-07	0.00E+00
474	7.12E-07	0.00E+00
475	4.01E-08	0.00E+00
476	4.48E-08	0.00E+00

477	5.36E-08	0.00E+00
478	4.11E-08	0.00E+00
479	3.17E-08	0.00E+00
480	3.19E-08	0.00E+00
481	2.95E-08	0.00E+00
482	3.49E-08	0.00E+00
483	5.73E-07	0.00E+00
484	4.09E-08	0.00E+00
485	8.36E-07	0.00E+00
486	8.34E-07	0.00E+00
487	7.24E-07	0.00E+00
488	6.86E-07	0.00E+00
489	4.25E-07	0.00E+00
490	3.25E-07	0.00E+00
491	2.35E-08	0.00E+00
492	2.30E-08	0.00E+00
493	1.85E-08	0.00E+00
494	1.46E-08	0.00E+00
495	1.25E-08	0.00E+00
496	9.37E-09	0.00E+00
497	1.35E-07	0.00E+00
498	2.04E-07	0.00E+00
499	1.79E-07	0.00E+00
500	1.62E-07	0.00E+00
501	1.54E-07	0.00E+00
502	2.26E-07	0.00E+00
503	2.46E-07	0.00E+00
504	2.18E-07	0.00E+00
505	2.49E-07	0.00E+00
506	4.00E-07	0.00E+00
507	2.90E-07	0.00E+00
508	2.77E-07	0.00E+00
509	1.53E-07	0.00E+00
510	2.34E-07	0.00E+00
511	2.50E-07	0.00E+00
512	2.59E-07	0.00E+00
513	2.54E-07	0.00E+00
514	2.57E-07	0.00E+00
515	2.75E-07	0.00E+00
516	5.75E-07	0.00E+00
517	6.92E-07	0.00E+00
518	6.36E-07	0.00E+00
519	1.01E-06	0.00E+00
520	1.36E-06	0.00E+00
521	1.08E-06	0.00E+00
522	7.23E-08	0.00E+00
523	1.03E-06	0.00E+00
524	9.64E-07	0.00E+00
525	7.46E-07	0.00E+00
526	1.39E-06	0.00E+00
527	2.15E-06	0.00E+00
528	1.16E-06	0.00E+00
529	8.52E-07	0.00E+00
530	1.32E-06	0.00E+00
531	8.79E-07	0.00E+00
532	3.64E-08	0.00E+00
533	2.55E-08	0.00E+00
534	3.65E-08	0.00E+00
535	5.13E-08	0.00E+00
536	4.93E-08	0.00E+00

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537	4.81E-08	0.00E+00
538	4.75E-08	0.00E+00
539	6.20E-07	0.00E+00
540	5.50E-07	0.00E+00
541	7.92E-07	0.00E+00
542	8.24E-07	0.00E+00
543	8.49E-07	0.00E+00
544	7.68E-07	0.00E+00
545	5.68E-07	0.00E+00
546	4.16E-07	0.00E+00
547	2.13E-08	0.00E+00
548	2.36E-08	0.00E+00
549	2.68E-07	0.00E+00
550	1.77E-08	0.00E+00
551	1.53E-07	0.00E+00
552	1.10E-07	0.00E+00
553	1.05E-07	0.00E+00
554	1.06E-07	0.00E+00
555	1.12E-07	0.00E+00
556	1.14E-07	0.00E+00
557	2.67E-07	0.00E+00
558	1.66E-07	0.00E+00
559	2.26E-07	0.00E+00
560	2.39E-07	0.00E+00
561	2.02E-07	0.00E+00
562	1.08E-07	0.00E+00
563	2.00E-07	0.00E+00
564	1.59E-07	0.00E+00
565	3.61E-07	0.00E+00
566	2.91E-07	0.00E+00
567	3.42E-07	0.00E+00
568	3.72E-07	0.00E+00
569	3.78E-07	0.00E+00
570	5.68E-07	0.00E+00
571	6.06E-07	0.00E+00
572	6.19E-07	0.00E+00
573	8.95E-07	0.00E+00
574	1.09E-06	0.00E+00
575	5.80E-08	0.00E+00
576	1.08E-06	0.00E+00
577	9.68E-07	0.00E+00
578	7.54E-07	0.00E+00
579	1.42E-06	0.00E+00
580	2.10E-06	0.00E+00
581	1.15E-06	0.00E+00
582	9.13E-07	0.00E+00
583	1.39E-06	0.00E+00
584	5.43E-07	0.00E+00
585	3.06E-08	0.00E+00
586	3.48E-08	0.00E+00
587	3.88E-08	0.00E+00
588	5.38E-08	0.00E+00
589	5.18E-08	0.00E+00
590	6.91E-07	0.00E+00
591	6.01E-07	0.00E+00
592	5.16E-07	0.00E+00
593	3.63E-08	0.00E+00
594	5.99E-07	0.00E+00
595	7.82E-07	0.00E+00
596	8.47E-07	0.00E+00

597	6.99E-07	0.00E+00
598	5.33E-07	0.00E+00
599	3.89E-07	0.00E+00
600	2.46E-07	0.00E+00
601	1.85E-07	0.00E+00
602	1.40E-07	0.00E+00
603	8.68E-08	0.00E+00
604	1.09E-07	0.00E+00
605	9.84E-08	0.00E+00
606	1.08E-07	0.00E+00
607	1.13E-07	0.00E+00
608	1.56E-07	0.00E+00
609	1.50E-07	0.00E+00
610	2.00E-07	0.00E+00
611	1.75E-07	0.00E+00
612	2.07E-07	0.00E+00
613	1.77E-07	0.00E+00
614	1.15E-07	0.00E+00
615	1.72E-07	0.00E+00
616	1.51E-07	0.00E+00
617	3.69E-08	0.00E+00
618	2.42E-07	0.00E+00
619	2.83E-07	0.00E+00
620	2.23E-07	0.00E+00
621	3.14E-07	0.00E+00
622	4.08E-07	0.00E+00
623	4.47E-07	0.00E+00
624	5.73E-07	0.00E+00
625	6.54E-07	0.00E+00
626	6.03E-07	0.00E+00
627	8.86E-07	0.00E+00
628	6.23E-08	0.00E+00
629	1.30E-06	0.00E+00
630	1.02E-06	0.00E+00
631	1.19E-06	0.00E+00
632	8.87E-07	0.00E+00
633	1.37E-06	0.00E+00
634	1.77E-06	0.00E+00
635	9.23E-07	0.00E+00
636	1.24E-06	0.00E+00
637	5.52E-08	0.00E+00
638	3.84E-08	0.00E+00
639	3.91E-08	0.00E+00
640	4.24E-08	0.00E+00
641	4.51E-08	0.00E+00
642	4.49E-08	0.00E+00
643	6.52E-07	0.00E+00
644	3.61E-08	0.00E+00
645	3.19E-08	0.00E+00
646	2.80E-08	0.00E+00
647	4.10E-07	0.00E+00
648	5.47E-07	0.00E+00
649	6.67E-07	0.00E+00
650	5.90E-07	0.00E+00
651	4.44E-07	0.00E+00
652	2.75E-07	0.00E+00
653	1.83E-07	0.00E+00
654	1.55E-07	0.00E+00
655	1.79E-07	0.00E+00
656	1.85E-07	0.00E+00

657	2.10E-07	0.00E+00
658	9.93E-08	0.00E+00
659	2.21E-07	0.00E+00
660	2.89E-07	0.00E+00
661	3.13E-07	0.00E+00
662	2.85E-07	0.00E+00
663	3.30E-07	0.00E+00
664	4.21E-07	0.00E+00
665	4.72E-07	0.00E+00
666	6.26E-07	0.00E+00
667	6.29E-07	0.00E+00
668	3.44E-08	0.00E+00
669	4.54E-08	0.00E+00
670	8.85E-07	0.00E+00
671	1.13E-06	0.00E+00
672	8.67E-07	0.00E+00
673	1.16E-06	0.00E+00
674	8.46E-07	0.00E+00
675	1.14E-06	0.00E+00
676	1.81E-06	0.00E+00
677	6.19E-07	0.00E+00
678	5.44E-07	0.00E+00
679	9.30E-07	0.00E+00
680	4.46E-07	0.00E+00
681	5.80E-07	0.00E+00
682	2.19E-08	0.00E+00
683	2.76E-08	0.00E+00
684	3.52E-08	0.00E+00
685	3.65E-08	0.00E+00
686	3.71E-08	0.00E+00
687	4.00E-08	0.00E+00
688	4.32E-08	0.00E+00
689	4.47E-08	0.00E+00
690	9.86E-07	0.00E+00
691	3.26E-08	0.00E+00
692	6.28E-07	0.00E+00
693	5.00E-07	0.00E+00
694	3.97E-07	0.00E+00
695	4.28E-07	0.00E+00
696	5.20E-07	0.00E+00
697	5.49E-07	0.00E+00
698	4.67E-07	0.00E+00
699	2.92E-07	0.00E+00
700	1.99E-07	0.00E+00
701	1.82E-07	0.00E+00
702	2.54E-07	0.00E+00
703	3.78E-07	0.00E+00
704	2.70E-07	0.00E+00
705	2.35E-07	0.00E+00
706	5.61E-07	0.00E+00
707	4.19E-07	0.00E+00
708	4.62E-07	0.00E+00
709	5.30E-07	0.00E+00
710	5.32E-07	0.00E+00
711	6.22E-07	0.00E+00
712	5.87E-07	0.00E+00
713	7.49E-07	0.00E+00
714	8.60E-07	0.00E+00
715	4.26E-08	0.00E+00
716	1.31E-06	0.00E+00

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717	1.36E-06	0.00E+00
718	8.56E-07	0.00E+00
719	6.02E-07	0.00E+00
720	1.00E-06	0.00E+00
721	5.43E-07	0.00E+00
722	1.53E-07	0.00E+00
723	6.14E-07	0.00E+00
724	6.45E-07	0.00E+00
725	6.11E-07	0.00E+00
726	3.62E-08	0.00E+00
727	3.90E-08	0.00E+00
728	3.87E-08	0.00E+00
729	4.02E-08	0.00E+00
730	8.27E-07	0.00E+00
731	4.84E-08	0.00E+00
732	7.18E-07	0.00E+00
733	5.56E-07	0.00E+00
734	4.73E-07	0.00E+00
735	5.00E-07	0.00E+00
736	5.73E-07	0.00E+00
737	5.55E-07	0.00E+00
738	5.50E-07	0.00E+00
739	5.90E-07	0.00E+00
740	4.76E-08	0.00E+00
741	1.34E-06	0.00E+00
742	1.54E-06	0.00E+00
743	1.95E-06	0.00E+00
744	1.80E-06	0.00E+00
745	1.09E-06	0.00E+00
746	7.02E-07	0.00E+00
747	5.14E-07	0.00E+00
748	9.08E-07	0.00E+00
749	5.78E-07	0.00E+00
750	1.04E-06	0.00E+00
751	1.41E-06	0.00E+00
752	1.30E-06	0.00E+00
753	1.01E-06	0.00E+00
754	4.27E-08	0.00E+00
755	4.94E-08	0.00E+00
756	1.71E-06	0.00E+00
757	1.42E-06	0.00E+00
758	8.16E-07	0.00E+00
759	6.72E-07	0.00E+00
760	2.84E-07	0.00E+00
761	1.62E-07	0.00E+00

0000000000000000000000000000000000000000000000000000000000000000 #18 NO SOLUTE SOURCE

721	26.64	0	#19 SPECIFIED HEADS
748	26.64	0	
761	26.64	0	
760	26.64	0	
749	26.64	0	
722	26.64	0	
678	26.64	0	
636	26.64	0	
582	26.64	0	
529	26.64	0	
471	26.64	0	
409	26.64	0	
350	26.64	0	
297	26.64	0	

717	1.36E-06	0.00E+00
718	8.56E-07	0.00E+00
719	6.02E-07	0.00E+00
720	1.00E-06	0.00E+00
721	5.43E-07	0.00E+00
722	1.53E-07	0.00E+00
723	6.14E-07	0.00E+00
724	6.45E-07	0.00E+00
725	6.11E-07	0.00E+00
726	3.62E-08	0.00E+00
727	3.90E-08	0.00E+00
728	3.87E-08	0.00E+00
729	4.02E-08	0.00E+00
730	8.27E-07	0.00E+00
731	4.84E-08	0.00E+00
732	7.18E-07	0.00E+00
733	5.56E-07	0.00E+00
734	4.73E-07	0.00E+00
735	5.00E-07	0.00E+00
736	5.73E-07	0.00E+00
737	5.55E-07	0.00E+00
738	5.50E-07	0.00E+00
739	5.90E-07	0.00E+00
740	4.76E-08	0.00E+00
741	1.34E-06	0.00E+00
742	1.54E-06	0.00E+00
743	1.95E-06	0.00E+00
744	1.80E-06	0.00E+00
745	1.09E-06	0.00E+00
746	7.02E-07	0.00E+00
747	5.14E-07	0.00E+00
748	9.08E-07	0.00E+00
749	5.78E-07	0.00E+00
750	1.04E-06	0.00E+00
751	1.41E-06	0.00E+00
752	1.30E-06	0.00E+00
753	1.01E-06	0.00E+00
754	4.27E-08	0.00E+00
755	4.94E-08	0.00E+00
756	1.71E-06	0.00E+00
757	1.42E-06	0.00E+00
758	8.16E-07	0.00E+00
759	6.72E-07	0.00E+00
760	2.84E-07	0.00E+00
761	1.62E-07	0.00E+00

0000000000000000000000000000000000000000000000000000000000000000 #18 NO SOLUTE SOURCE

721	26.64	0	#19 SPECIFIED HEADS
748	26.64	0	
761	26.64	0	
760	26.64	0	
749	26.64	0	
722	26.64	0	
678	26.64	0	
636	26.64	0	
582	26.64	0	
529	26.64	0	
471	26.64	0	
409	26.64	0	
350	26.64	0	
297	26.64	0	

298	26.80	0	
247	27.14	0	
199	27.40	0	
201	28.00	0	
152	28.00	0	
118	28.00	0	
91	28.00	0	
71	28.00	0	
50	28.35	0	
27	28.65	0	
13	28.65	0	
14	27.43	0	
15	26.37	0	
16	25.51	0	
17	25.51	0	
18	25.51	0	
19	25.51	0	
20	25.51	0	
21	25.79	0	
22	25.98	0	
23	26.21	0	
24	26.40	0	
25	26.64	0	
26	26.64	0	
49	26.64	0	
70	26.64	0	
90	26.64	0	
117	26.64	0	
151	26.64	0	
198	26.64	0	
246	26.64	0	
296	26.64	0	
349	26.64	0	
408	26.64	0	
470	26.64	0	
528	26.64	0	
581	26.64	0	
635	26.64	0	
677	26.64	0	
676	26.64	0	
65	27.58	0	
66	27.58	0	

0000000000000000000000000000000000000000000000000000000000000000000000000000

328	3.80e+0	#20 SPECIFIED
383	3.80e+0	Petroleum dig
442	3.80e+0	
441	3.80e+0	
327	3.80e+0	
497	3.80e+0	
498	3.80e+0	
496	3.80e+0	
382	3.80e+0	
273	3.80e+0	
326	3.80e+0	Petroleum dig
550	1.00e+0	E.side central
549	1.00e+0	
601	1.00e+0	
602	1.00e+0	
659	1.00e+0	
658	1.00e+0	

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 657              1.00e+0
 656              1.00e+0
 655              1.00e+0
 654              1.00e+0
 701              1.00e+0
 700              1.00e+0
 653              1.00e+0
 600              1.00e+0
 699              1.00e+0
 652              1.00e+0
 699              1.00e+0
 702              1.00e+0
 660              1.00e+0
 618              1.00e+0
 614              1.00e+0
 616              1.00e+0
 563              1.00e+0
 509              1.00e+0
 510              1.00e+0
 564              1.00e+0
 321              3.60e+0                                        S. Excv. area
 320              3.60e+0
 264              3.60e+0
 649              1.70e+1
0000000000000000000000000000000000000000000000000000000000000000000000000000000
       20                                                      #21 OBSERVATION NODES
 225  498  508  599  490  561  613  390  451  453  740  697  595  542  733  514
   0
    1   286   285   339   340                                  #22 NODAL INCIDENCE
    2   340   339   396   397
    3   397   396   457   458
    4   458   457   514   515
    5   515   514   568   569
    6   569   568   622   623
    7   623   622   664   665
    8   665   664   709   710
    9   710   709   736   737
   10   737   736   733   738
   11   738   733   692   732
   12   732   692   644   691
   13   692   693   645   644
   14   733   734   693   692
   15   736   735   734   733
   16   709   708   735   736
   17   664   663   708   709
   18   622   621   663   664
   19   568   567   621   622
   20   514   513   567   568
   21   457   456   513   514
   22   396   395   456   457
   23   339   338   395   396
   24   285   284   338   339
   25   284   336   337   338
   26   338   337   394   395
   27   395   394   455   456
   28   456   455   512   513
   29   513   512   566   567
   30   567   566   620   621
   31   621   620   662   663
   32   663   662   707   708
```

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33	708	707	695	735
34	735	695	694	734
35	734	694	647	693
36	693	647	646	645
37	647	594	593	646
38	694	648	594	647
39	695	696	648	694
40	707	706	696	695
41	662	661	706	707
42	620	619	661	662
43	566	565	619	620
44	512	511	565	566
45	455	454	511	512
46	394	453	454	455
47	337	393	453	394
48	336	392	393	337
49	392	391	452	393
50	336	335	391	392
51	284	283	335	336
52	283	282	334	335
53	335	334	390	391
54	391	390	451	452
55	393	452	451	453
56	453	510	511	454
57	511	510	564	565
58	564	563	618	565
59	565	618	660	619
60	619	660	704	661
61	661	704	705	706
62	705	703	697	706
63	706	697	649	696
64	696	649	595	648
65	648	595	542	594
66	594	542	541	593
67	542	543	485	541
68	595	596	543	542
69	649	597	596	595
70	697	650	597	649
71	703	698	650	697
72	702	699	698	703
73	704	702	703	705
74	660	659	702	704
75	618	614	659	660
76	563	616	614	618
77	563	562	615	616
78	509	508	562	563
79	510	509	563	564
80	453	508	509	510
81	453	451	507	508
[illegible]	451	450	506	507
83	390	449	450	451
84	334	389	449	390
85	282	333	389	334
86	282	281	332	333
87	333	387	388	389
88	389	388	448	449
89	449	448	504	505
90	449	505	506	450
91	507	506	559	560
92	507	560	561	508

93	508	561	615	562
94	561	613	657	615
95	616	615	657	658
96	616	658	659	614
97	658	657	701	659
98	659	701	699	702
99	701	700	652	699
100	699	652	651	698
101	698	651	598	650
102	650	598	545	597
103	597	545	544	596
104	596	544	486	543
105	543	486	427	485
106	486	487	428	427
107	544	488	487	486
108	545	489	488	544
109	598	546	489	545
110	651	599	546	598
111	652	600	599	651
112	700	653	600	652
113	657	656	700	701
114	656	655	653	700
115	612	610	655	656
116	613	612	656	657
117	561	560	612	613
118	560	559	611	612
119	611	557	610	612
120	559	558	557	611
121	503	502	557	558
122	506	503	558	559
123	505	504	503	506
124	504	447	502	503
125	448	388	447	504
126	388	387	446	447
127	333	332	386	387
128	387	386	445	446
129	446	445	500	501
130	447	446	501	502
131	502	501	555	556
132	502	556	608	557
133	557	608	609	610
134	610	609	654	655
135	655	654	601	653
136	653	601	549	600
137	600	549	548	599
138	599	548	547	546
139	546	547	490	489
140	489	490	430	488
141	488	430	429	487
142	487	429	370	428
143	429	371	312	370
144	430	431	371	429
145	490	433	431	430
146	547	491	433	490
147	548	492	491	547
148	549	550	492	548
149	601	602	550	549
150	654	603	602	601
151	609	604	603	654
152	608	607	604	609

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153	556	555	607	608
154	501	500	554	555
155	555	554	606	607
156	607	606	605	604
157	604	605	602	603
158	605	551	550	602
159	606	552	551	605
160	554	553	552	606
161	500	499	553	554
162	445	444	499	500
163	386	385	444	445
164	332	331	385	386
165	281	280	331	332
166	280	279	330	331
167	331	330	384	385
168	385	384	443	444
169	444	443	498	499
170	499	498	497	553
171	553	497	496	552
172	552	496	495	551
173	551	495	494	550
174	550	494	493	492
175	492	493	435	491
176	491	435	434	433
177	433	434	432	431
178	431	432	372	371
179	371	372	314	312
180	372	373	315	314
181	432	374	373	372
182	434	375	374	432
183	435	436	375	434
184	493	437	436	435
185	494	438	437	493
186	495	439	438	494
187	496	440	439	495
188	497	441	440	496
189	498	442	441	497
190	443	383	442	498
191	384	328	383	443
192	330	329	328	384
193	279	278	329	330
194	278	277	276	329
195	329	276	275	328
196	328	275	327	383
197	383	327	382	442
198	442	382	381	441
199	441	381	380	440
200	440	380	379	439
201	439	379	378	438
202	438	378	377	437
203	437	377	376	436
204	436	376	319	375
205	375	319	318	374
206	374	318	317	373
207	373	317	316	315
208	317	262	261	316
209	318	263	262	317
210	319	264	263	318
211	376	320	264	319
212	377	321	320	376

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213	378	322	321	377
214	379	323	322	378
215	380	324	323	379
216	381	325	324	380
217	382	326	325	381
218	327	273	326	382
219	275	274	273	327
220	276	225	274	275
221	277	226	225	276
222	226	181	180	225
223	225	180	224	274
224	274	224	272	273
225	273	272	271	326
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237	213	168	167	212
238	214	170	168	213
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251	179	178	177	223
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254	221	135	175	220
255	220	175	174	219
256	219	174	173	218
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272	259	260	209	258

273	313	259	258	311
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275	370	312	313	311
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277	369	311	257	310
278	368	369	310	309
279	427	428	369	368
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304	460	516	570	517
305	517	570	624	571
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307	625	666	711	667
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311	731	732	691	690
312	739	738	732	731
313	711	737	738	739
314	666	710	737	711
315	624	665	710	666
316	570	623	665	624
317	516	569	623	570
318	459	515	569	516
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322	287	340	397	341
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381	361	305	304	360
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385	358	303	251	302
386	359	360	303	358
387	421	361	360	359
388	422	362	361	421
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391	425	367	366	424
392	483	425	424	482

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417	538	482	481	537
418	539	483	482	538
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421	641	589	588	640
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424	534	477	476	533
425	532	476	475	474
426	474	475	414	413
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440	639	587	534	586
441	687	640	587	639
442	686	687	639	638
443	728	688	687	686
444	688	641	640	687
445	689	642	641	688
446	729	689	688	728
447	754	729	728	727
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449	685	686	638	684
450	684	638	617	637
451	637	617	584	583
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471	753	755	715	752
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475	679	680	681	636
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495	673	717	745	718
496	717	716	744	745
497	716	743	753	744
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503	629	671	716	717
504	631	629	717	673
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617	193	192	240	241
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623	147	191	192	193
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626	112	111	145	146
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632	109	106	105	144

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691	115	114	149	150
692	87	113	114	115

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718	83	57	56	82
719	82	56	55	81
720	56	33	32	55
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722	32	6	5	31
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725	81	55	78	80
726	581	580	634	635
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SSSS  UUUU   TT  RR RR AA AA
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UNITED STATES GEOLOGICAL SURVEY

SUBSURFACE FLOW AND TRANSPORT SIMULATION MODEL

-VERSION 0690-2D-

* SATURATED-UNSATURATED FLOW AND SOLUTE OR ENERGY TRANSPORT *

1

***** SUTRA SOLUTE TRANSPORT SIMULATION *****

..... CHEVRON ORLANDO BENZENE SIMULATION - MAY 23, 1994 .....

+++++++++ PTI ENVIRONMENTAL SERVICES, CONTRACT C460. CLT ++++++++

FILE UNIT ASSIGNMENTS

INPUT UNITS:
SIMULATION DATA 5 ASSIGNED TO b.d5
INITIAL CONDITIONS 55 ASSIGNED TO orlando.D55

OUTPUT UNITS:
SIMULATION RESULTS 6 ASSIGNED TO b.D6
RESTART DATA 66 ASSIGNED TO b.D66

SIMULATION MODE OPTIONS

- ASSUME SATURATED FLOW ONLY
- ASSUME STEADY-STATE FLOW FIELD CONSISTENT WITH INITIAL CONCENTRATION CONDITIONS
- ASSUME STEADY-STATE TRANSPORT
- COLD START - BEGIN NEW SIMULATION
- STORE RESULTS AFTER EVERY 1 TIME STEPS ON UNIT- 66 AS BACK-UP AND FOR USE IN A SIMULATION RE-START

SIMULATION CONTROL NUMBERS

761 NUMBER OF NODES IN FINITE-ELEMENT MESH
727 NUMBER OF ELEMENTS IN MESH
241 ESTIMATED MAXIMUM FULL BAND WIDTH FOR MESH

0 EXACT NUMBER OF PINCH NODES IN MESH

56 EXACT NUMBER OF NODES IN MESH AT WHICH PRESSURE IS A SPECIFIED CONSTANT OR FUNCTION OF TIME
41 EXACT NUMBER OF NODES IN MESH AT WHICH SOLUTE CONCENTRATION IS A SPECIFIED CONSTANT OR FUNCTION OF TIME

761 EXACT NUMBER OF NODES AT WHICH FLUID INFLOW OR OUTFLOW IS A SPECIFIED CONSTANT OR FUNCTION OF TIME
0 EXACT NUMBER OF NODES AT WHICH A SOURCE OR SINK OF SOLUTE MASS IS A SPECIFIED CONSTANT OR FUNCTION OF TIME

16 EXACT NUMBER OF NODES AT WHICH PRESSURE AND CONCENTRATION WILL BE OBSERVED
10 MAXIMUM NUMBER OF TIME STEPS ON WHICH OBSERVATIONS WILL BE MADE

SIMULATION DIMENSIONS

REAL MATRICES (RM) REQUIRE 366802 AND WERE ALLOCATED 400000
REAL VECTORS (RV) REQUIRE 37357 AND WERE ALLOCATED 120000
INTEGERS (IMV) REQUIRE 9058 AND WERE ALLOCATED 26600

NUMERICAL CONTROL DATA

.00000 "UPSTREAM WEIGHTING" FACTOR
1.0000D-02 SPECIFIED PRESSURE BOUNDARY CONDITION FACTOR
1.0000D-02 SPECIFIED CONCENTRATION BOUNDARY CONDITION FACTOR
1

TEMPORAL CONTROL AND SOLUTION CYCLING DATA

30 MAXIMUM ALLOWED NUMBER OF TIME STEPS
1.0000D+06 INITIAL TIME STEP (IN SECONDS)
5.0400D+08 MAXIMUM ALLOWED SIMULATION TIME (IN SECONDS)

1 TIME STEP MULTIPLIER CYCLE (IN TIME STEPS)
2.00000 MULTIPLICATION FACTOR FOR TIME STEP CHANGE
5.0400D+08 MAXIMUM ALLOWED TIME STEP (IN SECONDS)

1 FLOW SOLUTION CYCLE (IN TIME STEPS)
1 TRANSPORT SOLUTION CYCLE (IN TIME STEPS)

OUTPUT CONTROLS AND OPTIONS

1 PRINTED OUTPUT CYCLE (IN TIME STEPS)

- PRINT NODE COORDINATES, THICKNESSES AND POROSITIES
- CANCEL PRINT OF ELEMENT PERMEABILITIES AND DISPERSIVITIES
- CANCEL PRINT OF NODE AND PINCH NODE INCIDENCES IN EACH ELEMENT

- CANCEL PLOT OF PRESSURES
- CANCEL PLOT OF CONCENTRATIONS

- CANCEL PRINT OF VELOCITIES

- CALCULATE AND PRINT FLUID AND SOLUTE BUDGETS ON EACH TIME STEP WITH OUTPUT

ITERATION CONTROL DATA

NON-ITERATIVE SOLUTION
1

CONSTANT PROPERTIES OF FLUID AND SOLID MATRIX

0.0000D-01 COMPRESSIBILITY OF FLUID
0.0000D-01 COMPRESSIBILITY OF POROUS MATRIX

1.0000D+00 FLUID VISCOSITY

2.6500D+03 DENSITY OF A SOLID GRAIN

FLUID DENSITY, RHOW
CALCULATED BY SUTRA IN TERMS OF SOLUTE CONCENTRATION, U, AS:
RHOW = RHOW0 + DRWDU*(U-URHOW0)

1.0000D+00 FLUID BASE DENSITY, RHOW0
0.0000D-01 COEFFICIENT OF DENSITY CHANGE WITH SOLUTE CONCENTRATION, DRWDU
0.0000D-01 SOLUTE CONCENTRATION, URHOW0, AT WHICH FLUID DENSITY IS AT BASE VALUE, RHOW0

1.0000D-09 MOLECULAR DIFFUSIVITY OF SOLUTE IN FLUID

ADSORPTION PARAMETERS

LINEAR EQUILIBRIUM SORPTION ISOTHERM
2.0000D-04 LINEAR DISTRIBUTION COEFFICIENT

PRODUCTION AND DECAY OF SPECIES MASS

PRODUCTION RATE (+)
DECAY RATE (-)

0.0000D-01 ZERO-ORDER RATE OF SOLUTE MASS PRODUCTION/DECAY IN FLUID
0.0000D-01 ZERO-ORDER RATE OF ADSORBATE MASS PRODUCTION/DECAY IN IMMOBILE PHASE
-5.0000D-08 FIRST-ORDER RATE OF SOLUTE MASS PRODUCTION/DECAY IN FLUID
-5.0000D-08 FIRST-ORDER RATE OF ADSORBATE MASS PRODUCTION/DECAY IN IMMOBILE PHASE

COORDINATE ORIENTATION TO GRAVITY

COMPONENT OF GRAVITY VECTOR
IN +X DIRECTION, GRAVX
0.0000D-01 GRAVX = -GRAV * D(ELEVATION)/DX

COMPONENT OF GRAVITY VECTOR
IN +Y DIRECTION, GRAVY
0.0000D-01 GRAVY = -GRAV * D(ELEVATION)/DY
1

NODE INFORMATION

NODE	X	Y	THICKNESS	POROSITY
1	4.02821D+03	0.00000D-01	7.30000D+00	.35000
2	3.76397D+03	3.53800D+01	7.30000D+00	.35000
3	3.48604D+03	7.52800D+01	7.30000D+00	.35000
4	3.19167D+03	1.16370D+02	7.30000D+00	.35000
5	2.82490D+03	1.69080D+02	7.30000D+00	.35000
6	2.56066D+03	2.05670D+02	7.30000D+00	.35000
7	2.12988D+03	2.66650D+02	7.30000D+00	.35000
8	1.85466D+03	5.01080D+02	7.30000D+00	.35000
9	1.32437D+03	9.33500D+02	7.30000D+00	.35000
10	8.52480D+02	1.11191D+03	7.30000D+00	.35000
11	3.70390D+02	1.28567D+03	7.30000D+00	.35000
12	5.57000D+00	1.41260D+03	7.30000D+00	.35000
13	4.97000D+00	1.79835D+03	7.30000D+00	.35000
14	4.97000D+00	2.18500D+03	7.30000D+00	.35000
15	0.00000D-01	2.58158D+03	7.30000D+00	.35000
16	1.75710D+02	2.79298D+03	7.30000D+00	.35000
17	4.66600D+02	2.82536D+03	7.30000D+00	.35000
18	6.09020D+02	2.92096D+03	7.30000D+00	.35000
19	6.84770D+02	3.11052D+03	7.30000D+00	.35000
20	7.96790D+02	3.21712D+03	7.30000D+00	.35000
21	1.15679D+03	3.21215D+03	7.30000D+00	.35000
22	1.41561D+03	3.21712D+03	7.30000D+00	.35000
23	1.72019D+03	3.21712D+03	7.30000D+00	.35000
24	1.96848D+03	3.21215D+03	7.30000D+00	.35000
25	2.27609D+03	3.20659D+03	7.30000D+00	.35000
26	2.27293D+03	3.00889D+03	7.30000D+00	.35000
27	4.03634D+03	4.70360D+02	7.30000D+00	.35000
28	3.68628D+03	5.31790D+02	7.30000D+00	.35000
29	3.37235D+03	5.70640D+02	7.30000D+00	.35000
30	3.07197D+03	5.81930D+02	7.30000D+00	.35000
31	2.84432D+03	5.98780D+02	7.30000D+00	.35000
32	2.62239D+03	6.26200D+02	7.30000D+00	.35000
33	2.29115D+03	6.59760D+02	7.30000D+00	.35000
34	2.05747D+03	7.77200D+02	7.30000D+00	.35000
35	1.79428D+03	9.41480D+02	7.30000D+00	.35000
36	1.70469D+03	1.37601D+03	7.30000D+00	.35000
37	1.42071D+03	1.38654D+03	7.30000D+00	.35000
38	1.04522D+03	1.45235D+03	7.30000D+00	.35000
39	5.48040D+02	1.61496D+03	7.30000D+00	.35000
40	7.81430D+02	2.02180D+03	7.30000D+00	.35000
41	1.22287D+03	1.94546D+03	7.30000D+00	.35000
42	7.91370D+02	2.48432D+03	7.30000D+00	.35000
43	9.78820D+02	2.74630D+03	7.30000D+00	.35000
44	1.09084D+03	2.96268D+03	7.30000D+00	.35000
45	1.35960D+03	2.90170D+03	7.30000D+00	.35000
46	1.64927D+03	2.88693D+03	7.30000D+00	.35000
47	1.84698D+03	2.85621D+03	7.30000D+00	.35000
48	2.06018D+03	2.72884D+03	7.30000D+00	.35000
49	2.35492D+03	2.80901D+03	7.30000D+00	.35000
50	4.03363D+03	8.02510D+02	7.30000D+00	.35000
51	3.67228D+03	8.58220D+02	7.30000D+00	.35000
52	3.34164D+03	8.94050D+02	7.30000D+00	.35000
53	3.02500D+03	9.24770D+02	7.30000D+00	.35000
54	2.80818D+03	9.19030D+02	7.30000D+00	.35000
55	2.62480D+03	9.16190D+02	7.30000D+00	.35000
56	2.38540D+03	9.13480D+02	7.30000D+00	.35000
57	2.18274D+03	9.72200D+02	7.30000D+00	.35000
58	1.95764D+03	1.03227D+03	7.30000D+00	.35000
59	1.97901D+03	1.38098D+03	7.30000D+00	.35000
60	2.00927D+03	1.72291D+03	7.30000D+00	.35000
61	1.70966D+03	1.85436D+03	7.30000D+00	.35000
62	1.50821D+03	1.87952D+03	7.30000D+00	.35000
63	1.56843D+03	2.36296D+03	7.30000D+00	.35000
64	1.27468D+03	2.41897D+03	7.30000D+00	.35000
65	1.31398D+03	2.66289D+03	7.30000D+00	.35000

66	1.59313D+03	2.58655D+03	7.30000D+00	.35000
67	1.72999D+03	2.11860D+03	7.30000D+00	.35000
68	1.79607D+03	2.53596D+03	7.30000D+00	.35000
69	1.97901D+03	2.33089D+03	7.30000D+00	.35000
70	2.44547D+03	2.60191D+03	7.30000D+00	.35000
71	3.86425D+03	1.14488D+03	7.30000D+00	.35000
72	3.63600D+03	1.12532D+03	7.30000D+00	.35000
73	3.34170D+03	1.12534D+03	7.30000D+00	.35000
74	3.01267D+03	1.13752D+03	7.30000D+00	.35000
75	2.88678D+03	1.13255D+03	7.30000D+00	.35000
76	2.89717D+03	1.02789D+03	7.30000D+00	.35000
77	2.80306D+03	1.02505D+03	7.30000D+00	.35000
78	2.69767D+03	1.02505D+03	7.30000D+00	.35000
79	2.80367D+03	1.13029D+03	7.30000D+00	.35000
80	2.70204D+03	1.12984D+03	7.30000D+00	.35000
81	2.62239D+03	1.12532D+03	7.30000D+00	.35000
82	2.45767D+03	1.12352D+03	7.30000D+00	.35000
83	2.28828D+03	1.13074D+03	7.30000D+00	.35000
84	2.14916D+03	1.15739D+03	7.30000D+00	.35000
85	2.16467D+03	1.36246D+03	7.30000D+00	.35000
86	2.17129D+03	1.57114D+03	7.30000D+00	.35000
87	2.19221D+03	1.82351D+03	7.30000D+00	.35000
88	1.94829D+03	2.04213D+03	7.30000D+00	.35000
89	2.19725D+03	2.19576D+03	7.30000D+00	.35000
90	2.57737D+03	2.28166D+03	7.30000D+00	.35000
91	3.83218D+03	1.20708D+03	7.30000D+00	.35000
92	3.57412D+03	1.19321D+03	7.30000D+00	.35000
93	3.29330D+03	1.18946D+03	7.30000D+00	.35000
94	3.08688D+03	1.20224D+03	7.30000D+00	.35000
95	2.94717D+03	1.27212D+03	7.30000D+00	.35000
96	2.87985D+03	1.25044D+03	7.30000D+00	.35000
97	2.84342D+03	1.25238D+03	7.30000D+00	.35000
98	2.84251D+03	1.20753D+03	7.30000D+00	.35000
99	2.80064D+03	1.20934D+03	7.30000D+00	.35000
100	2.79883D+03	1.25420D+03	7.30000D+00	.35000
101	2.75908D+03	1.25360D+03	7.30000D+00	.35000
102	2.75908D+03	1.20572D+03	7.30000D+00	.35000
103	2.70488D+03	1.25360D+03	7.30000D+00	.35000
104	2.62344D+03	1.25329D+03	7.30000D+00	.35000
105	2.52000D+03	1.25238D+03	7.30000D+00	.35000
106	2.34669D+03	1.25780D+03	7.30000D+00	.35000
107	2.25350D+03	1.27438D+03	7.30000D+00	.35000
108	2.26163D+03	1.35252D+03	7.30000D+00	.35000
109	2.36069D+03	1.34003D+03	7.30000D+00	.35000
110	2.26163D+03	1.44182D+03	7.30000D+00	.35000
111	2.36869D+03	1.42931D+03	7.30000D+00	.35000
112	2.36747D+03	1.52959D+03	7.30000D+00	.35000
113	2.37320D+03	1.69991D+03	7.30000D+00	.35000
114	2.49109D+03	1.81370D+03	7.30000D+00	.35000
115	2.42289D+03	1.93882D+03	7.30000D+00	.35000
116	2.46716D+03	2.12296D+03	7.30000D+00	.35000
117	2.74508D+03	2.23062D+03	7.30000D+00	.35000
118	3.79952D+03	1.27393D+03	7.30000D+00	.35000
119	3.50515D+03	1.26941D+03	7.30000D+00	.35000
120	3.24723D+03	1.24741D+03	7.30000D+00	.35000
121	3.14425D+03	1.25180D+03	7.30000D+00	.35000
122	3.10088D+03	1.30013D+03	7.30000D+00	.35000
123	3.04790D+03	1.30207D+03	7.30000D+00	.35000
124	3.00607D+03	1.30296D+03	7.30000D+00	.35000
125	2.94821D+03	1.31955D+03	7.30000D+00	.35000
126	2.91795D+03	1.31910D+03	7.30000D+00	.35000
127	2.91795D+03	1.30510D+03	7.30000D+00	.35000
128	2.87985D+03	1.30510D+03	7.30000D+00	.35000
129	2.84161D+03	1.30433D+03	7.30000D+00	.35000
130	2.81812D+03	1.30464D+03	7.30000D+00	.35000
131	2.81631D+03	1.28387D+03	7.30000D+00	.35000
132	2.79825D+03	1.28355D+03	7.30000D+00	.35000
133	2.79825D+03	1.30433D+03	7.30000D+00	.35000
134	2.78470D+03	1.28161D+03	7.30000D+00	.35000
135	2.78619D+03	1.30510D+03	7.30000D+00	.35000
136	2.75940D+03	1.30464D+03	7.30000D+00	.35000
137	2.73320D+03	1.30510D+03	7.30000D+00	.35000
138	2.73080D+03	1.32587D+03	7.30000D+00	.35000
139	2.69571D+03	1.32587D+03	7.30000D+00	.35000
140	2.62900D+03	1.32587D+03	7.30000D+00	.35000
141	2.65325D+03	1.34633D+03	7.30000D+00	.35000
142	2.65325D+03	1.36440D+03	7.30000D+00	.35000
143	2.62480D+03	1.36788D+03	7.30000D+00	.35000
144	2.52497D+03	1.32497D+03	7.30000D+00	.35000

145	2.53807D+03	1.38730D+03	7.30000D+00	.35000
146	2.55840D+03	1.45777D+03	7.30000D+00	.35000
147	2.52858D+03	1.64116D+03	7.30000D+00	.35000
148	2.52414D+03	1.73607D+03	7.30000D+00	.35000
149	2.59378D+03	1.79415D+03	7.30000D+00	.35000
150	2.62300D+03	1.88464D+03	7.30000D+00	.35000
151	2.86148D+03	2.03729D+03	7.30000D+00	.35000
152	3.75990D+03	1.34710D+03	7.30000D+00	.35000
153	3.43544D+03	1.34530D+03	7.30000D+00	.35000
154	3.29782D+03	1.37014D+03	7.30000D+00	.35000
155	3.17618D+03	1.36607D+03	7.30000D+00	.35000
156	3.20477D+03	1.30284D+03	7.30000D+00	.35000
157	3.11489D+03	1.34439D+03	7.30000D+00	.35000
158	3.11218D+03	1.36246D+03	7.30000D+00	.35000
159	3.06597D+03	1.34182D+03	7.30000D+00	.35000
160	3.03435D+03	1.34003D+03	7.30000D+00	.35000
161	2.99880D+03	1.33671D+03	7.30000D+00	.35000
162	2.94717D+03	1.33673D+03	7.30000D+00	.35000
163	2.93355D+03	1.33669D+03	7.30000D+00	.35000
164	2.93482D+03	1.32960D+03	7.30000D+00	.35000
165	2.91840D+03	1.32620D+03	7.30000D+00	.35000
166	2.89943D+03	1.31774D+03	7.30000D+00	.35000
167	2.89943D+03	1.32494D+03	7.30000D+00	.35000
168	2.87985D+03	1.32402D+03	7.30000D+00	.35000
169	2.85742D+03	1.31594D+03	7.30000D+00	.35000
170	2.85832D+03	1.32519D+03	7.30000D+00	.35000
171	2.84161D+03	1.31517D+03	7.30000D+00	.35000
172	2.82580D+03	1.31413D+03	7.30000D+00	.35000
173	2.80909D+03	1.31368D+03	7.30000D+00	.35000
174	2.79825D+03	1.31336D+03	7.30000D+00	.35000
175	2.79238D+03	1.31278D+03	7.30000D+00	.35000
176	2.77431D+03	1.31684D+03	7.30000D+00	.35000
177	2.75940D+03	1.31639D+03	7.30000D+00	.35000
178	2.74508D+03	1.31594D+03	7.30000D+00	.35000
179	2.74553D+03	1.32442D+03	7.30000D+00	.35000
180	2.74538D+03	1.33154D+03	7.30000D+00	.35000
181	2.73080D+03	1.33504D+03	7.30000D+00	.35000
182	2.71273D+03	1.33536D+03	7.30000D+00	.35000
183	2.69300D+03	1.34530D+03	7.30000D+00	.35000
184	2.69133D+03	1.36472D+03	7.30000D+00	.35000
185	2.69074D+03	1.38595D+03	7.30000D+00	.35000
186	2.65280D+03	1.38595D+03	7.30000D+00	.35000
187	2.62480D+03	1.40822D+03	7.30000D+00	.35000
188	2.68939D+03	1.45099D+03	7.30000D+00	.35000
189	2.68594D+03	1.50374D+03	7.30000D+00	.35000
190	2.60989D+03	1.50158D+03	7.30000D+00	.35000
191	2.59544D+03	1.60276D+03	7.30000D+00	.35000
192	2.61892D+03	1.65245D+03	7.30000D+00	.35000
193	2.59408D+03	1.69161D+03	7.30000D+00	.35000
194	2.61531D+03	1.73917D+03	7.30000D+00	.35000
195	2.63022D+03	1.78660D+03	7.30000D+00	.35000
196	2.63803D+03	1.81461D+03	7.30000D+00	.35000
197	2.71514D+03	1.81461D+03	7.30000D+00	.35000
198	2.80064D+03	1.90495D+03	7.30000D+00	.35000
199	3.40382D+03	1.50113D+03	7.30000D+00	.35000
200	3.29059D+03	1.42389D+03	7.30000D+00	.35000
201	3.70209D+03	1.47132D+03	7.30000D+00	.35000
202	3.17180D+03	1.40778D+03	7.30000D+00	.35000
203	3.11218D+03	1.38053D+03	7.30000D+00	.35000
204	3.06429D+03	1.35989D+03	7.30000D+00	.35000
205	3.03945D+03	1.35794D+03	7.30000D+00	.35000
206	3.01764D+03	1.35614D+03	7.30000D+00	.35000
207	2.97667D+03	1.35523D+03	7.30000D+00	.35000
208	2.97712D+03	1.34633D+03	7.30000D+00	.35000
209	2.94685D+03	1.34394D+03	7.30000D+00	.35000
210	2.93016D+03	1.33806D+03	7.30000D+00	.35000
211	2.91811D+03	1.33072D+03	7.30000D+00	.35000
212	2.89943D+03	1.33114D+03	7.30000D+00	.35000
213	2.87835D+03	1.33157D+03	7.30000D+00	.35000
214	2.85817D+03	1.33054D+03	7.30000D+00	.35000
215	2.84206D+03	1.32504D+03	7.30000D+00	.35000
216	2.82490D+03	1.32357D+03	7.30000D+00	.35000
217	2.81812D+03	1.32123D+03	7.30000D+00	.35000
218	2.80984D+03	1.32180D+03	7.30000D+00	.35000
219	2.79945D+03	1.32149D+03	7.30000D+00	.35000
220	2.79057D+03	1.32149D+03	7.30000D+00	.35000
221	2.78528D+03	1.32134D+03	7.30000D+00	.35000
222	2.77474D+03	1.32338D+03	7.30000D+00	.35000
223	2.76015D+03	1.32323D+03	7.30000D+00	.35000

224	2.75985D+03	1.33008D+03	7.30000D+00	.35000
225	2.74302D+03	1.33970D+03	7.30000D+00	.35000
226	2.73079D+03	1.34198D+03	7.30000D+00	.35000
227	2.71288D+03	1.34439D+03	7.30000D+00	.35000
228	2.71288D+03	1.35207D+03	7.30000D+00	.35000
229	2.71378D+03	1.37646D+03	7.30000D+00	.35000
230	2.71378D+03	1.38550D+03	7.30000D+00	.35000
231	2.71423D+03	1.39331D+03	7.30000D+00	.35000
232	2.69074D+03	1.40763D+03	7.30000D+00	.35000
233	2.70746D+03	1.42751D+03	7.30000D+00	.35000
234	2.70747D+03	1.45062D+03	7.30000D+00	.35000
235	2.70746D+03	1.46229D+03	7.30000D+00	.35000
236	2.71649D+03	1.48216D+03	7.30000D+00	.35000
237	2.70670D+03	1.50474D+03	7.30000D+00	.35000
238	2.65371D+03	1.56587D+03	7.30000D+00	.35000
239	2.65926D+03	1.60276D+03	7.30000D+00	.35000
240	2.67057D+03	1.65380D+03	7.30000D+00	.35000
241	2.66093D+03	1.70349D+03	7.30000D+00	.35000
242	2.67177D+03	1.76718D+03	7.30000D+00	.35000
243	2.68487D+03	1.79880D+03	7.30000D+00	.35000
244	2.71062D+03	1.75860D+03	7.30000D+00	.35000
245	2.76496D+03	1.73994D+03	7.30000D+00	.35000
246	2.84522D+03	1.77621D+03	7.30000D+00	.35000
247	3.26652D+03	1.50881D+03	7.30000D+00	.35000
248	3.24393D+03	1.47267D+03	7.30000D+00	.35000
249	3.14696D+03	1.46816D+03	7.30000D+00	.35000
250	3.13146D+03	1.42751D+03	7.30000D+00	.35000
251	3.10269D+03	1.41531D+03	7.30000D+00	.35000
252	3.06597D+03	1.40537D+03	7.30000D+00	.35000
253	3.06429D+03	1.37827D+03	7.30000D+00	.35000
254	3.03886D+03	1.37827D+03	7.30000D+00	.35000
255	3.00106D+03	1.37750D+03	7.30000D+00	.35000
256	2.97471D+03	1.37601D+03	7.30000D+00	.35000
257	2.95363D+03	1.36382D+03	7.30000D+00	.35000
258	2.94685D+03	1.34981D+03	7.30000D+00	.35000
259	2.92910D+03	1.34983D+03	7.30000D+00	.35000
260	2.92910D+03	1.34665D+03	7.30000D+00	.35000
261	2.91810D+03	1.33652D+03	7.30000D+00	.35000
262	2.89943D+03	1.33652D+03	7.30000D+00	.35000
263	2.87985D+03	1.33652D+03	7.30000D+00	.35000
264	2.85832D+03	1.33652D+03	7.30000D+00	.35000
265	2.84221D+03	1.33037D+03	7.30000D+00	.35000
266	2.82535D+03	1.33069D+03	7.30000D+00	.35000
267	2.81812D+03	1.33054D+03	7.30000D+00	.35000
268	2.80954D+03	1.33054D+03	7.30000D+00	.35000
269	2.79960D+03	1.33008D+03	7.30000D+00	.35000
270	2.79057D+03	1.33037D+03	7.30000D+00	.35000
271	2.78528D+03	1.33037D+03	7.30000D+00	.35000
272	2.77474D+03	1.33054D+03	7.30000D+00	.35000
273	2.77431D+03	1.33831D+03	7.30000D+00	.35000
274	2.76044D+03	1.33771D+03	7.30000D+00	.35000
275	2.76044D+03	1.34716D+03	7.30000D+00	.35000
276	2.74284D+03	1.34716D+03	7.30000D+00	.35000
277	2.73125D+03	1.34981D+03	7.30000D+00	.35000
278	2.73126D+03	1.35960D+03	7.30000D+00	.35000
279	2.73172D+03	1.37601D+03	7.30000D+00	.35000
280	2.73605D+03	1.38520D+03	7.30000D+00	.35000
281	2.73576D+03	1.39288D+03	7.30000D+00	.35000
282	2.73650D+03	1.40266D+03	7.30000D+00	.35000
283	2.73017D+03	1.42796D+03	7.30000D+00	.35000
284	2.73785D+03	1.45009D+03	7.30000D+00	.35000
285	2.73742D+03	1.45714D+03	7.30000D+00	.35000
286	2.73727D+03	1.46454D+03	7.30000D+00	.35000
287	2.75445D+03	1.48114D+03	7.30000D+00	.35000
288	2.74766D+03	1.50791D+03	7.30000D+00	.35000
289	2.74811D+03	1.55759D+03	7.30000D+00	.35000
290	2.70262D+03	1.55805D+03	7.30000D+00	.35000
291	2.69540D+03	1.62535D+03	7.30000D+00	.35000
292	2.71062D+03	1.67865D+03	7.30000D+00	.35000
293	2.75263D+03	1.70575D+03	7.30000D+00	.35000
294	2.78153D+03	1.68633D+03	7.30000D+00	.35000
295	2.82187D+03	1.67639D+03	7.30000D+00	.35000
296	2.88542D+03	1.73149D+03	7.30000D+00	.35000
297	3.10662D+03	1.53124D+03	7.30000D+00	.35000
298	3.12673D+03	1.51670D+03	7.30000D+00	.35000
299	3.11398D+03	1.50113D+03	7.30000D+00	.35000
300	3.11850D+03	1.46816D+03	7.30000D+00	.35000
301	3.09984D+03	1.44408D+03	7.30000D+00	.35000
302	3.08598D+03	1.42525D+03	7.30000D+00	.35000

303	3.06339D+03	1.41531D+03	7.30000D+00	.35000
304	3.03855D+03	1.40356D+03	7.30000D+00	.35000
305	3.01386D+03	1.40266D+03	7.30000D+00	.35000
306	2.99790D+03	1.38776D+03	7.30000D+00	.35000
307	2.98374D+03	1.38730D+03	7.30000D+00	.35000
308	2.97170D+03	1.40040D+03	7.30000D+00	.35000
309	2.95318D+03	1.38776D+03	7.30000D+00	.35000
310	2.95318D+03	1.37556D+03	7.30000D+00	.35000
311	2.94330D+03	1.36242D+03	7.30000D+00	.35000
312	2.91706D+03	1.35508D+03	7.30000D+00	.35000
313	2.92910D+03	1.35508D+03	7.30000D+00	.35000
314	2.91736D+03	1.34957D+03	7.30000D+00	.35000
315	2.91795D+03	1.34484D+03	7.30000D+00	.35000
316	2.91811D+03	1.34045D+03	7.30000D+00	.35000
317	2.89958D+03	1.33965D+03	7.30000D+00	.35000
318	2.88061D+03	1.34236D+03	7.30000D+00	.35000
319	2.85907D+03	1.34296D+03	7.30000D+00	.35000
320	2.84297D+03	1.33652D+03	7.30000D+00	.35000
321	2.82580D+03	1.33652D+03	7.30000D+00	.35000
322	2.81812D+03	1.33487D+03	7.30000D+00	.35000
323	2.80954D+03	1.33470D+03	7.30000D+00	.35000
324	2.79960D+03	1.33470D+03	7.30000D+00	.35000
325	2.79087D+03	1.33652D+03	7.30000D+00	.35000
326	2.78528D+03	1.33803D+03	7.30000D+00	.35000
327	2.77474D+03	1.34716D+03	7.30000D+00	.35000
328	2.75985D+03	1.35614D+03	7.30000D+00	.35000
329	2.74284D+03	1.36020D+03	7.30000D+00	.35000
330	2.74284D+03	1.37133D+03	7.30000D+00	.35000
331	2.74538D+03	1.37842D+03	7.30000D+00	.35000
332	2.74886D+03	1.38520D+03	7.30000D+00	.35000
333	2.75217D+03	1.39152D+03	7.30000D+00	.35000
334	2.74508D+03	1.40822D+03	7.30000D+00	.35000
335	2.73998D+03	1.42185D+03	7.30000D+00	.35000
336	2.74553D+03	1.44437D+03	7.30000D+00	.35000
337	2.76512D+03	1.44527D+03	7.30000D+00	.35000
338	2.76435D+03	1.44965D+03	7.30000D+00	.35000
339	2.76119D+03	1.45718D+03	7.30000D+00	.35000
340	2.75805D+03	1.46500D+03	7.30000D+00	.35000
341	2.77038D+03	1.48171D+03	7.30000D+00	.35000
342	2.76618D+03	1.50791D+03	7.30000D+00	.35000
343	2.76573D+03	1.53576D+03	7.30000D+00	.35000
344	2.79147D+03	1.55940D+03	7.30000D+00	.35000
345	2.74721D+03	1.60547D+03	7.30000D+00	.35000
346	2.75367D+03	1.64929D+03	7.30000D+00	.35000
347	2.79432D+03	1.63379D+03	7.30000D+00	.35000
348	2.84824D+03	1.67354D+03	7.30000D+00	.35000
349	2.90123D+03	1.71644D+03	7.30000D+00	.35000
350	3.08914D+03	1.53307D+03	7.30000D+00	.35000
351	3.08552D+03	1.51664D+03	7.30000D+00	.35000
352	3.08101D+03	1.50204D+03	7.30000D+00	.35000
353	3.07935D+03	1.48790D+03	7.30000D+00	.35000
354	3.10314D+03	1.48713D+03	7.30000D+00	.35000
355	3.10088D+03	1.46621D+03	7.30000D+00	.35000
356	3.07739D+03	1.46695D+03	7.30000D+00	.35000
357	3.07559D+03	1.44408D+03	7.30000D+00	.35000
358	3.06158D+03	1.42389D+03	7.30000D+00	.35000
359	3.03719D+03	1.42284D+03	7.30000D+00	.35000
360	3.03780D+03	1.41320D+03	7.30000D+00	.35000
361	3.01312D+03	1.41260D+03	7.30000D+00	.35000
362	2.99759D+03	1.41140D+03	7.30000D+00	.35000
363	2.99790D+03	1.40311D+03	7.30000D+00	.35000
364	2.98327D+03	1.40216D+03	7.30000D+00	.35000
365	2.98374D+03	1.41094D+03	7.30000D+00	.35000
366	2.97019D+03	1.40944D+03	7.30000D+00	.35000
367	2.95047D+03	1.40159D+03	7.30000D+00	.35000
368	2.93588D+03	1.38654D+03	7.30000D+00	.35000
369	2.93842D+03	1.37372D+03	7.30000D+00	.35000
370	2.91677D+03	1.36215D+03	7.30000D+00	.35000
371	2.90184D+03	1.35508D+03	7.30000D+00	.35000
372	2.90078D+03	1.34876D+03	7.30000D+00	.35000
373	2.90003D+03	1.34484D+03	7.30000D+00	.35000
374	2.88168D+03	1.34801D+03	7.30000D+00	.35000
375	2.85923D+03	1.34950D+03	7.30000D+00	.35000
376	2.84432D+03	1.34251D+03	7.30000D+00	.35000
377	2.82700D+03	1.34281D+03	7.30000D+00	.35000
378	2.81812D+03	1.34039D+03	7.30000D+00	.35000
379	2.80954D+03	1.34023D+03	7.30000D+00	.35000
380	2.79990D+03	1.33980D+03	7.30000D+00	.35000
381	2.79102D+03	1.34400D+03	7.30000D+00	.35000

382	2.78528D+03	1.34701D+03	7.30000D+00	.35000
383	2.77416D+03	1.35644D+03	7.30000D+00	.35000
384	2.75940D+03	1.36336D+03	7.30000D+00	.35000
385	2.75940D+03	1.37074D+03	7.30000D+00	.35000
386	2.75908D+03	1.37797D+03	7.30000D+00	.35000
387	2.75925D+03	1.38520D+03	7.30000D+00	.35000
388	2.76360D+03	1.38926D+03	7.30000D+00	.35000
389	2.75835D+03	1.39830D+03	7.30000D+00	.35000
390	2.75248D+03	1.41320D+03	7.30000D+00	.35000
391	2.75202D+03	1.42856D+03	7.30000D+00	.35000
392	2.75338D+03	1.43940D+03	7.30000D+00	.35000
393	2.76557D+03	1.43895D+03	7.30000D+00	.35000
394	2.77941D+03	1.44286D+03	7.30000D+00	.35000
395	2.77792D+03	1.45009D+03	7.30000D+00	.35000
396	2.77732D+03	1.45718D+03	7.30000D+00	.35000
397	2.77476D+03	1.46420D+03	7.30000D+00	.35000
398	2.78650D+03	1.47403D+03	7.30000D+00	.35000
399	2.79432D+03	1.49526D+03	7.30000D+00	.35000
400	2.79283D+03	1.50791D+03	7.30000D+00	.35000
401	2.78980D+03	1.53365D+03	7.30000D+00	.35000
402	2.81541D+03	1.55940D+03	7.30000D+00	.35000
403	2.79238D+03	1.59495D+03	7.30000D+00	.35000
404	2.81419D+03	1.58996D+03	7.30000D+00	.35000
405	2.81963D+03	1.61902D+03	7.30000D+00	.35000
406	2.85290D+03	1.63348D+03	7.30000D+00	.35000
407	2.87716D+03	1.67127D+03	7.30000D+00	.35000
408	2.91478D+03	1.70304D+03	7.30000D+00	.35000
409	3.06339D+03	1.53456D+03	7.30000D+00	.35000
410	3.06249D+03	1.51726D+03	7.30000D+00	.35000
411	3.05902D+03	1.50280D+03	7.30000D+00	.35000
412	3.04397D+03	1.45641D+03	7.30000D+00	.35000
413	3.05707D+03	1.48848D+03	7.30000D+00	.35000
414	3.05571D+03	1.46771D+03	7.30000D+00	.35000
415	3.05526D+03	1.44512D+03	7.30000D+00	.35000
416	3.03403D+03	1.44408D+03	7.30000D+00	.35000
417	3.02274D+03	1.45611D+03	7.30000D+00	.35000
418	3.03328D+03	1.45686D+03	7.30000D+00	.35000
419	3.02334D+03	1.44408D+03	7.30000D+00	.35000
420	3.02425D+03	1.43202D+03	7.30000D+00	.35000
421	3.01312D+03	1.42208D+03	7.30000D+00	.35000
422	2.99790D+03	1.42118D+03	7.30000D+00	.35000
423	2.98374D+03	1.42073D+03	7.30000D+00	.35000
424	2.96869D+03	1.41879D+03	7.30000D+00	.35000
425	2.94821D+03	1.41531D+03	7.30000D+00	.35000
426	2.93556D+03	1.40040D+03	7.30000D+00	.35000
427	2.91707D+03	1.38560D+03	7.30000D+00	.35000
428	2.91664D+03	1.37056D+03	7.30000D+00	.35000
429	2.90274D+03	1.36156D+03	7.30000D+00	.35000
430	2.88229D+03	1.36184D+03	7.30000D+00	.35000
431	2.88009D+03	1.35808D+03	7.30000D+00	.35000
432	2.88174D+03	1.35176D+03	7.30000D+00	.35000
433	2.86075D+03	1.36079D+03	7.30000D+00	.35000
434	2.85927D+03	1.35252D+03	7.30000D+00	.35000
435	2.84598D+03	1.35252D+03	7.30000D+00	.35000
436	2.84507D+03	1.34981D+03	7.30000D+00	.35000
437	2.82791D+03	1.35147D+03	7.30000D+00	.35000
438	2.81571D+03	1.34981D+03	7.30000D+00	.35000
439	2.80864D+03	1.34966D+03	7.30000D+00	.35000
440	2.79855D+03	1.35027D+03	7.30000D+00	.35000
441	2.79042D+03	1.35508D+03	7.30000D+00	.35000
442	2.78558D+03	1.35644D+03	7.30000D+00	.35000
443	2.77416D+03	1.36367D+03	7.30000D+00	.35000
444	2.77386D+03	1.37118D+03	7.30000D+00	.35000
445	2.77416D+03	1.37797D+03	7.30000D+00	.35000
446	2.77474D+03	1.38520D+03	7.30000D+00	.35000
447	2.77431D+03	1.38926D+03	7.30000D+00	.35000
448	2.76663D+03	1.39197D+03	7.30000D+00	.35000
449	2.76573D+03	1.40597D+03	7.30000D+00	.35000
450	2.76979D+03	1.41260D+03	7.30000D+00	.35000
451	2.76919D+03	1.42088D+03	7.30000D+00	.35000
452	2.76360D+03	1.42811D+03	7.30000D+00	.35000
453	2.78000D+03	1.42600D+03	7.30000D+00	.35000
454	2.78847D+03	1.43145D+03	7.30000D+00	.35000
455	2.78861D+03	1.44286D+03	7.30000D+00	.35000
456	2.78829D+03	1.44965D+03	7.30000D+00	.35000
457	2.78801D+03	1.45747D+03	7.30000D+00	.35000
458	2.78839D+03	1.46420D+03	7.30000D+00	.35000
459	2.79508D+03	1.47358D+03	7.30000D+00	.35000
460	2.80999D+03	1.48622D+03	7.30000D+00	.35000

461	2.82535D+03	1.49887D+03	7.30000D+00	.35000
462	2.82038D+03	1.51197D+03	7.30000D+00	.35000
463	2.81451D+03	1.53546D+03	7.30000D+00	.35000
464	2.83845D+03	1.55850D+03	7.30000D+00	.35000
465	2.83715D+03	1.58376D+03	7.30000D+00	.35000
466	2.83709D+03	1.61044D+03	7.30000D+00	.35000
467	2.85200D+03	1.62128D+03	7.30000D+00	.35000
468	2.86948D+03	1.63348D+03	7.30000D+00	.35000
469	2.89340D+03	1.66193D+03	7.30000D+00	.35000
470	2.92879D+03	1.69355D+03	7.30000D+00	.35000
471	3.04773D+03	1.53772D+03	7.30000D+00	.35000
472	3.04593D+03	1.51619D+03	7.30000D+00	.35000
473	3.04397D+03	1.50280D+03	7.30000D+00	.35000
474	3.04397D+03	1.48909D+03	7.30000D+00	.35000
475	3.04397D+03	1.46741D+03	7.30000D+00	.35000
476	3.03268D+03	1.46771D+03	7.30000D+00	.35000
477	3.01100D+03	1.46621D+03	7.30000D+00	.35000
478	3.01371D+03	1.44467D+03	7.30000D+00	.35000
479	3.01340D+03	1.43293D+03	7.30000D+00	.35000
480	2.99714D+03	1.43202D+03	7.30000D+00	.35000
481	2.98299D+03	1.42963D+03	7.30000D+00	.35000
482	2.96718D+03	1.42841D+03	7.30000D+00	.35000
483	2.94821D+03	1.42720D+03	7.30000D+00	.35000
484	2.93466D+03	1.41531D+03	7.30000D+00	.35000
485	2.91704D+03	1.40025D+03	7.30000D+00	.35000
486	2.90033D+03	1.38623D+03	7.30000D+00	.35000
487	2.90274D+03	1.37118D+03	7.30000D+00	.35000
488	2.87750D+03	1.37466D+03	7.30000D+00	.35000
489	2.86555D+03	1.37345D+03	7.30000D+00	.35000
490	2.86329D+03	1.36622D+03	7.30000D+00	.35000
491	2.84824D+03	1.36186D+03	7.30000D+00	.35000
492	2.82851D+03	1.36336D+03	7.30000D+00	.35000
493	2.82791D+03	1.35763D+03	7.30000D+00	.35000
494	2.81631D+03	1.35734D+03	7.30000D+00	.35000
495	2.80502D+03	1.35704D+03	7.30000D+00	.35000
496	2.79779D+03	1.35840D+03	7.30000D+00	.35000
497	2.79301D+03	1.36250D+03	7.30000D+00	.35000
498	2.78558D+03	1.36382D+03	7.30000D+00	.35000
499	2.78558D+03	1.37074D+03	7.30000D+00	.35000
500	2.78528D+03	1.37616D+03	7.30000D+00	.35000
501	2.78528D+03	1.38143D+03	7.30000D+00	.35000
502	2.78528D+03	1.38685D+03	7.30000D+00	.35000
503	2.78528D+03	1.39272D+03	7.30000D+00	.35000
504	2.77431D+03	1.39256D+03	7.30000D+00	.35000
505	2.77417D+03	1.40033D+03	7.30000D+00	.35000
506	2.78533D+03	1.40412D+03	7.30000D+00	.35000
507	2.78560D+03	1.41275D+03	7.30000D+00	.35000
508	2.78876D+03	1.41531D+03	7.30000D+00	.35000
509	2.79373D+03	1.42088D+03	7.30000D+00	.35000
510	2.79508D+03	1.42751D+03	7.30000D+00	.35000
511	2.79554D+03	1.43533D+03	7.30000D+00	.35000
512	2.79554D+03	1.44286D+03	7.30000D+00	.35000
513	2.79599D+03	1.44965D+03	7.30000D+00	.35000
514	2.79599D+03	1.45718D+03	7.30000D+00	.35000
515	2.79629D+03	1.46424D+03	7.30000D+00	.35000
516	2.80709D+03	1.47144D+03	7.30000D+00	.35000
517	2.82580D+03	1.48668D+03	7.30000D+00	.35000
518	2.84025D+03	1.50113D+03	7.30000D+00	.35000
519	2.84025D+03	1.51513D+03	7.30000D+00	.35000
520	2.83845D+03	1.53576D+03	7.30000D+00	.35000
521	2.85335D+03	1.55850D+03	7.30000D+00	.35000
522	2.85290D+03	1.58093D+03	7.30000D+00	.35000
523	2.85200D+03	1.60728D+03	7.30000D+00	.35000
524	2.86691D+03	1.60367D+03	7.30000D+00	.35000
525	2.86826D+03	1.61857D+03	7.30000D+00	.35000
526	2.88678D+03	1.62610D+03	7.30000D+00	.35000
527	2.90846D+03	1.65320D+03	7.30000D+00	.35000
528	2.93857D+03	1.68407D+03	7.30000D+00	.35000
529	3.03119D+03	1.53907D+03	7.30000D+00	.35000
530	3.03313D+03	1.51649D+03	7.30000D+00	.35000
531	3.03119D+03	1.50249D+03	7.30000D+00	.35000
532	3.03177D+03	1.48880D+03	7.30000D+00	.35000
533	3.02063D+03	1.47915D+03	7.30000D+00	.35000
534	3.00950D+03	1.47734D+03	7.30000D+00	.35000
535	2.99383D+03	1.46364D+03	7.30000D+00	.35000
536	2.99654D+03	1.44286D+03	7.30000D+00	.35000
537	2.98209D+03	1.44060D+03	7.30000D+00	.35000
538	2.96628D+03	1.43835D+03	7.30000D+00	.35000
539	2.94821D+03	1.43835D+03	7.30000D+00	.35000

540	2.93481D+03	1.42617D+03	7.30000D+00	.35000
541	2.91704D+03	1.41531D+03	7.30000D+00	.35000
542	2.89974D+03	1.41531D+03	7.30000D+00	.35000
543	2.90003D+03	1.40025D+03	7.30000D+00	.35000
544	2.88106D+03	1.38565D+03	7.30000D+00	.35000
545	2.86540D+03	1.38520D+03	7.30000D+00	.35000
546	2.85367D+03	1.37347D+03	7.30000D+00	.35000
547	2.85109D+03	1.36803D+03	7.30000D+00	.35000
548	2.83318D+03	1.37195D+03	7.30000D+00	.35000
549	2.82580D+03	1.37616D+03	7.30000D+00	.35000
550	2.81812D+03	1.36487D+03	7.30000D+00	.35000
551	2.80593D+03	1.36321D+03	7.30000D+00	.35000
552	2.79752D+03	1.36403D+03	7.30000D+00	.35000
553	2.79102D+03	1.36833D+03	7.30000D+00	.35000
554	2.79177D+03	1.37240D+03	7.30000D+00	.35000
555	2.79238D+03	1.37646D+03	7.30000D+00	.35000
556	2.79328D+03	1.38053D+03	7.30000D+00	.35000
557	2.80035D+03	1.38550D+03	7.30000D+00	.35000
558	2.79328D+03	1.39256D+03	7.30000D+00	.35000
559	2.79313D+03	1.40055D+03	7.30000D+00	.35000
560	2.79463D+03	1.40596D+03	7.30000D+00	.35000
561	2.79779D+03	1.40989D+03	7.30000D+00	.35000
562	2.79689D+03	1.41531D+03	7.30000D+00	.35000
563	2.79993D+03	1.42093D+03	7.30000D+00	.35000
564	2.80306D+03	1.42856D+03	7.30000D+00	.35000
565	2.80984D+03	1.43518D+03	7.30000D+00	.35000
566	2.80984D+03	1.44211D+03	7.30000D+00	.35000
567	2.80999D+03	1.44965D+03	7.30000D+00	.35000
568	2.80984D+03	1.45702D+03	7.30000D+00	.35000
569	2.81059D+03	1.46424D+03	7.30000D+00	.35000
570	2.82354D+03	1.47493D+03	7.30000D+00	.35000
571	2.84116D+03	1.48880D+03	7.30000D+00	.35000
572	2.85471D+03	1.50280D+03	7.30000D+00	.35000
573	2.85426D+03	1.51545D+03	7.30000D+00	.35000
574	2.85380D+03	1.53907D+03	7.30000D+00	.35000
575	2.86957D+03	1.55943D+03	7.30000D+00	.35000
576	2.86871D+03	1.58019D+03	7.30000D+00	.35000
577	2.88317D+03	1.60096D+03	7.30000D+00	.35000
578	2.88497D+03	1.61451D+03	7.30000D+00	.35000
579	2.90485D+03	1.62250D+03	7.30000D+00	.35000
580	2.92879D+03	1.64116D+03	7.30000D+00	.35000
581	2.94866D+03	1.67503D+03	7.30000D+00	.35000
582	3.01732D+03	1.54058D+03	7.30000D+00	.35000
583	3.01837D+03	1.51604D+03	7.30000D+00	.35000
584	3.01958D+03	1.50128D+03	7.30000D+00	.35000
585	3.02018D+03	1.48984D+03	7.30000D+00	.35000
586	3.00648D+03	1.49029D+03	7.30000D+00	.35000
587	2.99278D+03	1.47539D+03	7.30000D+00	.35000
588	2.97923D+03	1.46048D+03	7.30000D+00	.35000
589	2.95846D+03	1.45675D+03	7.30000D+00	.35000
590	2.94640D+03	1.45190D+03	7.30000D+00	.35000
591	2.93195D+03	1.44815D+03	7.30000D+00	.35000
592	2.93511D+03	1.43731D+03	7.30000D+00	.35000
593	2.91704D+03	1.42886D+03	7.30000D+00	.35000
594	2.89899D+03	1.42856D+03	7.30000D+00	.35000
595	2.88106D+03	1.41531D+03	7.30000D+00	.35000
596	2.88136D+03	1.40025D+03	7.30000D+00	.35000
597	2.86540D+03	1.40025D+03	7.30000D+00	.35000
598	2.85366D+03	1.38550D+03	7.30000D+00	.35000
599	2.83845D+03	1.38053D+03	7.30000D+00	.35000
600	2.82851D+03	1.38520D+03	7.30000D+00	.35000
601	2.81902D+03	1.37720D+03	7.30000D+00	.35000
602	2.81345D+03	1.36772D+03	7.30000D+00	.35000
603	2.81074D+03	1.37014D+03	7.30000D+00	.35000
604	2.80590D+03	1.37181D+03	7.30000D+00	.35000
605	2.80593D+03	1.36681D+03	7.30000D+00	.35000
606	2.79945D+03	1.36788D+03	7.30000D+00	.35000
607	2.79891D+03	1.37375D+03	7.30000D+00	.35000
608	2.80078D+03	1.37797D+03	7.30000D+00	.35000
609	2.80683D+03	1.37827D+03	7.30000D+00	.35000
610	2.80894D+03	1.38595D+03	7.30000D+00	.35000
611	2.80035D+03	1.39384D+03	7.30000D+00	.35000
612	2.80939D+03	1.39513D+03	7.30000D+00	.35000
613	2.80999D+03	1.40380D+03	7.30000D+00	.35000
614	2.81180D+03	1.41727D+03	7.30000D+00	.35000
615	2.80442D+03	1.41198D+03	7.30000D+00	.35000
616	2.80782D+03	1.41715D+03	7.30000D+00	.35000
617	3.00633D+03	1.50204D+03	7.30000D+00	.35000
618	2.80894D+03	1.42314D+03	7.30000D+00	.35000

619	2.81946D+03	1.43247D+03	7.30000D+00	.35000
620	2.82187D+03	1.43789D+03	7.30000D+00	.35000
621	2.82384D+03	1.44256D+03	7.30000D+00	.35000
622	2.82414D+03	1.45417D+03	7.30000D+00	.35000
623	2.82445D+03	1.46424D+03	7.30000D+00	.35000
624	2.83935D+03	1.47493D+03	7.30000D+00	.35000
625	2.85426D+03	1.49059D+03	7.30000D+00	.35000
626	2.87052D+03	1.50371D+03	7.30000D+00	.35000
627	2.87082D+03	1.51649D+03	7.30000D+00	.35000
628	2.87007D+03	1.53998D+03	7.30000D+00	.35000
629	2.89762D+03	1.57566D+03	7.30000D+00	.35000
630	2.88258D+03	1.57792D+03	7.30000D+00	.35000
631	2.90123D+03	1.59766D+03	7.30000D+00	.35000
632	2.90259D+03	1.60954D+03	7.30000D+00	.35000
633	2.92833D+03	1.61541D+03	7.30000D+00	.35000
634	2.94988D+03	1.63483D+03	7.30000D+00	.35000
635	2.96116D+03	1.66374D+03	7.30000D+00	.35000
636	3.00196D+03	1.54210D+03	7.30000D+00	.35000
637	3.00512D+03	1.51468D+03	7.30000D+00	.35000
638	2.98886D+03	1.50023D+03	7.30000D+00	.35000
639	2.99067D+03	1.48790D+03	7.30000D+00	.35000
640	2.97727D+03	1.47358D+03	7.30000D+00	.35000
641	2.95997D+03	1.46998D+03	7.30000D+00	.35000
642	2.94339D+03	1.46621D+03	7.30000D+00	.35000
643	2.92833D+03	1.46364D+03	7.30000D+00	.35000
644	2.91674D+03	1.45385D+03	7.30000D+00	.35000
645	2.91704D+03	1.44331D+03	7.30000D+00	.35000
646	2.91706D+03	1.43609D+03	7.30000D+00	.35000
647	2.89898D+03	1.43609D+03	7.30000D+00	.35000
648	2.88106D+03	1.42886D+03	7.30000D+00	.35000
649	2.86534D+03	1.41840D+03	7.30000D+00	.35000
650	2.85380D+03	1.40025D+03	7.30000D+00	.35000
651	2.83875D+03	1.38956D+03	7.30000D+00	.35000
652	2.82881D+03	1.39423D+03	7.30000D+00	.35000
653	2.82204D+03	1.38565D+03	7.30000D+00	.35000
654	2.81300D+03	1.37797D+03	7.30000D+00	.35000
655	2.81618D+03	1.38655D+03	7.30000D+00	.35000
656	2.81618D+03	1.39498D+03	7.30000D+00	.35000
657	2.81586D+03	1.40492D+03	7.30000D+00	.35000
658	2.81586D+03	1.40944D+03	7.30000D+00	.35000
659	2.81978D+03	1.41230D+03	7.30000D+00	.35000
660	2.82068D+03	1.42088D+03	7.30000D+00	.35000
661	2.82851D+03	1.42811D+03	7.30000D+00	.35000
662	2.83062D+03	1.43579D+03	7.30000D+00	.35000
663	2.83318D+03	1.44286D+03	7.30000D+00	.35000
664	2.83559D+03	1.45340D+03	7.30000D+00	.35000
665	2.83845D+03	1.46424D+03	7.30000D+00	.35000
666	2.85380D+03	1.47554D+03	7.30000D+00	.35000
667	2.87052D+03	1.49059D+03	7.30000D+00	.35000
668	2.88452D+03	1.50371D+03	7.30000D+00	.35000
669	2.88497D+03	1.51784D+03	7.30000D+00	.35000
670	2.88452D+03	1.53862D+03	7.30000D+00	.35000
671	2.89626D+03	1.55759D+03	7.30000D+00	.35000
672	2.88258D+03	1.55850D+03	7.30000D+00	.35000
673	2.92833D+03	1.59102D+03	7.30000D+00	.35000
674	2.92833D+03	1.60321D+03	7.30000D+00	.35000
675	2.94717D+03	1.60683D+03	7.30000D+00	.35000
676	2.96869D+03	1.62986D+03	7.30000D+00	.35000
677	2.97531D+03	1.64793D+03	7.30000D+00	.35000
678	2.99144D+03	1.55850D+03	7.30000D+00	.35000
679	2.98209D+03	1.54404D+03	7.30000D+00	.35000
680	2.98209D+03	1.53185D+03	7.30000D+00	.35000
681	2.99144D+03	1.53365D+03	7.30000D+00	.35000
682	2.99278D+03	1.52403D+03	7.30000D+00	.35000
683	2.98374D+03	1.52281D+03	7.30000D+00	.35000
684	2.98660D+03	1.51197D+03	7.30000D+00	.35000
685	2.97170D+03	1.50881D+03	7.30000D+00	.35000
686	2.97350D+03	1.49797D+03	7.30000D+00	.35000
687	2.97471D+03	1.48622D+03	7.30000D+00	.35000
688	2.95770D+03	1.48352D+03	7.30000D+00	.35000
689	2.94040D+03	1.48112D+03	7.30000D+00	.35000
690	2.92352D+03	1.47855D+03	7.30000D+00	.35000
691	2.91704D+03	1.46454D+03	7.30000D+00	.35000
692	2.89822D+03	1.45340D+03	7.30000D+00	.35000
693	2.89898D+03	1.44288D+03	7.30000D+00	.35000
694	2.88151D+03	1.43579D+03	7.30000D+00	.35000
695	2.86480D+03	1.43564D+03	7.30000D+00	.35000
696	2.86480D+03	1.42751D+03	7.30000D+00	.35000
697	2.85245D+03	1.41380D+03	7.30000D+00	.35000

698	2.83935D+03	1.40025D+03	7.30000D+00	.35000
699	2.82896D+03	1.40537D+03	7.30000D+00	.35000
700	2.82232D+03	1.39498D+03	7.30000D+00	.35000
701	2.82068D+03	1.40507D+03	7.30000D+00	.35000
702	2.82836D+03	1.41380D+03	7.30000D+00	.35000
703	2.83920D+03	1.41181D+03	7.30000D+00	.35000
704	2.83167D+03	1.42133D+03	7.30000D+00	.35000
705	2.83882D+03	1.41828D+03	7.30000D+00	.35000
706	2.84613D+03	1.42751D+03	7.30000D+00	.35000
707	2.84613D+03	1.43564D+03	7.30000D+00	.35000
708	2.84613D+03	1.44286D+03	7.30000D+00	.35000
709	2.84824D+03	1.45370D+03	7.30000D+00	.35000
710	2.85185D+03	1.46379D+03	7.30000D+00	.35000
711	2.86948D+03	1.47554D+03	7.30000D+00	.35000
712	2.88131D+03	1.49247D+03	7.30000D+00	.35000
713	2.89898D+03	1.50339D+03	7.30000D+00	.35000
714	2.89762D+03	1.51694D+03	7.30000D+00	.35000
715	2.95280D+03	1.51790D+03	7.30000D+00	.35000
716	2.91885D+03	1.55533D+03	7.30000D+00	.35000
717	2.92201D+03	1.57250D+03	7.30000D+00	.35000
718	2.94595D+03	1.58727D+03	7.30000D+00	.35000
719	2.94717D+03	1.59766D+03	7.30000D+00	.35000
720	2.96447D+03	1.60367D+03	7.30000D+00	.35000
721	2.98602D+03	1.62399D+03	7.30000D+00	.35000
722	2.99550D+03	1.57598D+03	7.30000D+00	.35000
723	2.98254D+03	1.56166D+03	7.30000D+00	.35000
724	2.97125D+03	1.54675D+03	7.30000D+00	.35000
725	2.96885D+03	1.53264D+03	7.30000D+00	.35000
726	2.96869D+03	1.52010D+03	7.30000D+00	.35000
727	2.95363D+03	1.50565D+03	7.30000D+00	.35000
728	2.95621D+03	1.49481D+03	7.30000D+00	.35000
729	2.93827D+03	1.49345D+03	7.30000D+00	.35000
730	2.92097D+03	1.49059D+03	7.30000D+00	.35000
731	2.89762D+03	1.47764D+03	7.30000D+00	.35000
732	2.89616D+03	1.46543D+03	7.30000D+00	.35000
733	2.88168D+03	1.45340D+03	7.30000D+00	.35000
734	2.88151D+03	1.44286D+03	7.30000D+00	.35000
735	2.86480D+03	1.44286D+03	7.30000D+00	.35000
736	2.86675D+03	1.45340D+03	7.30000D+00	.35000
737	2.86826D+03	1.46454D+03	7.30000D+00	.35000
738	2.88168D+03	1.46500D+03	7.30000D+00	.35000
739	2.88362D+03	1.47764D+03	7.30000D+00	.35000
740	2.89717D+03	1.49059D+03	7.30000D+00	.35000
741	2.91885D+03	1.50371D+03	7.30000D+00	.35000
742	2.91700D+03	1.51790D+03	7.30000D+00	.35000
743	2.91704D+03	1.53546D+03	7.30000D+00	.35000
744	2.93857D+03	1.55082D+03	7.30000D+00	.35000
745	2.94143D+03	1.56934D+03	7.30000D+00	.35000
746	2.96221D+03	1.58320D+03	7.30000D+00	.35000
747	2.96343D+03	1.59418D+03	7.30000D+00	.35000
748	2.97983D+03	1.60127D+03	7.30000D+00	.35000
749	2.98374D+03	1.57927D+03	7.30000D+00	.35000
750	2.97305D+03	1.56346D+03	7.30000D+00	.35000
751	2.95679D+03	1.54991D+03	7.30000D+00	.35000
752	2.95405D+03	1.53353D+03	7.30000D+00	.35000
753	2.93692D+03	1.53124D+03	7.30000D+00	.35000
754	2.93737D+03	1.50429D+03	7.30000D+00	.35000
755	2.93591D+03	1.51801D+03	7.30000D+00	.35000
756	2.89672D+03	1.53576D+03	7.30000D+00	.35000
757	2.95950D+03	1.56572D+03	7.30000D+00	.35000
758	2.97471D+03	1.58063D+03	7.30000D+00	.35000
759	2.97757D+03	1.59011D+03	7.30000D+00	.35000
760	2.98787D+03	1.58837D+03	7.30000D+00	.35000
761	2.99229D+03	1.59760D+03	7.30000D+00	.35000

ELEMENT INFORMATION

PRINTOUT OF ELEMENT PERMEABILITIES AND DISPERSIVITIES CANCELLED.

SCALE FACTORS :

1.8000D-04	MAXIMUM PERMEABILITY FACTOR
1.8000D-04	MINIMUM PERMEABILITY FACTOR
0.0000D-01	ANGLE FROM +X TO MAXIMUM DIRECTION FACTOR
1.2000D+01	FACTOR FOR LONGITUDINAL DISPERSIVITY IN MAX-PERM DIRECTION
1.2000D+01	FACTOR FOR LONGITUDINAL DISPERSIVITY IN MIN-PERM DIRECTION
4.0000D+00	FACTOR FOR TRANSVERSE DISPERSIVITY IN MAX-PERM DIRECTION

4.0000D+00 FACTOR FOR TRANSVERSE DISPERSIVITY IN MIN-PERM DIRECTION

1

FLUID SOURCE DATA

**** NODES AT WHICH FLUID INFLOWS OR OUTFLOWS ARE SPECIFIED ****

NODE NUMBER (MINUS INDICATES TIME-VARYING FLOW RATE OR CONCENTRATION)	FLUID INFLOW(+)/OUTFLOW(-) (FLUID MASS/SECOND)	SOLUTE CONCENTRATION OF INFLOWING FLUID (MASS SOLUTE/MASS WATER)
1	1.1800000E-04	0.0000000E-01
2	2.3400000E-04	0.0000000E-01
3	2.2800000E-04	0.0000000E-01
4	2.1900000E-04	0.0000000E-01
5	1.9000000E-04	0.0000000E-01
6	4.2700000E-04	0.0000000E-01
7	4.4700000E-04	0.0000000E-01
8	4.4200000E-04	0.0000000E-01
9	4.1100000E-04	0.0000000E-01
10	3.0700000E-04	0.0000000E-01
11	2.9900000E-04	0.0000000E-01
12	2.8400000E-04	0.0000000E-01
13	7.3900000E-04	0.0000000E-01
14	9.9800000E-04	0.0000000E-01
15	7.8100000E-04	0.0000000E-01
16	2.3700000E-04	0.0000000E-01
17	4.0600000E-04	0.0000000E-01
18	3.2000000E-04	0.0000000E-01
19	2.7200000E-04	0.0000000E-01
20	1.2100000E-04	0.0000000E-01
21	2.4400000E-04	0.0000000E-01
22	2.7800000E-04	0.0000000E-01
23	2.8200000E-04	0.0000000E-01
24	2.8200000E-04	0.0000000E-01
25	1.5600000E-04	0.0000000E-01
26	2.7900000E-04	0.0000000E-01
27	2.1200000E-04	0.0000000E-01
28	4.1100000E-04	0.0000000E-01
29	3.9400000E-04	0.0000000E-01
30	3.6000000E-04	0.0000000E-01
31	2.9900000E-04	0.0000000E-01
32	6.5300000E-04	0.0000000E-01
33	6.6800000E-04	0.0000000E-01
34	6.1900000E-04	0.0000000E-01
35	7.4600000E-04	0.0000000E-01
36	7.9400000E-04	0.0000000E-01
37	1.0400000E-03	0.0000000E-01
38	1.2700000E-03	0.0000000E-01
39	1.4300000E-03	0.0000000E-01
40	1.7300000E-03	0.0000000E-01
41	1.2400000E-03	0.0000000E-01
42	1.4800000E-03	0.0000000E-01
43	6.2100000E-04	0.0000000E-01
44	5.1500000E-04	0.0000000E-01
45	5.2600000E-04	0.0000000E-01
46	5.1300000E-04	0.0000000E-01
47	6.4100000E-04	0.0000000E-01
48	4.4200000E-04	0.0000000E-01
49	1.5500000E-04	0.0000000E-01
50	1.6500000E-04	0.0000000E-01
51	3.1100000E-04	0.0000000E-01
52	2.8600000E-04	0.0000000E-01
53	2.2800000E-04	0.0000000E-01
54	1.3500000E-04	0.0000000E-01
55	1.6900000E-04	0.0000000E-01
56	1.7500000E-04	0.0000000E-01
57	1.4400000E-04	0.0000000E-01
58	1.7900000E-04	0.0000000E-01
59	4.9500000E-04	0.0000000E-01
60	4.7700000E-04	0.0000000E-01
61	3.1000000E-04	0.0000000E-01

62	8.1500000E-04	0.0000000E-01
63	5.6400000E-04	0.0000000E-01
64	8.7300000E-04	0.0000000E-01
65	5.3900000E-04	0.0000000E-01
66	4.4800000E-04	0.0000000E-01
67	4.6700000E-04	0.0000000E-01
68	4.6600000E-04	0.0000000E-01
69	7.7900000E-04	0.0000000E-01
70	1.9600000E-04	0.0000000E-01
71	8.4300000E-05	0.0000000E-01
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73	1.5000000E-04	0.0000000E-01
74	1.1000000E-04	0.0000000E-01
75	4.0000000E-05	0.0000000E-01
76	3.6600000E-05	0.0000000E-01
77	4.2100000E-05	0.0000000E-01
78	3.0800000E-05	0.0000000E-01
79	2.4600000E-05	0.0000000E-01
80	3.4800000E-05	0.0000000E-01
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82	9.5900000E-05	0.0000000E-01
83	8.6900000E-05	0.0000000E-01
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85	1.0400000E-04	0.0000000E-01
86	1.4100000E-04	0.0000000E-01
87	2.2600000E-04	0.0000000E-01
88	4.5900000E-04	0.0000000E-01
89	2.5600000E-04	0.0000000E-01
90	1.3600000E-04	0.0000000E-01
91	2.9700000E-05	0.0000000E-01
92	6.0200000E-05	0.0000000E-01
93	5.1300000E-05	0.0000000E-01
94	3.1700000E-05	0.0000000E-01
95	1.0800000E-06	0.0000000E-01
96	9.8200000E-07	0.0000000E-01
97	4.3300000E-07	0.0000000E-01
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99	1.1400000E-05	0.0000000E-01
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102	9.7600000E-06	0.0000000E-01
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104	3.2400000E-05	0.0000000E-01
105	4.8500000E-05	0.0000000E-01
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502	2.2600000E-07	0.0000000E-01
503	2.4600000E-07	0.0000000E-01
504	2.1800000E-07	0.0000000E-01
505	2.4900000E-07	0.0000000E-01
506	4.0000000E-07	0.0000000E-01
507	2.9000000E-07	0.0000000E-01
508	2.7700000E-07	0.0000000E-01
509	1.5300000E-07	0.0000000E-01
510	2.3400000E-07	0.0000000E-01
511	2.5000000E-07	0.0000000E-01
512	2.5900000E-07	0.0000000E-01
513	2.5400000E-07	0.0000000E-01
514	2.5700000E-07	0.0000000E-01
515	2.7500000E-07	0.0000000E-01
516	5.7500000E-07	0.0000000E-01
517	6.9200000E-07	0.0000000E-01
518	6.3600000E-07	0.0000000E-01
519	1.0100000E-06	0.0000000E-01
520	1.3600000E-06	0.0000000E-01
521	1.0800000E-06	0.0000000E-01
522	7.2300000E-08	0.0000000E-01
523	1.0300000E-06	0.0000000E-01
524	9.6400000E-07	0.0000000E-01
525	7.4600000E-07	0.0000000E-01
526	1.3900000E-06	0.0000000E-01
527	2.1500000E-06	0.0000000E-01
528	1.1600000E-06	0.0000000E-01
529	8.5200000E-07	0.0000000E-01
530	1.3200000E-06	0.0000000E-01
531	8.7900000E-07	0.0000000E-01
532	3.6400000E-08	0.0000000E-01
533	2.5500000E-08	0.0000000E-01
534	3.6500000E-08	0.0000000E-01
535	5.1300000E-08	0.0000000E-01

536	4.9300000E-08	0.0000000E-01
537	4.8100000E-08	0.0000000E-01
538	4.7500000E-08	0.0000000E-01
539	6.2000000E-07	0.0000000E-01
540	5.5000000E-07	0.0000000E-01
541	7.9200000E-07	0.0000000E-01
542	8.2400000E-07	0.0000000E-01
543	8.4900000E-07	0.0000000E-01
544	7.6800000E-07	0.0000000E-01
545	5.6800000E-07	0.0000000E-01
546	4.1600000E-07	0.0000000E-01
547	2.1300000E-08	0.0000000E-01
548	2.3600000E-08	0.0000000E-01
549	2.6800000E-07	0.0000000E-01
550	1.7700000E-08	0.0000000E-01
551	1.5300000E-07	0.0000000E-01
552	1.1000000E-07	0.0000000E-01
553	1.0500000E-07	0.0000000E-01
554	1.0600000E-07	0.0000000E-01
555	1.1200000E-07	0.0000000E-01
556	1.1400000E-07	0.0000000E-01
557	2.6700000E-07	0.0000000E-01
558	1.6600000E-07	0.0000000E-01
559	2.2600000E-07	0.0000000E-01
560	2.3900000E-07	0.0000000E-01
561	2.0200000E-07	0.0000000E-01
562	1.0800000E-07	0.0000000E-01
563	2.0000000E-07	0.0000000E-01
564	1.5900000E-07	0.0000000E-01
565	3.6100000E-07	0.0000000E-01
566	2.9100000E-07	0.0000000E-01
567	3.4200000E-07	0.0000000E-01
568	3.7200000E-07	0.0000000E-01
569	3.7800000E-07	0.0000000E-01
570	5.6800000E-07	0.0000000E-01
571	6.0600000E-07	0.0000000E-01
572	6.1900000E-07	0.0000000E-01
573	8.9500000E-07	0.0000000E-01
574	1.0900000E-06	0.0000000E-01
575	5.8000000E-08	0.0000000E-01
576	1.0800000E-06	0.0000000E-01
577	9.6800000E-07	0.0000000E-01
578	7.5400000E-07	0.0000000E-01
579	1.4200000E-06	0.0000000E-01
580	2.1000000E-06	0.0000000E-01
581	1.1500000E-06	0.0000000E-01
582	9.1300000E-07	0.0000000E-01
583	1.3900000E-06	0.0000000E-01
584	5.4300000E-07	0.0000000E-01
585	3.0600000E-08	0.0000000E-01
586	3.4800000E-08	0.0000000E-01
587	3.8800000E-08	0.0000000E-01
588	5.3800000E-08	0.0000000E-01
589	5.1800000E-08	0.0000000E-01
590	6.9100000E-07	0.0000000E-01
591	6.0100000E-07	0.0000000E-01
592	5.1600000E-07	0.0000000E-01
593	3.6300000E-08	0.0000000E-01
594	5.9900000E-07	0.0000000E-01
595	7.8200000E-07	0.0000000E-01
596	8.4700000E-07	0.0000000E-01
597	6.9900000E-07	0.0000000E-01
598	5.3300000E-07	0.0000000E-01
599	3.8900000E-07	0.0000000E-01
600	2.4600000E-07	0.0000000E-01
601	1.8500000E-07	0.0000000E-01
602	1.4000000E-07	0.0000000E-01
603	8.6800000E-08	0.0000000E-01
604	1.0900000E-07	0.0000000E-01
605	9.8400000E-08	0.0000000E-01
606	1.0800000E-07	0.0000000E-01
607	1.1300000E-07	0.0000000E-01
608	1.5600000E-07	0.0000000E-01
609	1.5000000E-07	0.0000000E-01
610	2.0000000E-07	0.0000000E-01
611	1.7500000E-07	0.0000000E-01
612	3.0700000E-07	0.0000000E-01
613	1.7700000E-07	0.0000000E-01
614	1.1500000E-07	0.0000000E-01

615	1.7200000E-07	0.0000000E-01
616	1.5100000E-07	0.0000000E-01
617	3.6900000E-08	0.0000000E-01
618	2.4200000E-07	0.0000000E-01
619	2.8300000E-07	0.0000000E-01
620	2.2300000E-07	0.0000000E-01
621	3.1400000E-07	0.0000000E-01
622	4.0800000E-07	0.0000000E-01
623	4.4700000E-07	0.0000000E-01
624	5.7300000E-07	0.0000000E-01
625	6.5400000E-07	0.0000000E-01
626	6.0300000E-07	0.0000000E-01
627	8.8600000E-07	0.0000000E-01
628	6.2300000E-08	0.0000000E-01
629	1.3000000E-06	0.0000000E-01
630	1.0200000E-06	0.0000000E-01
631	1.1900000E-06	0.0000000E-01
632	8.8700000E-07	0.0000000E-01
633	1.3700000E-06	0.0000000E-01
634	1.7700000E-06	0.0000000E-01
635	9.2300000E-07	0.0000000E-01
636	1.2400000E-06	0.0000000E-01
637	5.5200000E-08	0.0000000E-01
638	3.8400000E-08	0.0000000E-01
639	3.9100000E-08	0.0000000E-01
640	4.2400000E-08	0.0000000E-01
641	4.5100000E-08	0.0000000E-01
642	4.4900000E-08	0.0000000E-01
643	6.5200000E-07	0.0000000E-01
644	3.6100000E-08	0.0000000E-01
645	3.1900000E-08	0.0000000E-01
646	2.8000000E-08	0.0000000E-01
647	4.1000000E-07	0.0000000E-01
648	5.4700000E-07	0.0000000E-01
649	6.6700000E-07	0.0000000E-01
650	5.9000000E-07	0.0000000E-01
651	4.4400000E-07	0.0000000E-01
652	2.7500000E-07	0.0000000E-01
653	1.8300000E-07	0.0000000E-01
654	1.5500000E-07	0.0000000E-01
655	1.7900000E-07	0.0000000E-01
656	1.8500000E-07	0.0000000E-01
657	2.1000000E-07	0.0000000E-01
658	9.9300000E-08	0.0000000E-01
659	2.2100000E-07	0.0000000E-01
660	2.8900000E-07	0.0000000E-01
661	3.1300000E-07	0.0000000E-01
662	2.8500000E-07	0.0000000E-01
663	3.3000000E-07	0.0000000E-01
664	4.2100000E-07	0.0000000E-01
665	4.7200000E-07	0.0000000E-01
666	6.2600000E-07	0.0000000E-01
667	6.2900000E-07	0.0000000E-01
668	3.4400000E-08	0.0000000E-01
669	4.5400000E-08	0.0000000E-01
670	8.8500000E-07	0.0000000E-01
671	1.1300000E-06	0.0000000E-01
672	8.6700000E-07	0.0000000E-01
673	1.1600000E-06	0.0000000E-01
674	8.4600000E-07	0.0000000E-01
675	1.1400000E-06	0.0000000E-01
676	1.8100000E-06	0.0000000E-01
677	6.1900000E-07	0.0000000E-01
678	5.4400000E-07	0.0000000E-01
679	9.3000000E-07	0.0000000E-01
680	4.4600000E-07	0.0000000E-01
681	5.8000000E-07	0.0000000E-01
682	2.1900000E-08	0.0000000E-01
683	2.7600000E-08	0.0000000E-01
684	3.5200000E-08	0.0000000E-01
685	3.6500000E-08	0.0000000E-01
686	3.7100000E-08	0.0000000E-01
687	4.0000000E-08	0.0000000E-01
688	4.3200000E-08	0.0000000E-01
689	4.4700000E-08	0.0000000E-01
690	9.8600000E-07	0.0000000E-01
691	3.2600000E-08	0.0000000E-01
692	6.2800000E-07	0.0000000E-01
693	5.0000000E-07	0.0000000E-01

694	3.9700000E-07	0.0000000E-01
695	4.2800000E-07	0.0000000E-01
696	5.2000000E-07	0.0000000E-01
697	5.4900000E-07	0.0000000E-01
698	4.6700000E-07	0.0000000E-01
699	2.9200000E-07	0.0000000E-01
700	1.9900000E-07	0.0000000E-01
701	1.8200000E-07	0.0000000E-01
702	2.5400000E-07	0.0000000E-01
703	3.7800000E-07	0.0000000E-01
704	2.7000000E-07	0.0000000E-01
705	2.3500000E-07	0.0000000E-01
706	5.6100000E-07	0.0000000E-01
707	4.1900000E-07	0.0000000E-01
708	4.6200000E-07	0.0000000E-01
709	5.3000000E-07	0.0000000E-01
710	5.3200000E-07	0.0000000E-01
711	6.2200000E-07	0.0000000E-01
712	5.8700000E-07	0.0000000E-01
713	7.4900000E-07	0.0000000E-01
714	8.6000000E-07	0.0000000E-01
715	4.2600000E-08	0.0000000E-01
716	1.3100000E-06	0.0000000E-01
717	1.3600000E-06	0.0000000E-01
718	8.5600000E-07	0.0000000E-01
719	6.0200000E-07	0.0000000E-01
720	1.0000000E-06	0.0000000E-01
721	5.4300000E-07	0.0000000E-01
722	1.5300000E-07	0.0000000E-01
723	6.1400000E-07	0.0000000E-01
724	6.4500000E-07	0.0000000E-01
725	6.1100000E-07	0.0000000E-01
726	3.6200000E-08	0.0000000E-01
727	3.9000000E-08	0.0000000E-01
728	3.8700000E-08	0.0000000E-01
729	4.0200000E-08	0.0000000E-01
730	8.2700000E-07	0.0000000E-01
731	4.8400000E-08	0.0000000E-01
732	7.1800000E-07	0.0000000E-01
733	5.5600000E-07	0.0000000E-01
734	4.7300000E-07	0.0000000E-01
735	5.0000000E-07	0.0000000E-01
736	5.7300000E-07	0.0000000E-01
737	5.5500000E-07	0.0000000E-01
738	5.5000000E-07	0.0000000E-01
739	5.9000000E-07	0.0000000E-01
740	4.7600000E-08	0.0000000E-01
741	1.3400000E-06	0.0000000E-01
742	1.5400000E-06	0.0000000E-01
743	1.9500000E-06	0.0000000E-01
744	1.8000000E-06	0.0000000E-01
745	1.0900000E-06	0.0000000E-01
746	7.0200000E-07	0.0000000E-01
747	5.1400000E-07	0.0000000E-01
748	9.0800000E-07	0.0000000E-01
749	5.7800000E-07	0.0000000E-01
750	1.0400000E-06	0.0000000E-01
751	1.4100000E-06	0.0000000E-01
752	1.3000000E-06	0.0000000E-01
753	1.0100000E-06	0.0000000E-01
754	4.2700000E-08	0.0000000E-01
755	4.9400000E-08	0.0000000E-01
756	1.7100000E-06	0.0000000E-01
757	1.4200000E-06	0.0000000E-01
758	8.1600000E-07	0.0000000E-01
759	6.7200000E-07	0.0000000E-01
760	2.8400000E-07	0.0000000E-01
761	1.6200000E-07	0.0000000E-01

1

BOUNDARY CONDITIONS

**** NODES AT WHICH PRESSURES ARE SPECIFIED ****

(AS WELL AS SOLUTE CONCENTRATION OF ANY
FLUID INFLOW WHICH MAY OCCUR AT THE POINT

OF SPECIFIED PRESSURE)

NODE	PRESSURE	CONCENTRATION
721	2.66400000000000D+01	0.00000000000000D-01
748	2.66400000000000D+01	0.00000000000000D-01
761	2.66400000000000D+01	0.00000000000000D-01
760	2.66400000000000D+01	0.00000000000000D-01
749	2.66400000000000D+01	0.00000000000000D-01
722	2.66400000000000D+01	0.00000000000000D-01
678	2.66400000000000D+01	0.00000000000000D-01
636	2.66400000000000D+01	0.00000000000000D-01
582	2.66400000000000D+01	0.00000000000000D-01
529	2.66400000000000D+01	0.00000000000000D-01
471	2.66400000000000D+01	0.00000000000000D-01
409	2.66400000000000D+01	0.00000000000000D-01
350	2.66400000000000D+01	0.00000000000000D-01
297	2.66400000000000D+01	0.00000000000000D-01
298	2.68000000000000D+01	0.00000000000000D-01
247	2.71400000000000D+01	0.00000000000000D-01
199	2.74000000000000D+01	0.00000000000000D-01
201	2.80000000000000D+01	0.00000000000000D-01
152	2.80000000000000D+01	0.00000000000000D-01
118	2.80000000000000D+01	0.00000000000000D-01
91	2.80000000000000D+01	0.00000000000000D-01
71	2.80000000000000D+01	0.00000000000000D-01
50	2.83500000000000D+01	0.00000000000000D-01
27	2.86500000000000D+01	0.00000000000000D-01
13	2.86500000000000D+01	0.00000000000000D-01
14	2.74300000000000D+01	0.00000000000000D-01
15	2.63700000000000D+01	0.00000000000000D-01
16	2.55100000000000D+01	0.00000000000000D-01
17	2.55100000000000D+01	0.00000000000000D-01
18	2.55100000000000D+01	0.00000000000000D-01
19	2.55100000000000D+01	0.00000000000000D-01
20	2.55100000000000D+01	0.00000000000000D-01
21	2.57900000000000D+01	0.00000000000000D-01
22	2.59800000000000D+01	0.00000000000000D-01
23	2.62100000000000D+01	0.00000000000000D-01
24	2.64000000000000D+01	0.00000000000000D-01
25	2.66400000000000D+01	0.00000000000000D-01
26	2.66400000000000D+01	0.00000000000000D-01
49	2.66400000000000D+01	0.00000000000000D-01
70	2.66400000000000D+01	0.00000000000000D-01
90	2.66400000000000D+01	0.00000000000000D-01
117	2.66400000000000D+01	0.00000000000000D-01
151	2.66400000000000D+01	0.00000000000000D-01
198	2.66400000000000D+01	0.00000000000000D-01
246	2.66400000000000D+01	0.00000000000000D-01
296	2.66400000000000D+01	0.00000000000000D-01
349	2.66400000000000D+01	0.00000000000000D-01
408	2.66400000000000D+01	0.00000000000000D-01
470	2.66400000000000D+01	0.00000000000000D-01
528	2.66400000000000D+01	0.00000000000000D-01
581	2.66400000000000D+01	0.00000000000000D-01
635	2.66400000000000D+01	0.00000000000000D-01
677	2.66400000000000D+01	0.00000000000000D-01
676	2.66400000000000D+01	0.00000000000000D-01
65	2.75800000000000D+01	0.00000000000000D-01
66	2.75800000000000D+01	0.00000000000000D-01

**** NODES AT WHICH SOLUTE CONCENTRATIONS ARE SPECIFIED TO BE INDEPENDENT OF LOCAL FLOWS AND FLUID SOURCES ****

NODE	CONCENTRATION
328	3.80000000000000D+00
383	3.80000000000000D+00
442	3.80000000000000D+00
441	3.80000000000000D+00
327	3.80000000000000D+00
497	3.80000000000000D+00
498	3.80000000000000D+00
496	3.80000000000000D+00
382	3.80000000000000D+00

273	3.80000000000000D+00
326	3.80000000000000D+00
550	1.00000000000000D+00
549	1.00000000000000D+00
601	1.00000000000000D+00
602	1.00000000000000D+00
659	1.00000000000000D+00
658	1.00000000000000D+00
657	1.00000000000000D+00
656	1.00000000000000D+00
655	1.00000000000000D+00
654	1.00000000000000D+00
701	1.00000000000000D+00
700	1.00000000000000D+00
653	1.00000000000000D+00
600	1.00000000000000D+00
699	1.00000000000000D+00
652	1.00000000000000D+00
699	1.00000000000000D+00
702	1.00000000000000D+00
660	1.00000000000000D+00
618	1.00000000000000D+00
614	1.00000000000000D+00
616	1.00000000000000D+00
563	1.00000000000000D+00
509	1.00000000000000D+00
510	1.00000000000000D+00
564	1.00000000000000D+00
321	3.60000000000000D+00
320	3.60000000000000D+00
264	3.60000000000000D+00
649	1.70000000000000D+01

OBSERVATION NODES

**** NODES AT WHICH OBSERVATIONS WILL BE MADE EVERY 20 TIME STEPS ****

225 498 508 599 490 561 613 390 451 453 740 697 595 542 733 514
1

MESH CONNECTION DATA

PRINTOUT OF NODAL INCIDENCES AND PINCH NODE CONNECTIONS CANCELLED.

**** MESH ANALYSIS ****

ACTUAL MAXIMUM BANDWIDTH, 241, WAS CALCULATED IN ELEMENT 396
-------INPUT BANDWIDTH IS 241

END OF INPUT FROM UNIT-5

1

RESULTS FOR TIME STEP 0

3 10 0004

STEADY-STATE PRESSURE

NODE	NODE	NODE	NODE	NODE	NODE
1 2.96703507D+01	2 2.95845900D+01	3 2.98312979D+01	4 3.01461770D+01	5 3.06349661D+01	6 3.10674072D+01
7 3.14951507D+01	8 3.15519076D+01	9 3.13185134D+01	10 3.09725868D+01	11 3.02413210D+01	12 2.99898937D+01
13 2.87959149D+01	14 2.76170486D+01	15 2.64620153D+01	16 2.57036303D+01	17 2.57693907D+01	18 2.56989410D+01
19 2.56016074D+01	20 2.56099535D+01	21 2.59455975D+01	22 2.61303873D+01	23 2.63429867D+01	24 2.64923183D+01
25 2.66726931D+01	26 2.67011771D+01	27 2.87531282D+01	28 2.93308771D+01	29 2.96993129D+01	30 3.01040572D+01
31 3.04299321D+01	32 3.07815792D+01	33 3.12094404D+01	34 3.13513377D+01	35 3.13773147D+01	36 3.09683824D+01
37 3.11309083D+01	38 3.09789913D+01	39 3.02906860D+01	40 2.97425391D+01	41 3.01719366D+01	42 2.81323362D+01
43 2.74578139D+01	44 2.67891426D+01	45 2.71721735D+01	46 2.73469564D+01	47 2.74023523D+01	48 2.74832473D+01
49 2.67309470D+01	50 2.84380097D+01	51 2.88673327D+01	52 2.92175403D+01	53 2.95616534D+01	54 2.99191676D+01
55 3.02535898D+01	56 3.06808739D+01	57 3.09008951D+01	58 3.11173007D+01	59 3.05979863D+01	60 2.98598772D+01
61 3.00281571D+01	62 3.02250548D+01	63 2.88159026D+01	64 2.87120807D+01	65 2.76895413D+01	66 2.77554736D+01
67 2.94128372D+01	68 2.81761711D+01	69 2.85735014D+01	70 2.67781474D+01	71 2.80718883D+01	72 2.84353000D+01
73 2.86604216D+01	74 2.89537366D+01	75 2.91849869D+01	76 2.94841965D+01	77 2.96673452D+01	78 2.98653519D+01
79 2.93609270D+01	80 2.95851368D+01	81 2.97708982D+01	82 3.01270934D+01	83 3.04479703D+01	84 3.06513405D+01
85 3.02459428D+01	86 2.98000239D+01	87 2.91860881D+01	88 2.92816431D+01	89 2.83363914D+01	90 2.68372973D+01
91 2.80282375D+01	92 2.83554981D+01	93 2.85122384D+01	94 2.86233311D+01	95 2.85427696D+01	96 2.87824182D+01
97 2.88601642D+01	98 2.90213371D+01	99 2.91174097D+01	100 2.89674259D+01	101 2.90745915D+01	102 2.92284309D+01
103 2.92137255D+01	104 2.94205190D+01	105 2.96788543D+01	106 3.00654541D+01	107 3.02315756D+01	108 3.00523758D+01
109 2.98477503D+01	110 2.98555522D+01	111 2.96183973D+01	112 2.93829355D+01	113 2.89547885D+01	114 2.82989751D+01
115 2.82229118D+01	116 2.76464369D+01	117 2.67007200D+01	118 2.80207880D+01	119 2.82228415D+01	120 2.83363583D+01
121 2.83730971D+01	122 2.81925621D+01	123 2.82461434D+01	124 2.83125257D+01	125 2.83359290D+01	126 2.84065056D+01
127 2.84679295D+01	128 2.85629094D+01	129 2.86702143D+01	130 2.87360271D+01	131 2.88160020D+01	132 2.88678598D+01
133 2.87956536D+01	134 2.89123277D+01	135 2.88284795D+01	136 2.89066687D+01	137 2.89775039D+01	138 2.89177258D+01
139 2.90102890D+01	140 2.91924676D+01	141 2.90617154D+01	142 2.90036236D+01	143 2.90746979D+01	144 2.94742848D+01
145 2.92669805D+01	146 2.90064321D+01	147 2.85929386D+01	148 2.83690240D+01	149 2.79761537D+01	150 2.77003918D+01
151 2.66789972D+01	152 2.80159711D+01	153 2.80263965D+01	154 2.78754393D+01	155 2.78408694D+01	156 2.81166904D+01
157 2.79728743D+01	158 2.78797044D+01	159 2.80267973D+01	160 2.80783184D+01	161 2.81556749D+01	162 2.82582225D+01
163 2.82900325D+01	164 2.83198852D+01	165 2.83737827D+01	166 2.84593432D+01	167 2.84272041D+01	168 2.84835751D+01
169 2.85794526D+01	170 2.85383893D+01	171 2.86276768D+01	172 2.86783808D+01	173 2.87302698D+01	174 2.87644596D+01
175 2.87842372D+01	176 2.88242770D+01	177 2.88689409D+01	178 2.89103943D+01	179 2.88825822D+01	180 2.88609015D+01
181 2.88893844D+01	182 2.89339316D+01	183 2.89541434D+01	184 2.88933312D+01	185 2.88217548D+01	186 2.89346069D+01
187 2.89475821D+01	188 2.86022547D+01	189 2.84356566D+01	190 2.87114089D+01	191 2.84640336D+01	192 2.82332522D+01
193 2.82253937D+01	194 2.80199937D+01	195 2.78476008D+01	196 2.77543798D+01	197 2.73930892D+01	198 2.67640250D+01
199 2.74829235D+01	200 2.76291471D+01	201 2.80169883D+01	202 2.76209547D+01	203 2.77854844D+01	204 2.79329145D+01
205 2.79759337D+01	206 2.80205531D+01	207 2.81039736D+01	208 2.81496092D+01	209 2.82245403D+01	210 2.82916636D+01
211 2.83538173D+01	212 2.83992732D+01	213 2.84554180D+01	214 2.85162649D+01	215 2.85868774D+01	216 2.86452533D+01
217 2.86751631D+01	218 2.86989007D+01	219 2.87327345D+01	220 2.87604522D+01	221 2.87770786D+01	222 2.88021084D+01
223 2.88450069D+01	224 2.88241903D+01	225 2.88323498D+01	226 2.88652517D+01	227 2.89028927D+01	228 2.88764171D+01
229 2.87882278D+01	230 2.87557969D+01	231 2.87264826D+01	232 2.87462112D+01	233 2.86243694D+01	234 2.85413643D+01
235 2.84999448D+01	236 2.83981130D+01	237 2.83561678D+01	238 2.83566796D+01	239 2.82210112D+01	240 2.80216973D+01
241 2.79230304D+01	242 2.77096218D+01	243 2.75765077D+01	244 2.75439234D+01	245 2.73222618D+01	246 2.67364252D+01
247 2.72273370D+01	248 2.73525427D+01	249 2.72547323D+01	250 2.75064084D+01	251 2.75911373D+01	252 2.76631865D+01
253 2.78290595D+01	254 2.78627392D+01	255 2.79348206D+01	256 2.79998357D+01	257 2.81111327D+01	258 2.81965573D+01
259 2.82384465D+01	260 2.82537058D+01	261 2.83277136D+01	262 2.83716274D+01	263 2.84219839D+01	264 2.84822388D+01
265 2.85647300D+01	266 2.86163990D+01	267 2.86403158D+01	268 2.86682962D+01	269 2.87027948D+01	270 2.87312226D+01
271 2.87479601D+01	272 2.87793762D+01	273 2.87486951D+01	274 2.87897890D+01	275 2.87598873D+01	276 2.88058808D+01
277 2.88354304D+01	278 2.87981685D+01	279 2.87388741D+01	280 2.86935507D+01	281 2.86656417D+01	282 2.86257348D+01
283 2.85481619D+01	284 2.84374836D+01	285 2.84121796D+01	286 2.83844692D+01	287 2.82582637D+01	288 2.81868735D+01
289 2.80084213D+01	290 2.81916107D+01	291 2.80036587D+01	292 2.77731781D+01	293 2.74925758D+01	294 2.74145272D+01
295 2.72425671D+01	296 2.66789642D+01	297 2.66690879D+01	298 2.68686667D+01	299 2.69769646D+01	300 2.72338014D+01
301 2.74009537D+01	302 2.75317776D+01	303 2.76061927D+01	304 2.77154421D+01	305 2.77657134D+01	306 2.78839522D+01
307 2.79178350D+01	308 2.78736688D+01	309 2.79890575D+01	310 2.80523607D+01	311 2.81425969D+01	312 2.82432154D+01
313 2.82135497D+01	314 2.82684359D+01	315 2.82890685D+01	316 2.83091793D+01	317 2.83575401D+01	318 2.83945541D+01
319 2.84522826D+01	320 2.85283092D+01	321 2.85848684D+01	322 2.86185197D+01	323 2.86483006D+01	324 2.86817158D+01
325 2.87035854D+01	326 2.87162553D+01	327 2.87209530D+01	328 2.87327635D+01	329 2.87607622D+01	330 2.87247811D+01
331 2.86930899D+01	332 2.86590122D+01	333 2.86261453D+01	334 2.85783908D+01	335 2.85397256D+01	336 2.84311534D+01
337 2.83544656D+01	338 2.83398408D+01	339 2.83224683D+01	340 2.83046704D+01	341 2.81933743D+01	342 2.81129635D+01
343 2.80128189D+01	344 2.78167056D+01	345 2.78464920D+01	346 2.76693353D+01	347 2.75328563D+01	348 2.71168278D+01
349 2.66599243D+01	350 2.66675032D+01	351 2.68159556D+01	352 2.69559971D+01	353 2.70792164D+01	354 2.70833304D+01
355 2.72431304D+01	356 2.72459138D+01	357 2.74118810D+01	358 2.75568356D+01	359 2.75977769D+01	360 2.76576409D+01
361 2.77069945D+01	362 2.77477643D+01	363 2.77957351D+01	364 2.78351717D+01	365 2.77833609D+01	366 2.78264667D+01
367 2.79224573D+01	368 2.80400421D+01	369 2.80983413D+01	370 2.82102249D+01	371 2.82819291D+01	372 2.83136259D+01
373 2.83332480D+01	374 2.83667777D+01	375 2.84230909D+01	376 2.84986466D+01	377 2.85553128D+01	378 2.85968623D+01
379 2.86285174D+01	380 2.86637204D+01	381 2.86807686D+01	382 2.86905329D+01	383 2.86959161D+01	384 2.87100664D+01
385 2.86855530D+01	386 2.86609522D+01	387 2.86333484D+01	388 2.86081792D+01	389 2.85824596D+01	390 2.85352015D+01
391 2.84715158D+01	392 2.84220754D+01	393 2.83781253D+01	394 2.83047070D+01	395 2.82829252D+01	396 2.82582764D+01
397 2.82418093D+01	398 2.81575037D+01	399 2.80459800D+01	400 2.80041708D+01	401 2.79195837D+01	402 2.77102198D+01
403 2.76814430D+01	404 2.75997163D+01	405 2.74649622D+01	406 2.72489266D+01	407 2.69793259D+01	408 2.66570690D+01
409 2.66669298D+01	410 2.68344417D+01	411 2.69683575D+01	412 2.73605465D+01	413 2.70935247D+01	414 2.72606898D+01
415 2.74245740D+01	416 2.74637480D+01	417 2.74020633D+01	418 2.73758885D+01	419 2.74841116D+01	420 2.75624381D+01
421 2.76483421D+01	422 2.76881152D+01	423 2.77256223D+01	424 2.77768928D+01	425 2.78543545D+01	426 2.79696345D+01
427 2.80957430D+01	428 2.81703871D+01	429 2.82496261D+01	430 2.83031183D+01	431 2.83260582D+01	432 2.83499276D+01
433 2.83682310D+01	434 2.84095504D+01	435 2.84496102D+01	436 2.84643978D+01	437 2.85148071D+01	438 2.85693152D+01

439	2.85986426D+01	440	2.86369814D+01	441	2.86532881D+01	442	2.86651256D+01	443	2.86755142D+01	444	2.86539876D+01
445	2.86309105D+01	446	2.86031788D+01	447	2.85870387D+01	448	2.85907670D+01	449	2.85282515D+01	450	2.84821214D+01
451	2.84447923D+01	452	2.84315484D+01	453	2.83759095D+01	454	2.83088741D+01	455	2.82652914D+01	456	2.82412722D+01
457	2.82133332D+01	458	2.81867264D+01	459	2.81245571D+01	460	2.80164039D+01	461	2.79044201D+01	462	2.78733481D+01
463	2.78066151D+01	464	2.76088069D+01	465	2.75158034D+01	466	2.74132153D+01	467	2.72999548D+01	468	2.71669084D+01
469	2.69362347D+01	470	2.66506315D+01	471	2.66602769D+01	472	2.68648874D+01	473	2.69902484D+01	474	2.71079613D+01
475	2.72792932D+01	476	2.72968804D+01	477	2.73574357D+01	478	2.75014640D+01	479	2.75791012D+01	480	2.76227778D+01
481	2.76740054D+01	482	2.77251888D+01	483	2.77887256D+01	484	2.78939875D+01	485	2.80232883D+01	486	2.81394794D+01
487	2.82043280D+01	488	2.82575361D+01	489	2.82966769D+01	490	2.83362438D+01	491	2.83999317D+01	492	2.84561887D+01
493	2.84861008D+01	494	2.85358247D+01	495	2.85909728D+01	496	2.86196736D+01	497	2.86306519D+01	498	2.86492335D+01
499	2.86363433D+01	500	2.86263467D+01	501	2.86072013D+01	502	2.85850504D+01	503	2.85585932D+01	504	2.85723438D+01
505	2.85363226D+01	506	2.84938446D+01	507	2.84295605D+01	508	2.83888420D+01	509	2.83181091D+01	510	2.82880182D+01
511	2.82595015D+01	512	2.82346674D+01	513	2.82088545D+01	514	2.81816512D+01	515	2.81544652D+01	516	2.80643179D+01
517	2.79507545D+01	518	2.78333277D+01	519	2.77759988D+01	520	2.76999789D+01	521	2.75394321D+01	522	2.74515940D+01
523	2.73535290D+01	524	2.72945576D+01	525	2.72303523D+01	526	2.71095178D+01	527	2.69004033D+01	528	2.66502563D+01
529	2.66612567D+01	530	2.68852151D+01	531	2.70182695D+01	532	2.71339639D+01	533	2.72362278D+01	534	2.72797385D+01
535	2.74240323D+01	536	2.75550717D+01	537	2.76090009D+01	538	2.76690224D+01	539	2.77259577D+01	540	2.78356386D+01
541	2.79473746D+01	542	2.80005167D+01	543	2.80728239D+01	544	2.81965797D+01	545	2.82426776D+01	546	2.83303799D+01
547	2.83630495D+01	548	2.83976071D+01	549	2.83967740D+01	550	2.84881554D+01	551	2.85703782D+01	552	2.86135620D+01
553	2.86297543D+01	554	2.86276271D+01	555	2.85924092D+01	556	2.85620816D+01	557	2.84835209D+01	558	2.84962923D+01
559	2.84518371D+01	560	2.84075946D+01	561	2.83579196D+01	562	2.83288916D+01	563	2.82667154D+01	564	2.82426171D+01
565	2.81983498D+01	566	2.81773417D+01	567	2.81515913D+01	568	2.81262887D+01	569	2.80970982D+01	570	2.80056805D+01
571	2.78801663D+01	572	2.77655236D+01	573	2.77137937D+01	574	2.76169865D+01	575	2.74580642D+01	576	2.73780578D+01
577	2.72240931D+01	578	2.71627449D+01	579	2.70318970D+01	580	2.68480318D+01	581	2.66501511D+01	582	2.66630555D+01
583	2.69254140D+01	584	2.70583262D+01	585	2.71521906D+01	586	2.71885336D+01	587	2.73447735D+01	588	2.74906823D+01
589	2.75838627D+01	590	2.76546194D+01	591	2.77257716D+01	592	2.77743719D+01	593	2.78778276D+01	594	2.79381640D+01
595	2.80578587D+01	596	2.81274242D+01	597	2.81731002D+01	598	2.82737538D+01	599	2.83390202D+01	600	2.83400714D+01
601	2.84096448D+01	602	2.84934507D+01	603	2.84767693D+01	604	2.85241510D+01	605	2.85668311D+01	606	2.86043045D+01
607	2.85674112D+01	608	2.85249513D+01	609	2.84739943D+01	610	2.84150312D+01	611	2.84355782D+01	612	2.83599987D+01
613	2.83054218D+01	614	2.82270560D+01	615	2.82950328D+01	616	2.82320741D+01	617	2.70925780D+01	618	2.82266491D+01
619	2.81710502D+01	620	2.81463218D+01	621	2.81240418D+01	622	2.80819041D+01	623	2.80431582D+01	624	2.79437646D+01
625	2.78193020D+01	626	2.76938642D+01	627	2.76361071D+01	628	2.75374406D+01	629	2.72504788D+01	630	2.73182690D+01
631	2.71443172D+01	632	2.70920123D+01	633	2.69355861D+01	634	2.67638635D+01	635	2.66497103D+01	636	2.66815498D+01
637	2.69884348D+01	638	2.71738020D+01	639	2.72608456D+01	640	2.74104979D+01	641	2.74973100D+01	642	2.75823149D+01
643	2.76539382D+01	644	2.77495142D+01	645	2.78033069D+01	646	2.78405303D+01	647	2.79013070D+01	648	2.79948173D+01
649	2.80912331D+01	650	2.82051165D+01	651	2.82936281D+01	652	2.82924547D+01	653	2.83521298D+01	654	2.84249596D+01
655	2.83582366D+01	656	2.83059730D+01	657	2.82581532D+01	658	2.82370399D+01	659	2.82270365D+01	660	2.82008149D+01
661	2.81576036D+01	662	2.81248666D+01	663	2.80910395D+01	664	2.80429242D+01	665	2.79900122D+01	666	2.78849692D+01
667	2.77523276D+01	668	2.76328452D+01	669	2.75658474D+01	670	2.74748215D+01	671	2.73335200D+01	672	2.73984646D+01
673	2.70219948D+01	674	2.69771851D+01	675	2.68562855D+01	676	2.66580820D+01	677	2.66473860D+01	678	2.66693952D+01
679	2.68626363D+01	680	2.69530410D+01	681	2.68688839D+01	682	2.69470865D+01	683	2.70155106D+01	684	2.70888445D+01
685	2.71885822D+01	686	2.72568426D+01	687	2.73338835D+01	688	2.74211144D+01	689	2.75075545D+01	690	2.75920199D+01
691	2.76920892D+01	692	2.78188997D+01	693	2.78679604D+01	694	2.79611291D+01	695	2.80167372D+01	696	2.80526236D+01
697	2.81484612D+01	698	2.82417284D+01	699	2.82405086D+01	700	2.82996636D+01	701	2.82531589D+01	702	2.82081568D+01
703	2.81918926D+01	704	2.81728481D+01	705	2.81664223D+01	706	2.81091598D+01	707	2.80764503D+01	708	2.80475866D+01
709	2.79965486D+01	710	2.79418073D+01	711	2.78237426D+01	712	2.76986714D+01	713	2.75703882D+01	714	2.75115591D+01
715	2.72286204D+01	716	2.72237466D+01	717	2.71315015D+01	718	2.69305718D+01	719	2.68876897D+01	720	2.67680184D+01
721	2.66466225D+01	722	2.66472960D+01	723	2.67616025D+01	724	2.69341107D+01	725	2.70393615D+01	726	2.71255354D+01
727	2.73002179D+01	728	2.73561315D+01	729	2.74454667D+01	730	2.75380870D+01	731	2.77018428D+01	732	2.77675297D+01
733	2.78786278D+01	734	2.79282333D+01	735	2.79850782D+01	736	2.79320297D+01	737	2.78773239D+01	738	2.78246727D+01
739	2.77581512D+01	740	2.76403727D+01	741	2.74783023D+01	742	2.74140971D+01	743	2.73266523D+01	744	2.71311924D+01
745	2.70292509D+01	746	2.68369086D+01	747	2.67946045D+01	748	2.66559748D+01	749	2.66586581D+01	750	2.68295601D+01
751	2.70198645D+01	752	2.71283058D+01	753	2.72406682D+01	754	2.73874549D+01	755	2.73177929D+01	756	2.74282804D+01
757	2.69242343D+01	758	2.67493745D+01	759	2.67083965D+01	760	2.66464889D+01	761	2.66428103D+01		

1

FLUID MASS BUDGET AFTER TIME STEP 0, IN (MASS/SECOND)

0.0000000D-01	RATE OF CHANGE IN TOTAL STORED FLUID DUE TO PRESSURE CHANGE, INCREASE(+)/DECREASE(-)
0.0000000D-01	RATE OF CHANGE IN TOTAL STORED FLUID DUE TO CONCENTRATION CHANGE, INCREASE(+)/DECREASE(-)
3.9182545D-02	TOTAL OF FLUID SOURCES AND SINKS, NET INFLOW(+)/NET OUTFLOW(-)
-3.9182545D-02	TOTAL OF FLUID FLOWS AT POINTS OF SPECIFIED PRESSURE, NET INFLOW(+)/NET OUTFLOW(-)

FLUID SOURCES OR SINKS DUE TO SPECIFIED PRESSURES

NODE	INFLOW(+)/OUTFLOW(-) (MASS/SECOND)
721	-6.6225028D-05
748	-1.5974817D-04
761	-2.8103493D-05
760	-6.4889349D-05
749	-1.8658120D-04
722	-7.2959672D-05

678	-2.9395200D-04
636	-4.1549832D-04
582	-2.3055509D-04
529	-2.1256736D-04
471	-2.0276887D-04
409	-2.6929780D-04
350	-2.7503248D-04
297	-2.9087898D-04
298	-6.8666708D-04
247	-8.7336970D-04
199	-8.2923518D-04
201	-1.6988298D-04
152	-1.5971068D-04
118	-2.0788029D-04
91	-2.8237490D-04
71	-7.1888259D-04
50	-8.8009696D-04
27	-1.0312823D-03
13	-1.4591490D-03
14	-1.8704862D-03
15	-9.2015287D-04
16	-1.9363029D-03
17	-2.5939067D-03
18	-1.8894099D-03
19	-9.1607352D-04
20	-9.9953477D-04
21	-1.5559747D-03
22	-1.5038729D-03
23	-1.3298672D-03
24	-9.2318331D-04
25	-3.2693121D-04
26	-6.1177084D-04
49	-9.0947041D-04
70	-1.3814744D-03
90	-1.9729734D-03
117	-6.0719987D-04
151	-3.8997155D-04
198	-1.2402505D-03
246	-9.6425154D-04
296	-3.8964246D-04
349	-1.9924347D-04
408	-1.7068989D-04
470	-1.0631455D-04
528	-1.0256309D-04
581	-1.0151120D-04
635	-9.7102618D-05
677	-7.3860399D-05
676	-1.8082005D-04
65	-1.0954130D-03
66	-1.7547360D-03

1

RESULTS FOR TIME STEP 1

S T E A D Y - S T A T E C O N C E N T R A T I O N

NODE	NODE	NODE	NODE	NODE	NODE
1 2.76772556D-16	2 1.61693061D-14	3 4.45932955D-13	4 -8.13617595D-13	5 -1.09972073D-13	6 -4.76886561D-13
7 -8.85959841D-13	8 -1.84965598D-13	9 -1.51352316D-15	10 -4.46547980D-18	11 -2.88805676D-20	12 -3.59803348D-22
13 -3.69351119D-22	14 -1.79536705D-22	15 -7.03275432D-23	16 -3.84361083D-23	17 -5.01318527D-23	18 -2.31163548D-23
19 -6.27494926D-24	20 -7.03274174D-24	21 6.12224658D-23	22 -5.19713344D-23	23 -2.17049088D-21	24 -4.69583421D-21
25 -1.98037485D-21	26 -1.08790073D-20	27 1.79545243D-15	28 9.13462820D-14	29 5.14323416D-12	30 1.53740098D-10
31 -2.57245126D-13	32 1.65792283D-10	33 9.57705648D-11	34 4.25402005D-12	35 -2.64604652D-13	36 9.21484954D-16
37 -1.33310443D-16	38 -1.65126249D-18	39 -1.57106470D-20	40 -5.32954093D-21	41 -2.52114609D-19	42 -8.92342114D-22
43 -1.14374004D-22	44 -1.51722185D-22	45 4.31419748D-21	46 -1.49602557D-20	47 -1.62225118D-19	48 -8.47896435D-19
49 -5.32823444D-19	50 -1.25371020D-14	51 -6.40282586D-13	52 -1.39732941D-10	53 -1.90032015D-08	54 6.44217102D-09
55 -2.57613584D-08	56 -2.44624875D-09	57 2.01903204D-10	58 -4.31380048D-12	59 5.73942572D-14	60 2.01422007D-13
61 -1.66725070D-15	62 5.32070291D-18	63 -3.15219388D-18	64 2.86723387D-21	65 -2.82414856D-20	66 1.30569776D-18
67 2.91531593D-16	68 -5.24654418D-18	69 -4.72224531D-17	70 -1.08022374D-18	71 2.88966976D-16	72 -1.46778706D-12
73 -2.31646292D-10	74 -9.89260212D-09	75 2.07465669D-05	76 -1.04877625D-06	77 -1.40119084D-07	78 -2.48798643D-07
79 -1.31355433D-06	80 9.15499395D-06	81 6.48798902D-07	82 -4.61714274D-08	83 1.85586832D-09	84 -3.05088303D-11
85 1.62901124D-12	86 -1.50306345D-11	87 2.75667920D-14	88 -4.88062479D-15	89 1.33235054D-16	90 2.18392432D-16
91 -4.12738304D-13	92 -1.26584376D-11	93 -3.19374241D-10	94 -5.52797592D-09	95 -5.53573372D-05	96 -3.32505905D-04
97 -2.98904379D-03	98 2.10800008D-04	99 -1.64038160D-05	100 2.49545621D-04	101 -8.70993856D-04	102 3.40355388D-05
103 -1.50769703D-04	104 6.78631259D-06	105 -2.17416804D-07	106 7.52509094D-09	107 -2.18894481D-10	108 -1.67436651D-10
109 8.41382050D-09	110 2.03479958D-10	111 -4.25472449D-09	112 8.75601083D-10	113 5.03160325D-11	114 1.08493179D-12

115 2.32271780D-13 116 5.53731304D-15 117 4.43856155D-15 118 -7.12560005D-13 119 1.26603201D-11 120 3.43971438D-10
121 9.60055705D-10 122 -5.19496449D-08 123 -4.29548730D-07 124 -3.16888977D-06 125 1.02201245D-04 126 1.44114701D-03
127 9.27031526D-04 128 5.32108481D-03 129 3.81545573D-02 130 3.25502198D-02 131 1.76231816D-03 132 7.24627059D-04
133 2.37739660D-02 134 2.18073031D-03 135 1.01619513D-02 136 1.60763987D-02 137 3.84436506D-03 138 9.93650277D-03
139 -2.61195524D-04 140 1.21882902D-05 141 -8.64063188D-05 142 -6.40415416D-05 143 2.87833468D-06 144 -3.54906960D-07
145 2.35751103D-08 146 -3.06888119D-08 147 -3.09645402D-09 148 -1.58319088D-10 149 -1.03872768D-11 150 2.29249747D-11
151 -1.99431485D-13 152 1.55291259D-11 153 9.10984236D-12 154 6.12978388D-10 155 1.69319123D-09 156 -1.90829687D-09
157 -9.58070248D-09 158 -1.00895265D-08 159 1.70667875D-08 160 1.02590010D-06 161 1.11286638D-05 162 1.13355461D-04
163 2.74389703D-03 164 1.27395276D-03 165 3.21559467D-03 166 9.13607387D-03 167 1.01616119D-02 168 1.02511657D-01
169 1.50783399D-01 170 6.23354011D-01 171 1.87593717D-01 172 1.87240864D-01 173 1.00804006D-01 174 5.56477040D-02
175 5.92267717D-02 176 1.34573239D-01 177 9.16993766D-02 178 3.71506490D-02 179 6.21561497D-02 180 7.00602766D-02
181 3.76364902D-02 182 3.01313843D-03 183 6.38742029D-04 184 6.49359183D-04 185 1.65838003D-04 186 -1.14016018D-05
187 -2.29815809D-06 188 2.68738846D-06 189 -9.77237757D-07 190 1.50956887D-07 191 1.51510982D-08 192 2.46221373D-09
193 -7.66568722D-12 194 -2.32814845D-11 195 -2.34073176D-12 196 -2.06169704D-12 197 2.50598297D-10 198 2.47172325D-11
199 -1.17049282D-09 200 -4.60174417D-10 201 3.81653868D-11 202 -4.39872669D-08 203 2.48267811D-08 204 1.39134062D-07
205 1.75387732D-06 206 2.39728827D-05 207 -1.33595418D-04 208 1.55507504D-04 209 -7.51123775D-04 210 6.50221160D-03
211 5.76620286D-03 212 8.69804188D-03 213 2.13320397D-01 214 1.48148157D-00 215 8.48766073D-01 216 5.60074484D-01
217 3.11952346D-01 218 2.00796396D-01 219 1.26923839D-01 220 1.75350526D-01 221 2.00842448D-01 222 3.70717916D-01
223 2.47072902D-01 224 4.34428158D-01 225 1.91302545D-01 226 4.94442219D-02 227 -6.14889254D-03 228 9.64473048D-04
229 -4.53936028D-04 230 -4.29022359D-04 231 -6.37064604D-05 232 3.13808692D-05 233 -4.48709910D-05 234 3.98918071D-05
235 1.68634559D-05 236 -6.06472346D-05 237 -5.51440360D-06 238 1.57093542D-08 239 1.65560497D-09 240 8.79597801D-10
241 -3.45680345D-10 242 -1.48453471D-10 243 -4.44264512D-11 244 3.04081167D-10 245 -1.50883614D-10 246 -2.28018776D-09
247 3.93902636D-08 248 -1.73559154D-09 249 3.45840398D-08 250 7.54637737D-08 251 2.82767510D-07 252 5.12212560D-07
253 2.24358657D-07 254 6.14629231D-06 255 1.20908132D-05 256 3.31371457D-04 257 1.18224262D-03 258 6.31669664D-04
259 9.50035767D-03 260 9.08597346D-03 261 -7.58422529D-03 262 7.77324728D-02 263 -1.95401120D-02 264 3.54139024D+00
265 1.70315970D+00 266 1.49400752D+00 267 7.59911996D-01 268 2.76317158D-01 269 3.30730399D-01 270 6.42841446D-01
271 8.72381870D-01 272 1.20134585D+00 273 3.76155273D+00 274 3.86187804D-01 275 9.21475776D-01 276 4.27708817D-01
277 -1.03128634D-02 278 -3.54585267D-03 279 5.66811363D-03 280 6.71139168D-03 281 3.36319818D-03 282 1.42229860D-04
283 8.68472993D-04 284 -5.25833248D-06 285 4.22572574D-05 286 1.54676915D-04 287 3.98933386D-04 288 3.18787993D-05
289 -2.80812019D-06 290 -2.97136058D-07 291 4.82785975D-08 292 4.89662238D-09 293 -5.18633071D-09 294 -1.71481793D-08
295 2.37182831D-07 296 1.78286670D-07 297 2.92323490D-06 298 -2.81324311D-07 299 4.69081069D-08 300 1.09046067D-07
301 2.83180233D-07 302 2.94313949D-07 303 7.51780564D-07 304 5.42532699D-06 305 4.32650388D-05 306 1.06658311D-04
307 4.20055640D-04 308 2.44332883D-03 309 6.44243937D-03 310 2.73600451D-03 311 2.46436562D-03 312 2.10698346D-02
313 1.29088811D-02 314 1.40501953D-02 315 1.25157883D-02 316 1.46189409D-02 317 5.18032705D-03 318 4.47860087D-01
319 2.74961168D+00 320 3.54092232D+00 321 3.54682118D+00 322 6.16705502D-01 323 3.95213425D-01 324 4.98666379D-01
325 1.49827670D+00 326 3.76753894D+00 327 3.77613046D+00 328 3.74452873D+00 329 -1.65450937D-01 330 -7.28041369D-02
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337 1.42454149D-02 338 1.01952551D-02 339 4.93997902D-03 340 1.95866705D-03 341 1.85410711D-03 342 2.15026484D-04
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349 1.31720884D-06 350 8.44148493D-07 351 6.76938717D-06 352 6.81985643D-06 353 5.24634555D-06 354 6.51035637D-07
355 2.97385339D-07 356 2.48331224D-06 357 1.06167518D-06 358 8.59756518D-07 359 1.07343231D-05 360 6.91663007D-06
361 8.92672063D-05 362 4.00374048D-04 363 2.50875068D-04 364 9.37024923D-04 365 1.35115390D-03 366 4.05345410D-03
367 1.51263338D-02 368 2.87029220D-02 369 1.29729954D-02 370 3.84596911D-02 371 1.29163433D-01 372 6.83728737D-02
373 3.22960839D-02 374 6.44573110D-01 375 2.20628950D+00 376 2.94573176D+00 377 1.99829270D+00 378 7.77954573D-01
379 5.37315658D-01 380 9.11599159D-01 381 2.56417379D+00 382 3.78981083D+00 383 3.77574135D+00 384 1.95683752D+00
385 1.14867891D+00 386 7.01920493D-01 387 4.45681788D-01 388 4.34928176D-01 389 1.54888993D-01 390 4.33762321D-02
391 1.38170537D-02 392 8.75945927D-03 393 2.76388791D-02 394 8.52968133D-02 395 4.32021270D-02 396 2.25735664D-02
397 1.07829583D-02 398 1.32876029D-02 399 5.10869335D-03 400 1.76853090D-03 401 2.76644621D-04 402 2.57127276D-04
403 5.17141056D-06 404 3.17980629D-05 405 6.64737347D-06 406 1.21070013D-05 407 5.03012255D-06 408 5.83194414D-06
409 1.31142432D-04 410 9.56311256D-05 411 8.58765537D-05 412 5.20192573D-05 413 5.70871158D-05 414 2.55019302D-05
415 7.13744152D-06 416 6.71646102D-05 417 3.95182489D-04 418 1.11829824D-04 419 1.76379236D-04 420 1.12300876D-04
421 1.50580181D-04 422 6.21864790D-04 423 2.05701871D-03 424 6.72289137D-03 425 2.57929489D-02 426 4.45252915D-02
427 1.09152659D-01 428 7.00400398D-02 429 1.89254386D-01 430 7.20542971D-01 431 8.14168364D-01 432 7.21761799D-01
433 1.46623451D+00 434 1.97102813D+00 435 1.86497852D+00 436 2.13886789D+00 437 1.18482160D+00 438 8.15451692D-01
439 1.08593606D+00 440 2.09692127D+00 441 3.79300466D+00 442 3.79274401D+00 443 2.63580746D+00 444 1.73206922D+00
445 1.20270067D+00 446 8.53533213D-01 447 7.03328426D-01 448 4.34110976D-01 449 1.91141101D-01 450 2.08430694D-01
451 1.29018685D-01 452 5.64257916D-02 453 1.75920597D-01 454 3.80028156D-01 455 1.38622818D-01 456 8.74717350D-02
457 4.82792809D-02 458 2.81606725D-02 459 2.10107157D-02 460 2.29474748D-02 461 1.89995269D-02 462 6.35736635D-03
463 1.19796839D-03 464 9.19593685D-04 465 1.92621487D-04 466 4.21916339D-05 467 3.63039124D-05 468 3.17457002D-05
469 1.95998081D-05 470 1.69814134D-05 471 6.32542086D-04 472 5.40857158D-04 473 4.04905465D-04 474 2.26534494D-04
475 7.54987989D-05 476 2.10551884D-04 477 1.47130735D-03 478 4.81559128D-04 479 2.63073217D-04 480 1.07737609D-03
481 3.19806025D-03 482 1.05556921D-02 483 3.49285169D-02 484 6.28146988D-02 485 1.26728004D-01 486 2.75023648D-01
487 2.54914414D-01 488 6.64595637D-01 489 8.80525843D-01 490 1.17519482D+00 491 1.28417245D+00 492 8.76004532D-01
493 9.30061863D-01 494 1.05838494D+00 495 2.07453171D+00 496 3.78349898D+00 497 3.79079538D+00 498 3.78867647D+00
499 2.19614022D+00 500 1.51216560D+00 501 1.08948137D+00 502 7.85413807D-01 503 5.87883919D-01 504 6.00163913D-01
505 4.13406700D-01 506 4.13475830D-01 507 3.75746124D-01 508 5.06709320D-01 509 9.93352472D-01 510 9.90119864D-01
511 4.52072956D-01 512 2.36364450D-01 513 1.38538710D-01 514 7.97374030D-02 515 4.79044212D-02 516 4.90538461D-02
517 3.98676431D-02 518 2.93965226D-02 519 1.25058669D-02 520 3.63676671D-03 521 1.83728768D-03 522 4.74214996D-04
523 9.58123951D-05 524 2.39271277D-04 525 9.66234390D-05 526 1.15726306D-04 527 5.97255949D-05 528 4.37073928D-05
529 3.11892926D-03 530 1.79131115D-03 531 1.28278652D-03 532 7.23644087D-04 533 1.27507335D-03 534 2.65232354D-03
535 5.21589457D-03 536 1.77556320D-03 537 5.18264820D-03 538 1.53077135D-02 539 4.79209627D-02 540 7.83877317D-02
541 1.59079893D-01 542 4.22062193D-01 543 2.66659825D-01 544 4.84634336D-01 545 6.35475034D-01 546 8.49903637D-01
547 1.03067432D+00 548 7.92314411D-01 549 9.97070406D-01 550 1.00102714D+00 551 2.07647959D+00 552 3.03921263D+00
553 2.74243429D+00 554 1.86739948D+00 555 1.19627360D+00 556 8.28280968D-01 557 4.08138233D-01 558 3.76031428D-01
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565 6.29179129D-01 566 4.01815676D-01 567 2.51771261D-01 568 1.53797523D-01 569 9.62938720D-02 570 7.62519619D-02
571 6.04725155D-02 572 4.71485628D-02 573 2.17805362D-02 574 5.90508565D-03 575 3.53323962D-03 576 9.75919335D-04
577 5.70342253D-04 578 2.56249176D-04 579 3.36399918D-04 580 2.51316737D-04 581 9.09371421D-05 582 1.06783695D-02
583 6.09794516D-03 584 3.13627948D-03 585 1.87324945D-03 586 5.73279782D-03 587 8.77549497D-03 588 1.40767259D-02

589 4.58556402D-02 590 9.16249345D-02 591 2.14505885D-01 592 1.16297840D-01 593 2.54533577D-01 594 9.13651048D-01
595 1.92442113D+00 596 4.59219375D-01 597 9.17785696D-02 598 5.85203196D-01 599 7.16649591D-01 600 9.97443740D-01
601 9.98934818D-01 602 1.01174205D+00 603 1.18509040D+00 604 1.37730505D+00 605 1.95662163D+00 606 2.30735915D+00
607 1.34516635D+00 608 8.01846805D-01 609 7.62480484D-01 610 4.66223782D-01 611 2.65656204D-01 612 3.18981029D-01
613 4.34061284D-01 614 9.99203445D-01 615 3.56123388D-01 616 9.97156920D-01 617 8.71877049D-03 618 9.97605582D-01
619 6.47622018D-01 620 5.19439342D-01 621 4.12729378D-01 622 2.40007449D-01 623 1.42075305D-01 624 1.14297298D-01
625 8.94657005D-02 626 8.82472494D-02 627 4.10525530D-02 628 1.15381643D-02 629 4.68847087D-03 630 2.06355106D-03
631 1.55857394D-03 632 7.77343112D-04 633 1.18818508D-03 634 6.21674812D-04 635 1.94075873D-04 636 4.01483401D-02
637 1.42869968D-02 638 2.69725737D-02 639 1.61576136D-02 640 2.48393548D-02 641 6.71442581D-02 642 1.80490121D-01
643 4.25286803D-01 644 7.57750556D-01 645 5.13565275D-01 646 3.20479858D-01 647 1.55854994D+00 648 5.09446144D+00
649 1.66825179D+01 650 1.89725583D+00 651 8.05688912D-01 652 9.96791722D-01 653 9.98547444D-01 654 9.98920287D-01
655 9.97908217D-01 656 9.97253768D-01 657 9.97151078D-01 658 9.98555747D-01 659 9.97953317D-01 660 9.96717427D-01
661 6.81075404D-01 662 5.01621904D-01 663 3.96182029D-01 664 2.75537614D-01 665 1.83293365D-01 666 1.84746663D-01
667 1.79356496D-01 668 1.57946608D-01 669 7.06775099D-02 670 2.27087577D-02 671 1.31533263D-02 672 6.68814990D-03
673 5.59433298D-03 674 2.69203064D-03 675 3.01956980D-03 676 1.36023398D-03 677 3.61309626D-04 678 5.21010197D-02
679 6.44193028D-02 680 6.77196564D-02 681 4.85909796D-02 682 4.01280992D-02 683 5.87211651D-02 684 4.20411746D-02
685 8.54828767D-02 686 6.41057301D-02 687 4.36444001D-02 688 1.13162250D-01 689 2.73139583D-01 690 5.62936062D-01
691 7.88178638D-01 692 1.65497938D+00 693 1.79659396D+00 694 4.27600232D+00 695 3.83453248D+00 696 6.88176275D+00
697 1.15660878D+00 698 6.16641689D-01 699 9.98521660D-01 700 9.98420024D-01 701 9.98535153D-01 702 9.97090774D-01
703 6.29700034D-01 704 7.20466908D-01 705 6.58269990D-01 706 4.15033962D-01 707 5.18275250D-01 708 4.69249403D-01
709 3.87073378D-01 710 3.04516992D-01 711 3.92079911D-01 712 2.61271075D-01 713 2.55850118D-01 714 1.21218785D-01
715 1.55168990D-01 716 3.17980510D-02 717 1.33477020D-02 718 1.07047338D-02 719 5.78717536D-03 720 4.69140287D-03
721 1.82845309D-03 722 3.32091655D-02 723 4.78922597D-02 724 7.09950030D-02 725 9.36498537D-02 726 1.02120523D-01
727 1.70257718D-01 728 1.47956892D-01 729 2.99900050D-01 730 4.52088042D-01 731 7.79257116D-01 732 1.22135965D+00
733 2.00673985D+00 734 3.23498649D+00 735 2.32081634D+00 736 1.28492093D+00 737 7.07856597D-01 738 1.12339376D+00
739 6.02545418D-01 740 4.58178441D-01 741 3.04148043D-01 742 1.72462098D-01 743 7.92114593D-02 744 5.61102705D-02
745 2.50614855D-02 746 1.71372585D-02 747 9.33109201D-03 748 6.90929613D-03 749 2.63104535D-02 750 4.36672298D-02
751 6.76492621D-02 752 1.10418787D-01 753 1.18024669D-01 754 2.62328167D-01 755 1.88711606D-01 756 4.33393306D-02
757 3.70394538D-02 758 2.24887886D-02 759 1.32999642D-02 760 1.29826119D-02 761 1.01847505D-02

1

SOLUTE BUDGET AFTER TIME STEP 1, IN (SOLUTE MASS/SECOND)

0.0000000D-01	NET RATE OF INCREASE(+)/DECREASE(-) OF SOLUTE DUE TO CONCENTRATION CHANGE
0.0000000D-01	NET RATE OF INCREASE(+)/DECREASE(-) OF ADSORBATE
0.0000000D-01	NET RATE OF INCREASE(+)/DECREASE(-) OF SOLUTE DUE TO CHANGE IN MASS OF FLUID
-3.8938420D-03	NET FIRST-ORDER PRODUCTION(+)/DECAY(-) OF SOLUTE
-3.8326531D-03	NET FIRST-ORDER PRODUCTION(+)/DECAY(-) OF ADSORBATE
0.0000000D-01	NET ZERO-ORDER PRODUCTION(+)/DECAY(-) OF SOLUTE
0.0000000D-01	NET ZERO-ORDER PRODUCTION(+)/DECAY(-) OF ADSORBATE
0.0000000D-01	NET GAIN(+)/LOSS(-) OF SOLUTE THROUGH FLUID SOURCES AND SINKS
-4.5280194D-05	NET GAIN(+)/LOSS(-) OF SOLUTE THROUGH INFLOWS OR OUTFLOWS AT POINTS OF SPECIFIED PRESSURE
0.0000000D-01	NET GAIN(+)/LOSS(-) OF SOLUTE THROUGH SOLUTE SOURCES AND SINKS
7.7575666D-03	NET GAIN(+)/LOSS(-) OF SOLUTE AT POINTS OF SPECIFIED CONCENTRATION

SOLUTE SOURCES OR SINKS AT FLUID SOURCES AND SINKS

NODE	SOURCE(+)/SINK(-) (SOLUTE MASS/SECOND)
1	0.0000000D-01
2	0.0000000D-01
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761	0.0000000D-01

SOLUTE SOURCES OR SINKS DUE TO FLUID INFLOWS OR OUTFLOWS AT POINTS OF SPECIFIED PRESSURE

NODE	SOURCE(+)/SINK(-) (SOLUTE MASS/SECOND)
721	-1.2108936D-07
748	-1.1037474D-06
761	-2.8622707D-07
760	-8.4243324D-07
749	-4.9090361D-06
722	-2.4229298D-06
678	-1.5315199D-05
636	-1.6681568D-05
582	-2.4619524D-06
529	-6.6298255D-07
471	-1.2825985D-07
409	-3.5316368D-08
350	-2.3216825D-10
297	-8.5030759D-10
298	-0.0000000D-01
247	-3.4402263D-11
199	-0.0000000D-01
201	-6.4836495D-15
152	-2.4801672D-15
118	-0.0000000D-01
91	-0.0000000D-01
71	-2.0773333D-19
50	-0.0000000D-01
27	-1.8516184D-18
13	-0.0000000D-01
14	-0.0000000D-01
15	-0.0000000D-01
16	-0.0000000D-01
17	-0.0000000D-01
18	-0.0000000D-01
19	-0.0000000D-01
20	-0.0000000D-01
21	-9.5260605D-26
22	-0.0000000D-01
23	-0.0000000D-01
24	-0.0000000D-01
25	-0.0000000D-01
26	-0.0000000D-01
49	-0.0000000D-01
70	-0.0000000D-01
90	-4.3088246D-19
117	-2.6950940D-18
151	-0.0000000D-01
198	-3.0655560D-14
246	-0.0000000D-01

296	-6.9468056D-11
349	-2.6244526D-10
408	-9.9545391D-10
470	-1.8053713D-09
528	-4.4827653D-09
581	-9.2311381D-09
635	-1.8845275D-08
677	-2.6686473D-08
676	-2.4595758D-07
65	-0.0000000D-01
66	-2.2911549D-21

SOLUTE SOURCES OR SINKS DUE TO SPECIFIED CONCENTRATIONS

NODE	GAIN(+)/LOSS(-) (SOLUTE MASS/SECOND)
328	5.5471275D-04
383	2.4258651D-04
442	7.2559925D-05
441	6.9953396D-05
327	2.3869541D-04
497	9.2046165D-05
498	1.1323526D-04
496	1.6501018D-04
382	1.0189171D-04
273	3.8447268D-04
326	3.2461056D-04
550	-1.0271389D-05
549	2.9295939D-05
601	1.0651817D-05
602	-1.1742050D-04
659	2.0466832D-05
658	1.4442525D-05
657	2.8489215D-05
656	2.7462321D-05
655	2.0917826D-05
654	1.0797126D-05
701	1.4648467D-05
700	1.5799765D-05
653	1.4525559D-05
600	2.5562597D-05
699	1.4783398D-05
652	3.2082782D-05
699	1.4783398D-05
702	2.9092260D-05
660	3.2825734D-05
618	2.3944175D-05
614	7.9655456D-06
616	2.8430802D-05
563	2.6327506D-05
509	6.6475277D-05
510	9.8801360D-05
564	3.3427704D-05
321	5.3178824D-04
320	5.9077684D-04
264	5.8609757D-04
649	3.1748214D-03

*** LAST SOLUTION HAS BEEN STORED ON UNIT 66 ***
1

O B S E R V A T I O N N O D E D A T A

		NODE 225		NODE 498		NODE 508		NODE 599	
TIME STEP	TIME(SEC)	PRESSURE	CONCENTRATION	PRESSURE	CONCENTRATION	PRESSURE	CONCENTRATION	PRESSURE	CONCENTRATION
1	1.00000D+06	2.88323D+01	1.91303D-01	2.86492D+01	3.78868D+00	2.83888D+01	5.06709D-01	2.83390D+01	7.16650D-01

1

OBSERVATION NODE DATA

	NODE 490		NODE 561		NODE 613		NODE 390	
TIME STEP	TIME(SEC)	PRESSURE	CONCENTRATION	PRESSURE	CONCENTRATION	PRESSURE	CONCENTRATION	PRESSURE	CONCENTRATION
1	1.00000D+06	2.83362D+01	1.17519D+00	2.83579D+01	2.26445D-01	2.83054D+01	4.34061D-01	2.85352D+01	4.33762D-02

1

OBSERVATION NODE DATA

	NODE 451		NODE 453		NODE 740		NODE 697	
TIME STEP	TIME(SEC)	PRESSURE	CONCENTRATION	PRESSURE	CONCENTRATION	PRESSURE	CONCENTRATION	PRESSURE	CONCENTRATION
1	1.00000D+06	2.84448D+01	1.29019D-01	2.83759D+01	1.75921D-01	2.76404D+01	4.58178D-01	2.81485D+01	1.15661D+00

1

OBSERVATION NODE DATA

	NODE 595		NODE 542		NODE 733		NODE 514	
TIME STEP	TIME(SEC)	PRESSURE	CONCENTRATION	PRESSURE	CONCENTRATION	PRESSURE	CONCENTRATION	PRESSURE	CONCENTRATION
1	1.00000D+06	2.80579D+01	1.92442D+00	2.80005D+01	4.22062D-01	2.78786D+01	2.00674D+00	2.81817D+01	7.97374D-02

SUTRA SIMULATION TERMINATED AT COMPLETION OF TIME STEPS
***** ********** ********** ** ********** ** **** *****

0.1000000000D+07 0.1000000000D+07 0.1000000000D+07
2.9670350715141D+01 2.9584590038797D+01 2.9831297909249D+01 3.0146177044510D+01
3.0634966092546D+01 3.1067407197155D+01 3.1495150705664D+01 3.1551907634557D+01
3.1318513362401D+01 3.0972586798766D+01 3.0241321032874D+01 2.9989893708419D+01
2.8795914895988D+01 2.7617048622187D+01 2.6462015286556D+01 2.5703630291445D+01
2.5769390673851D+01 2.5698940985081D+01 2.5601607351663D+01 2.5609953477254D+01
2.5945597465891D+01 2.6130387286703D+01 2.6342986719376D+01 2.6492318330645D+01
2.6672693120640D+01 2.6701177083645D+01 2.8753128233084D+01 2.9330877136153D+01
2.9699312871858D+01 3.0104057225508D+01 3.0429932078636D+01 3.0781579159815D+01
3.1209440426587D+01 3.1351337713263D+01 3.1377314727742D+01 3.0968382368872D+01
3.1130908335476D+01 3.0978991284500D+01 3.0290686010706D+01 2.9742539121880D+01
3.0171936586254D+01 2.8132336165246D+01 2.7457813875203D+01 2.6789142622527D+01
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APPENDIX F
1992 REMOVAL ACTION
SAMPLE LOCATION MAPS

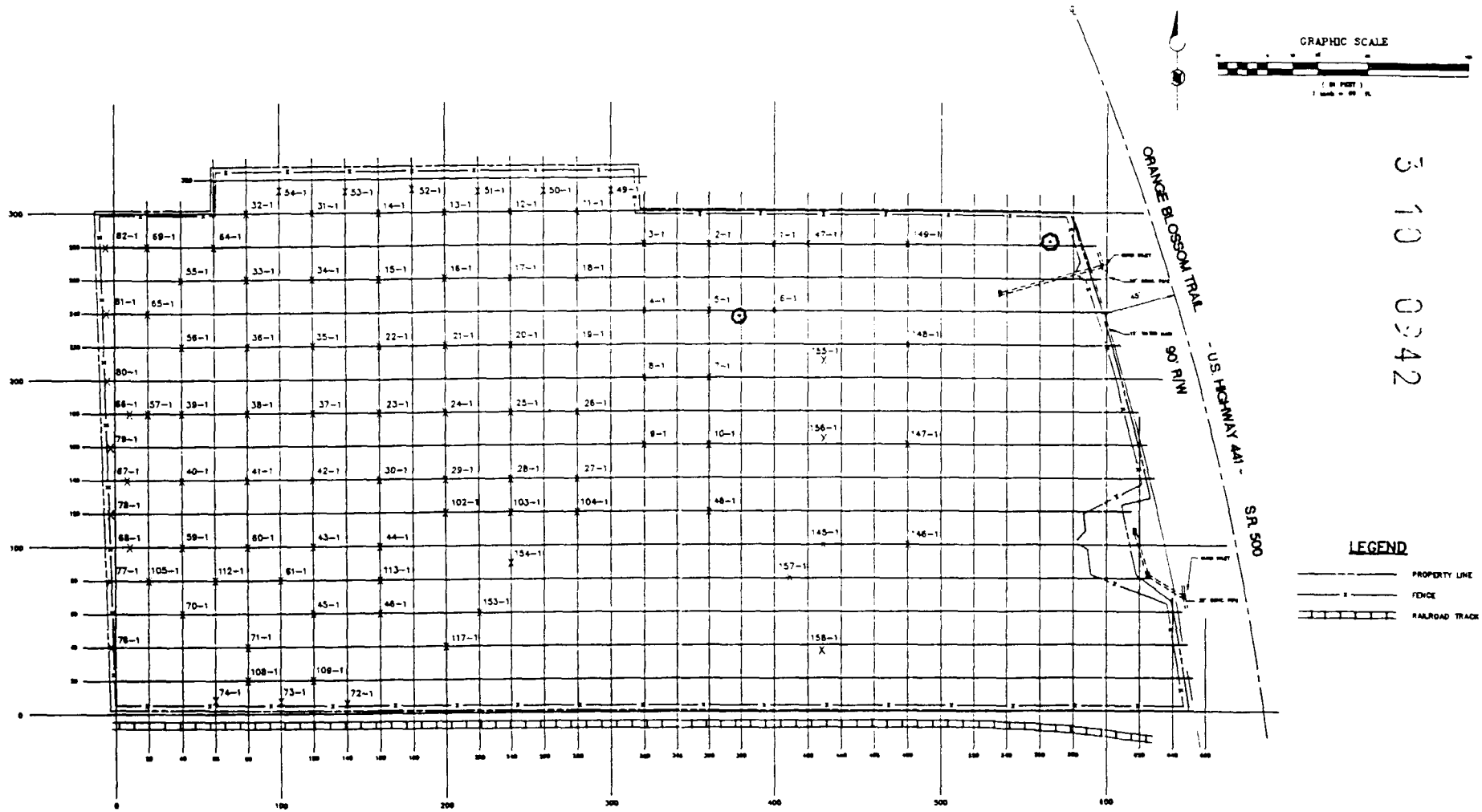

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Figure E-1
Sample Locations for RA Samples
O'-1' Deep

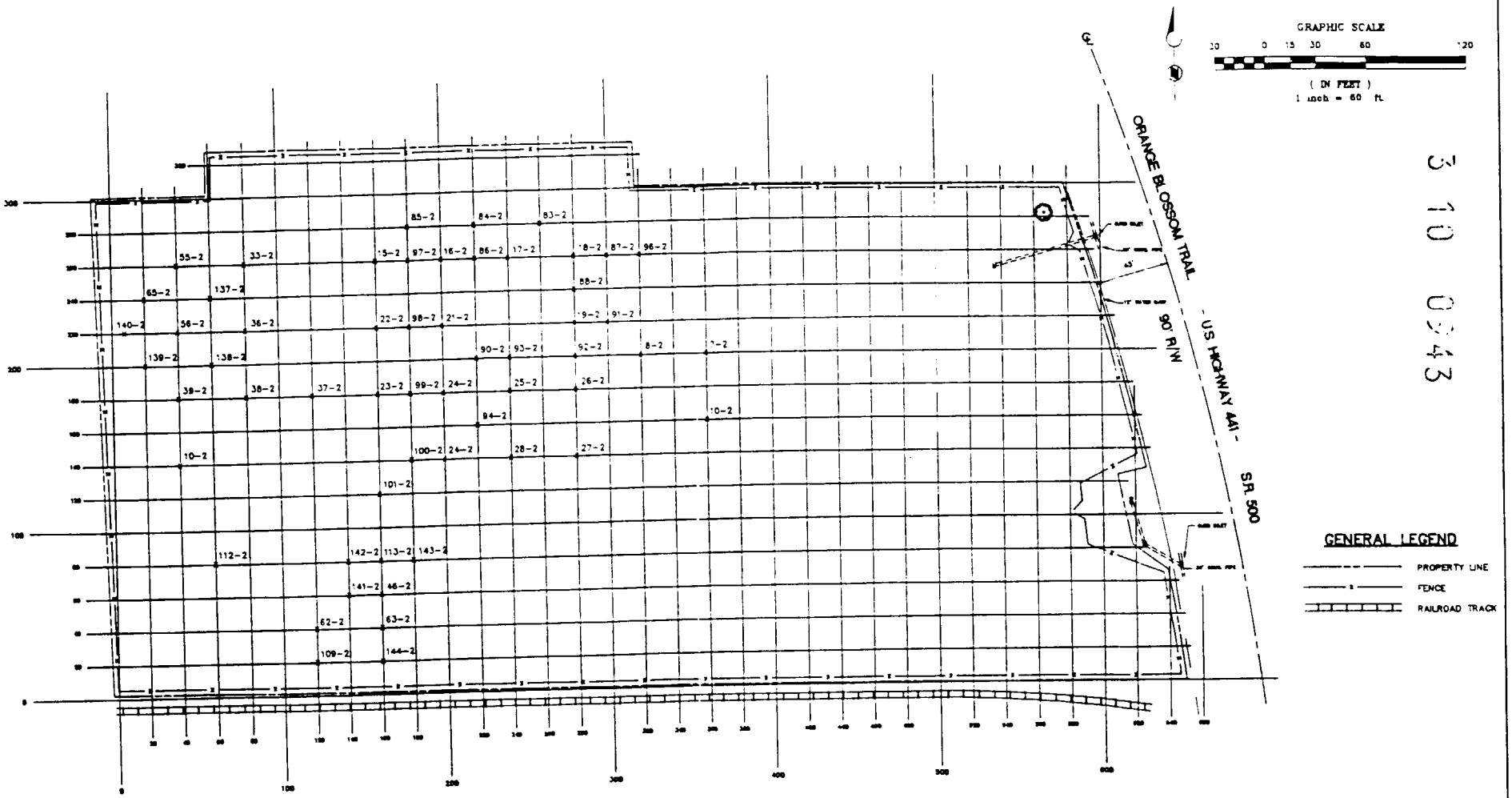

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Figure E-2
Sample Locations for RA Samples
1'-2' Deep

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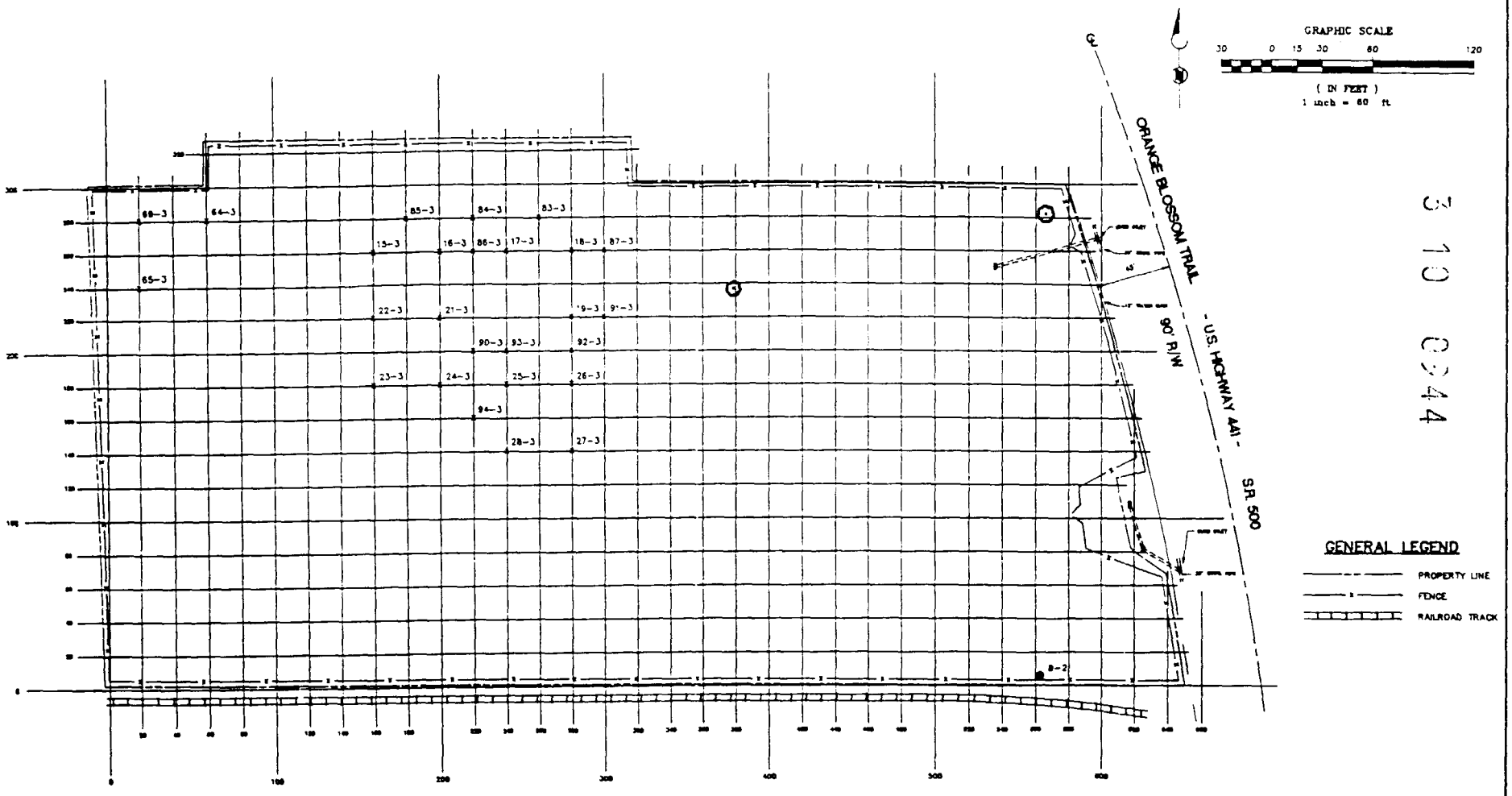

Brown and Caldwell Consultants

Figure E-3
Sample Locations for RA Samples
2'-3' Deep

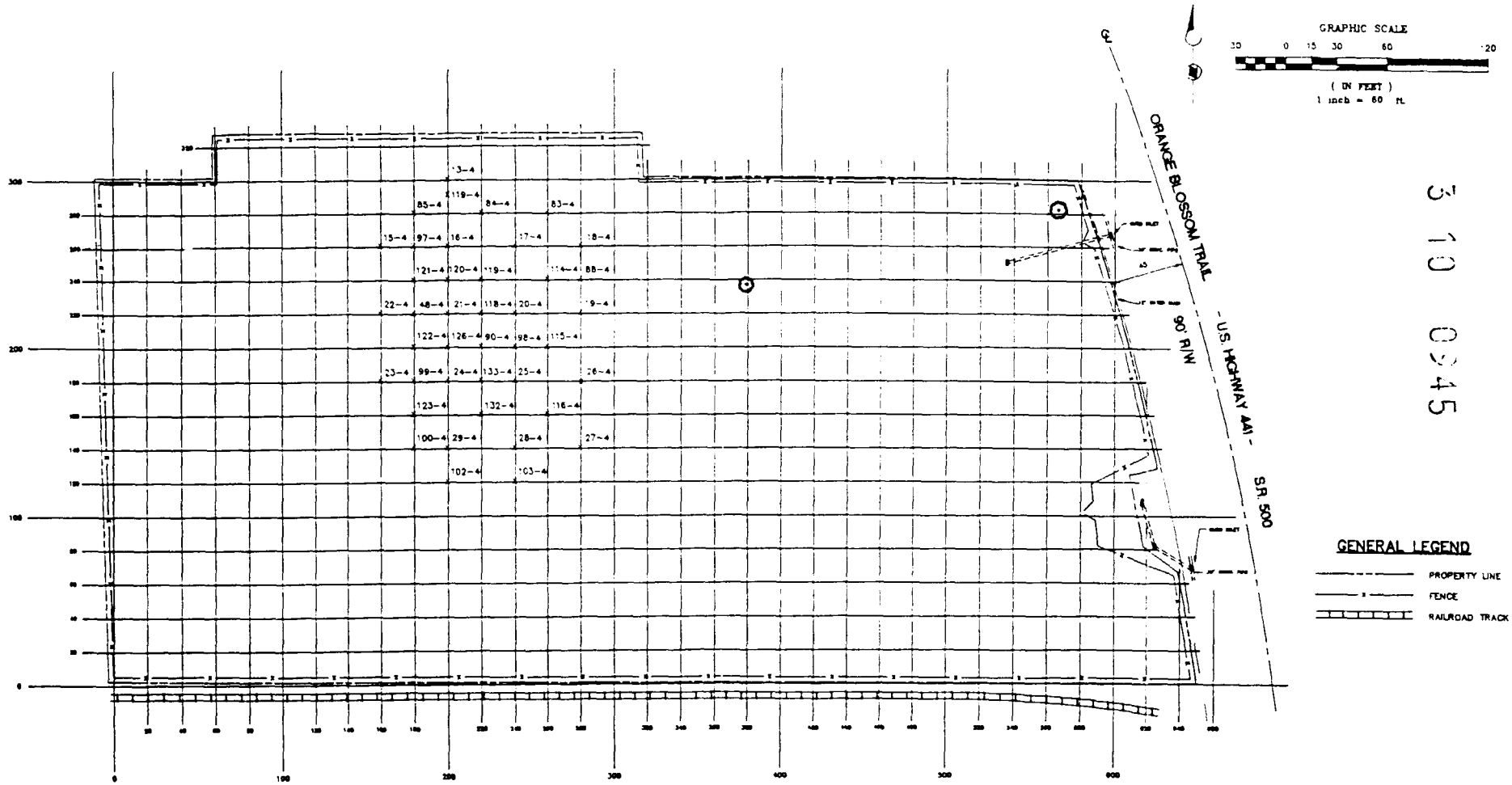

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Figure E-4
Sample Locations for RA Samples
3'-4' Deep

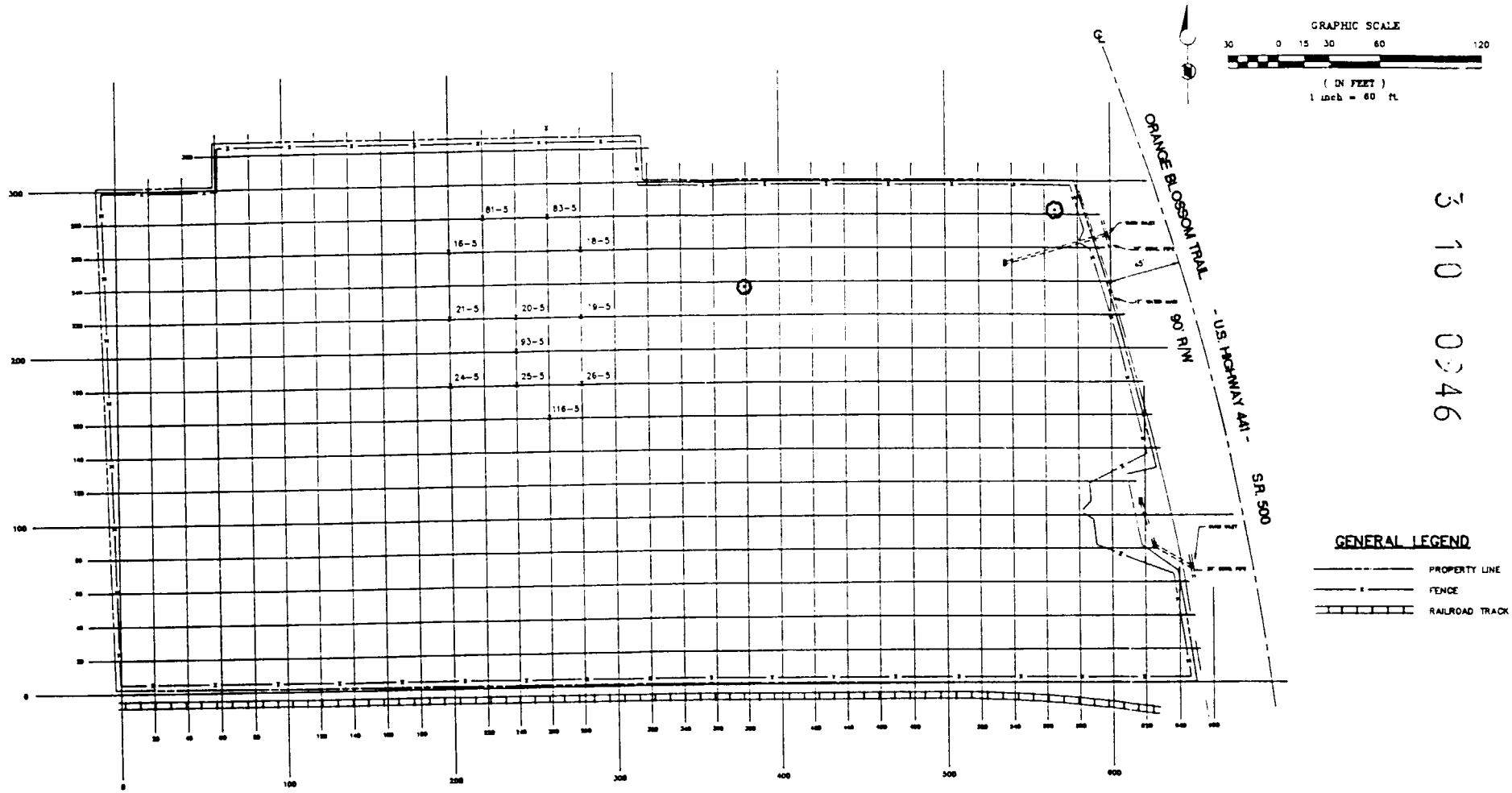

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Figure E-5
Sample Locations for RA Samples
4'-5' Deep

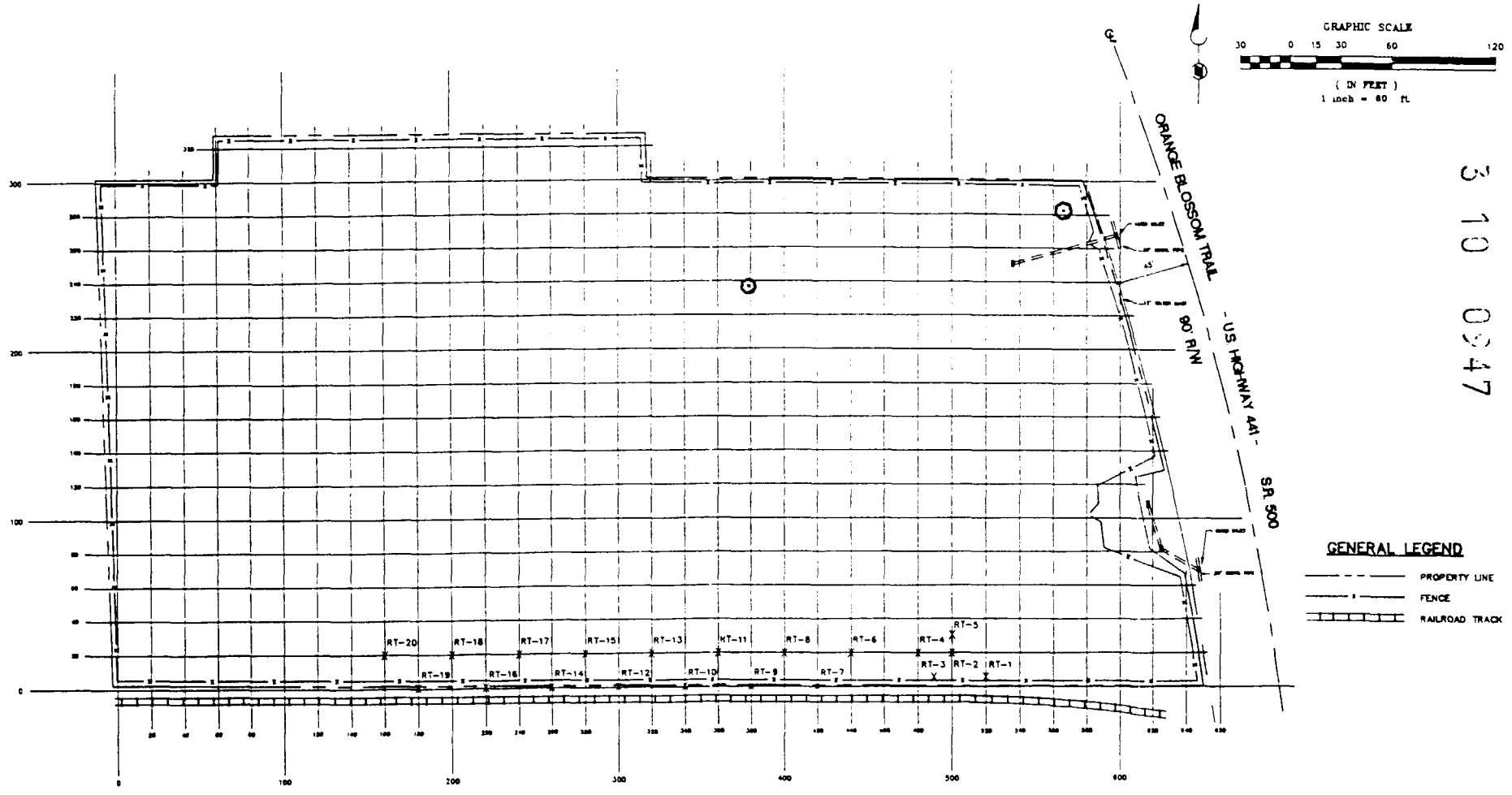

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Figure E-6
Sample Locations for RT Samples
0'-1' Deep

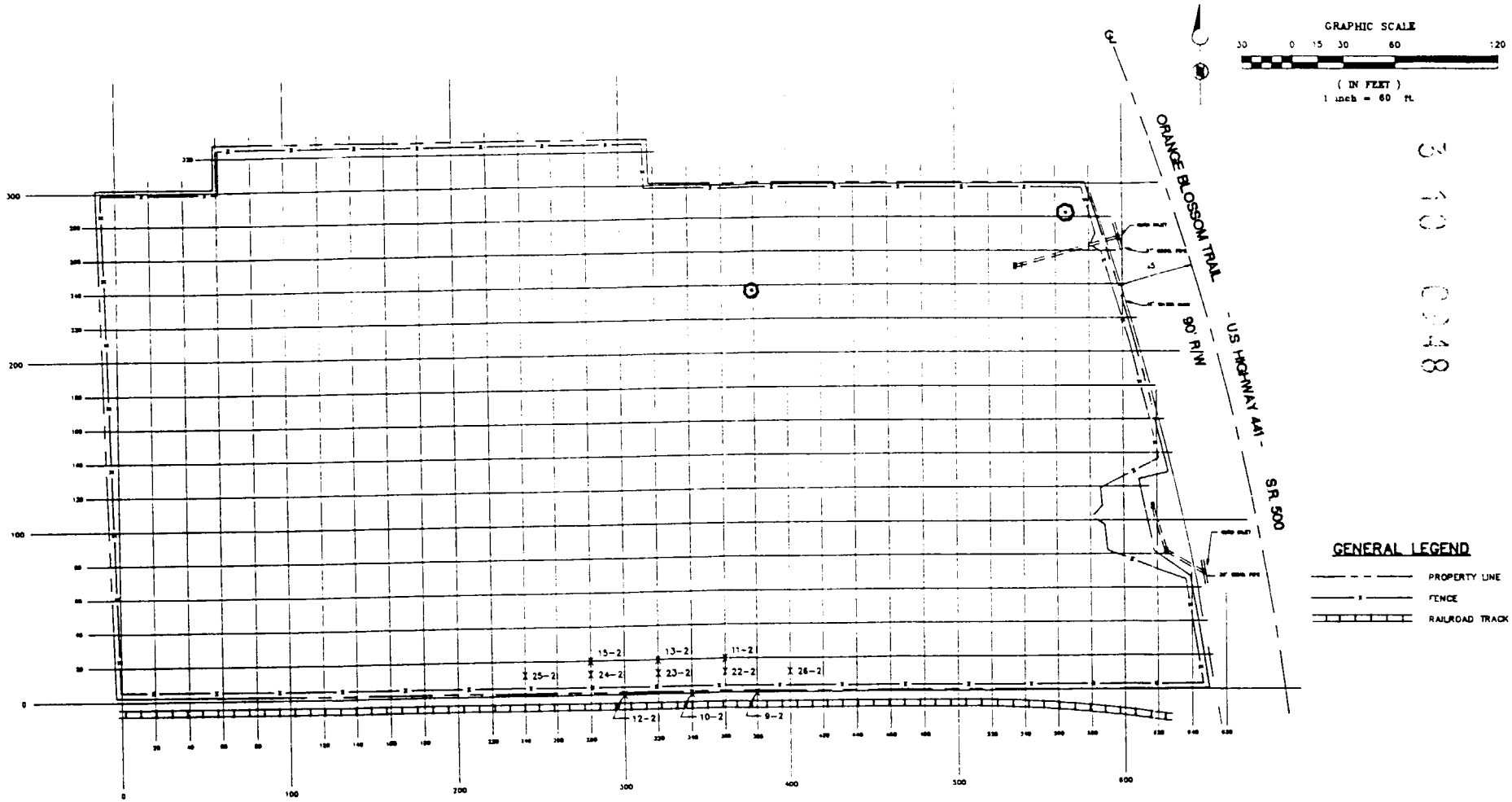

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Figure E-7
Sample Locations for RT Samples
1'-2' Deep

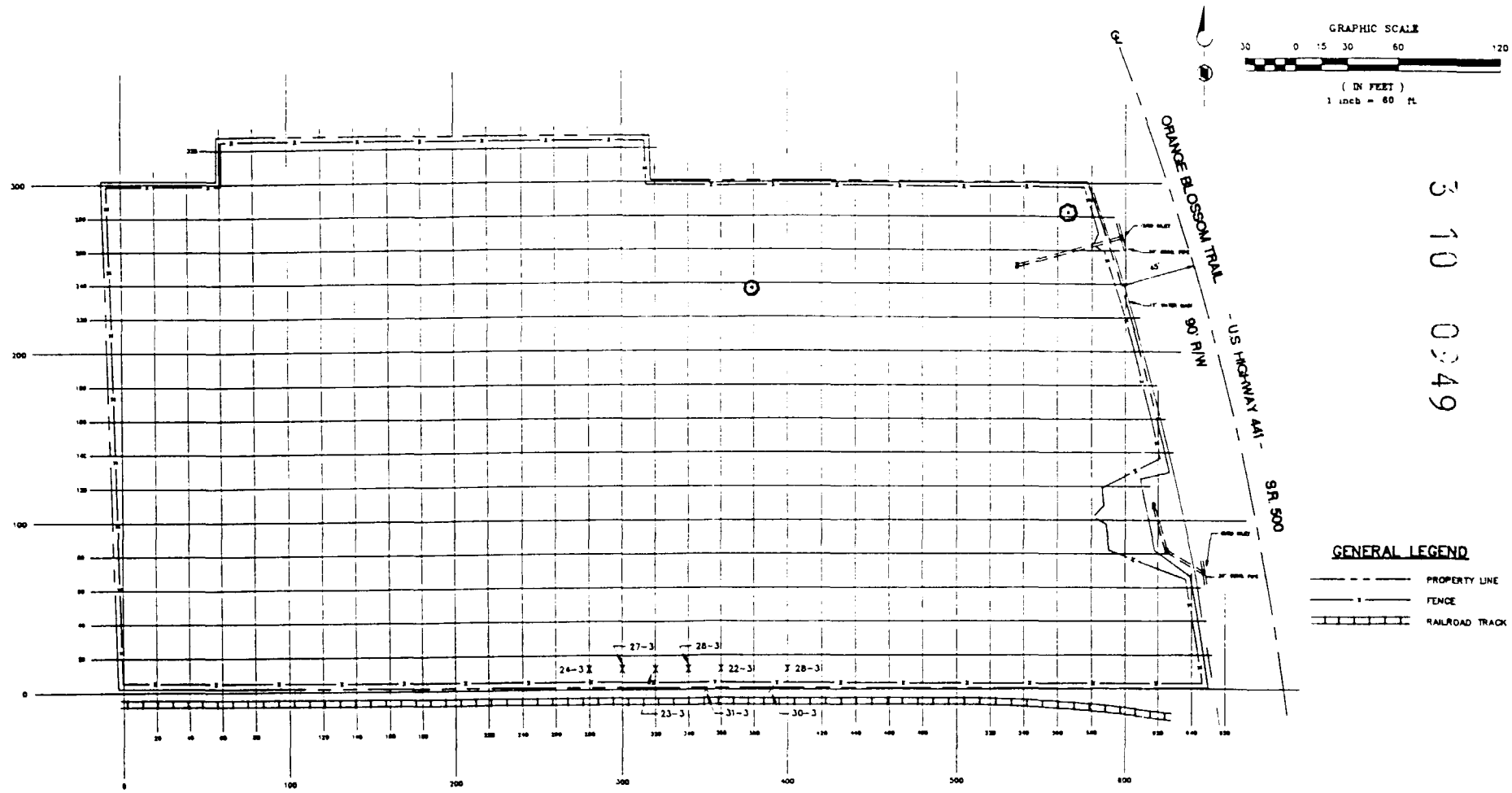

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Figure E-8
Sample Locations for RT Samples
2'-3' Deep

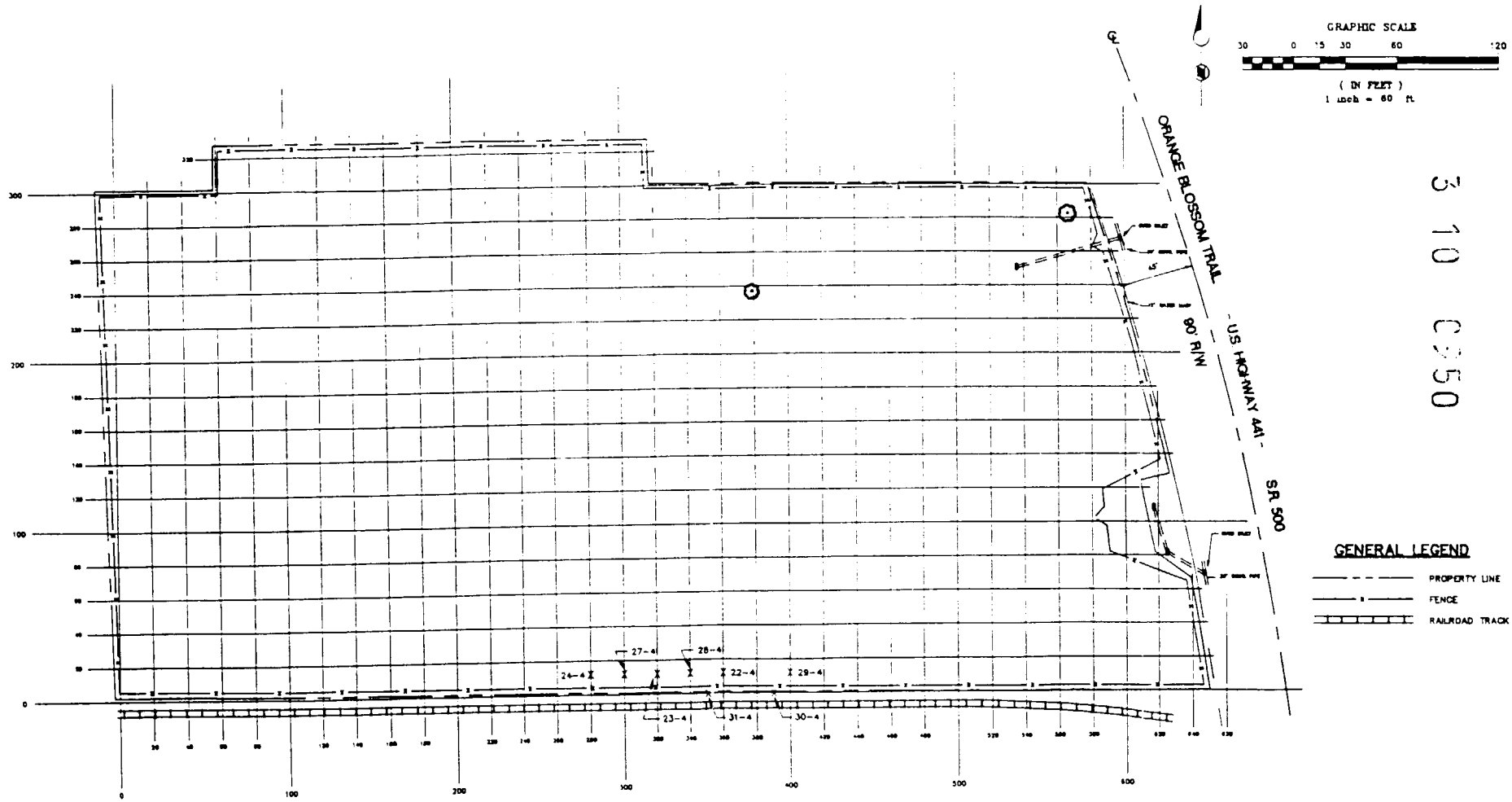

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Figure E-9
Sample Locations for RT Samples
3'-4' Deep

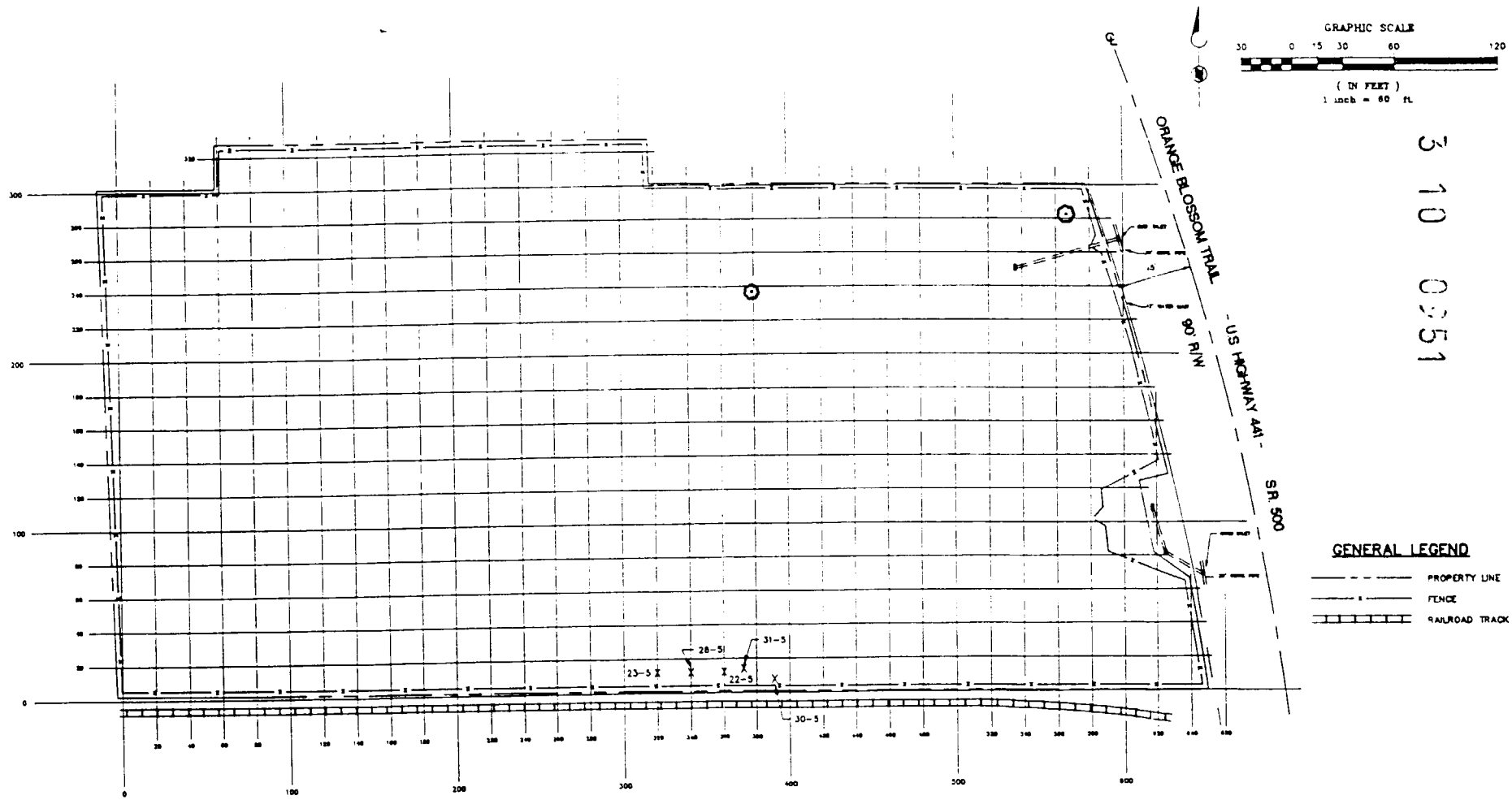

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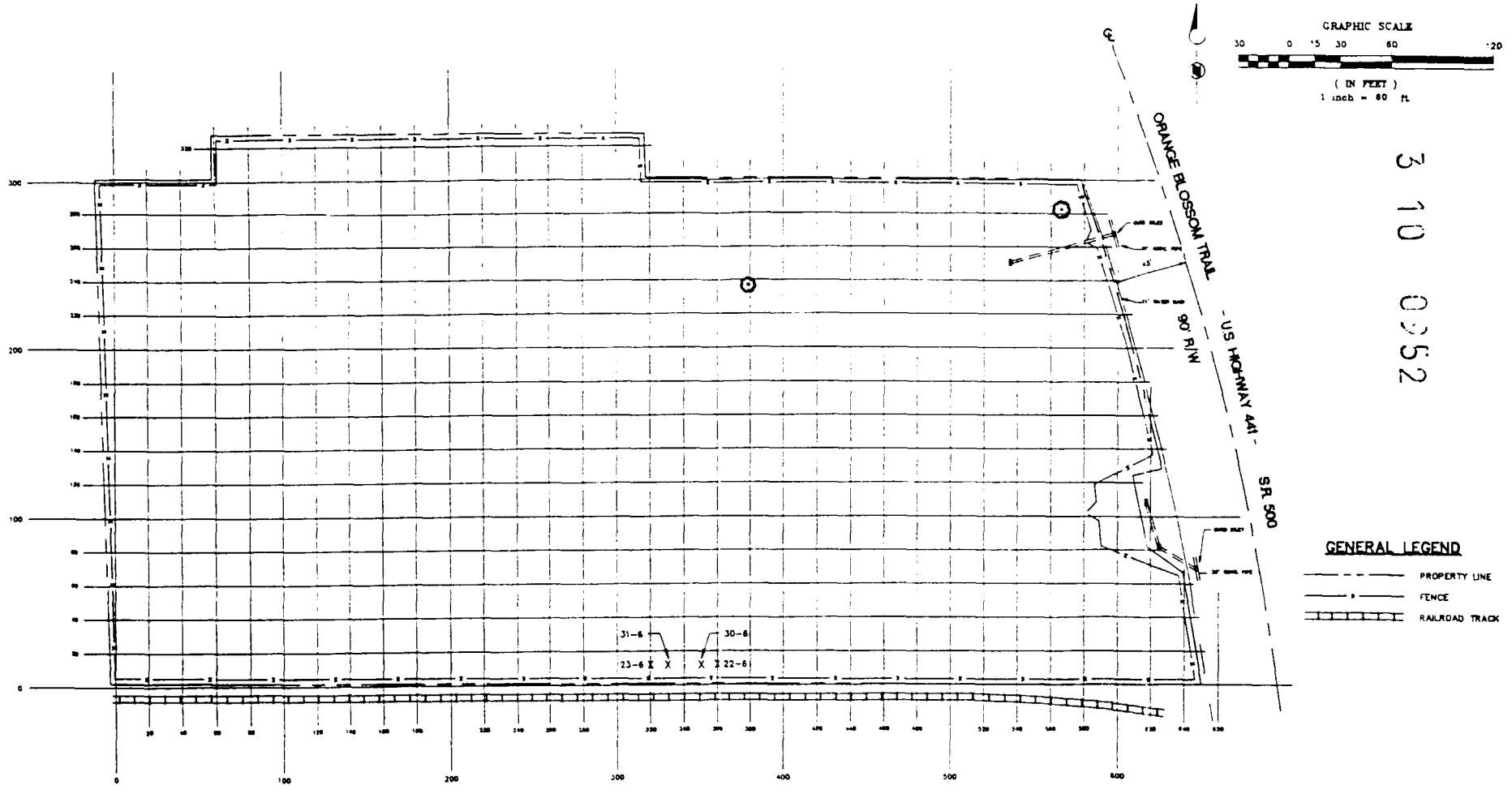
Figure E-10
Sample Locations for RT Samples
4'-5' Deep



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Consultants

Figure E-11
Sample Locations for RT Sampless
5'-6' Deep

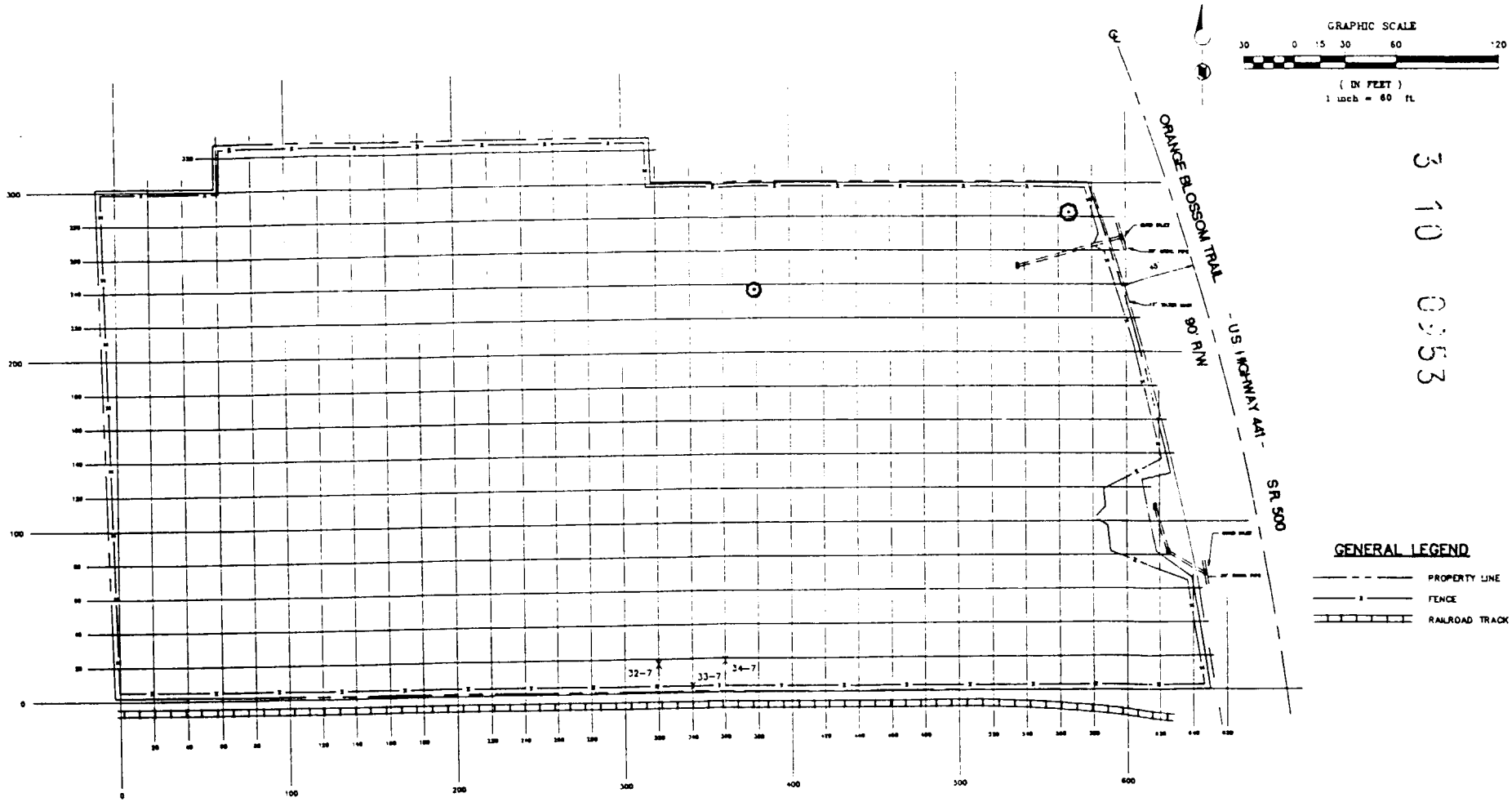

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Figure E-12
Sample Locations for RT Samples
6'-7' Deep

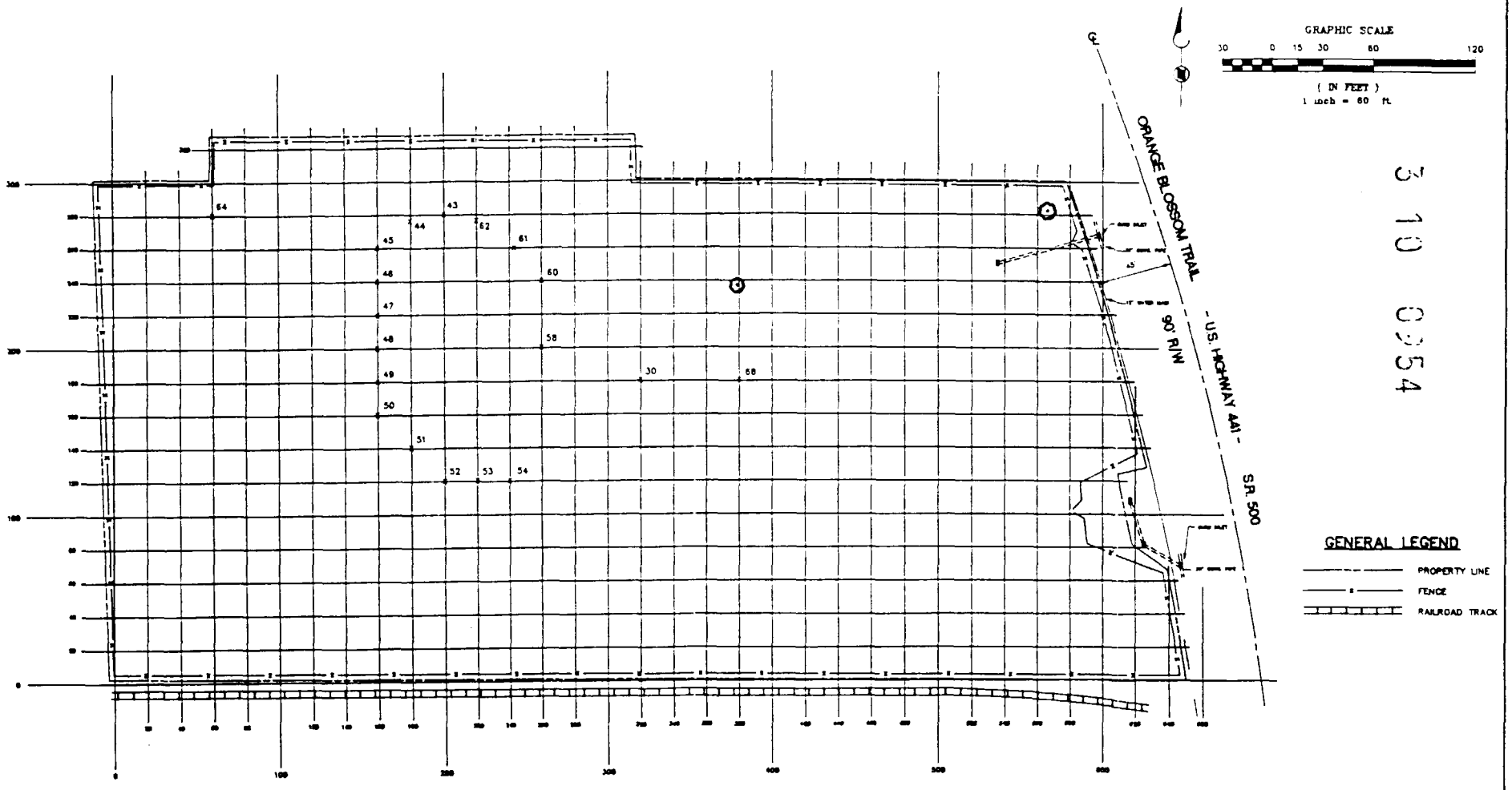

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Figure E-13
EC Screening Samples
4'-6' and 6'-8'

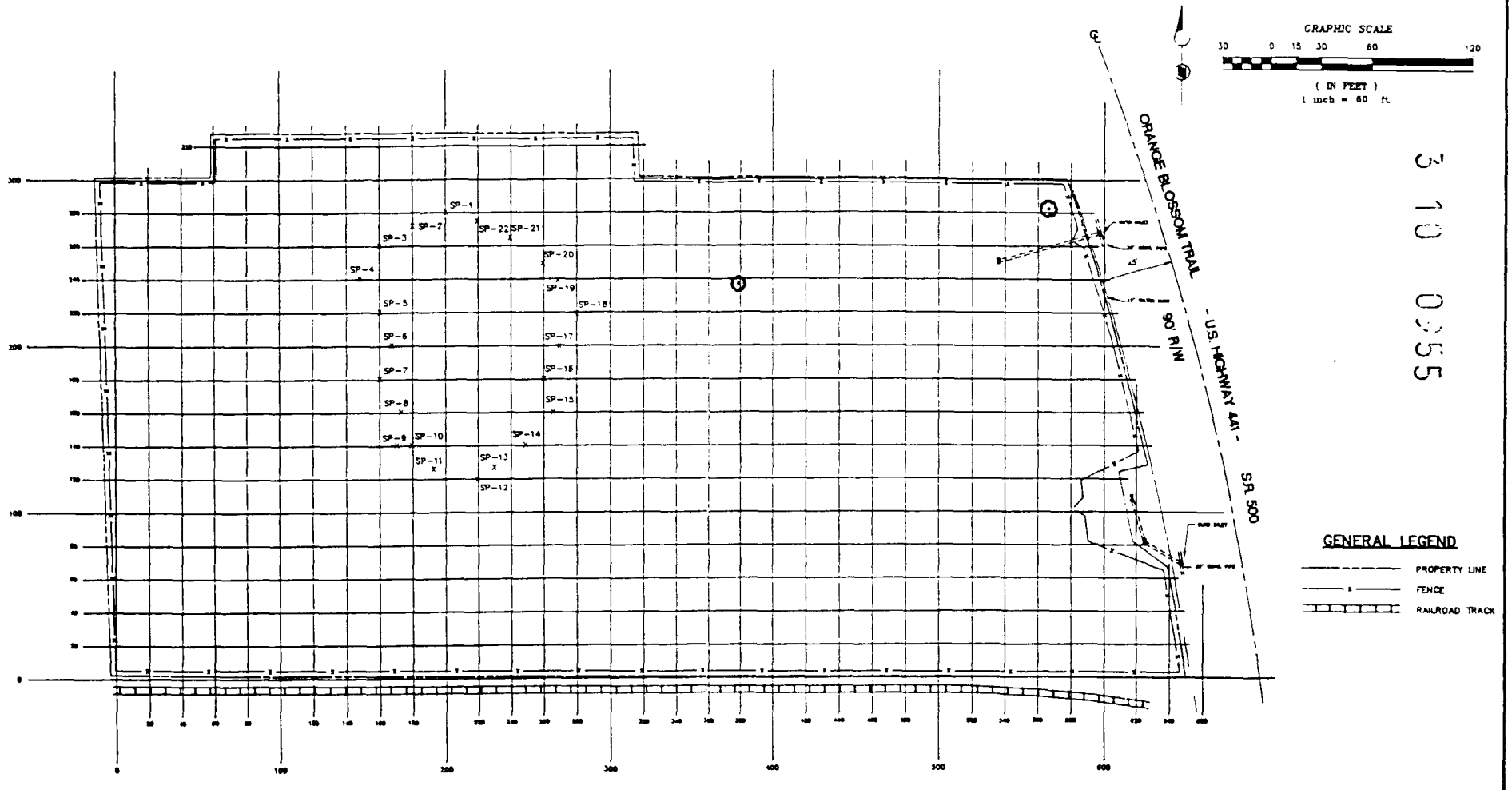

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Figure E-14
SP Samples
Taken at 4'

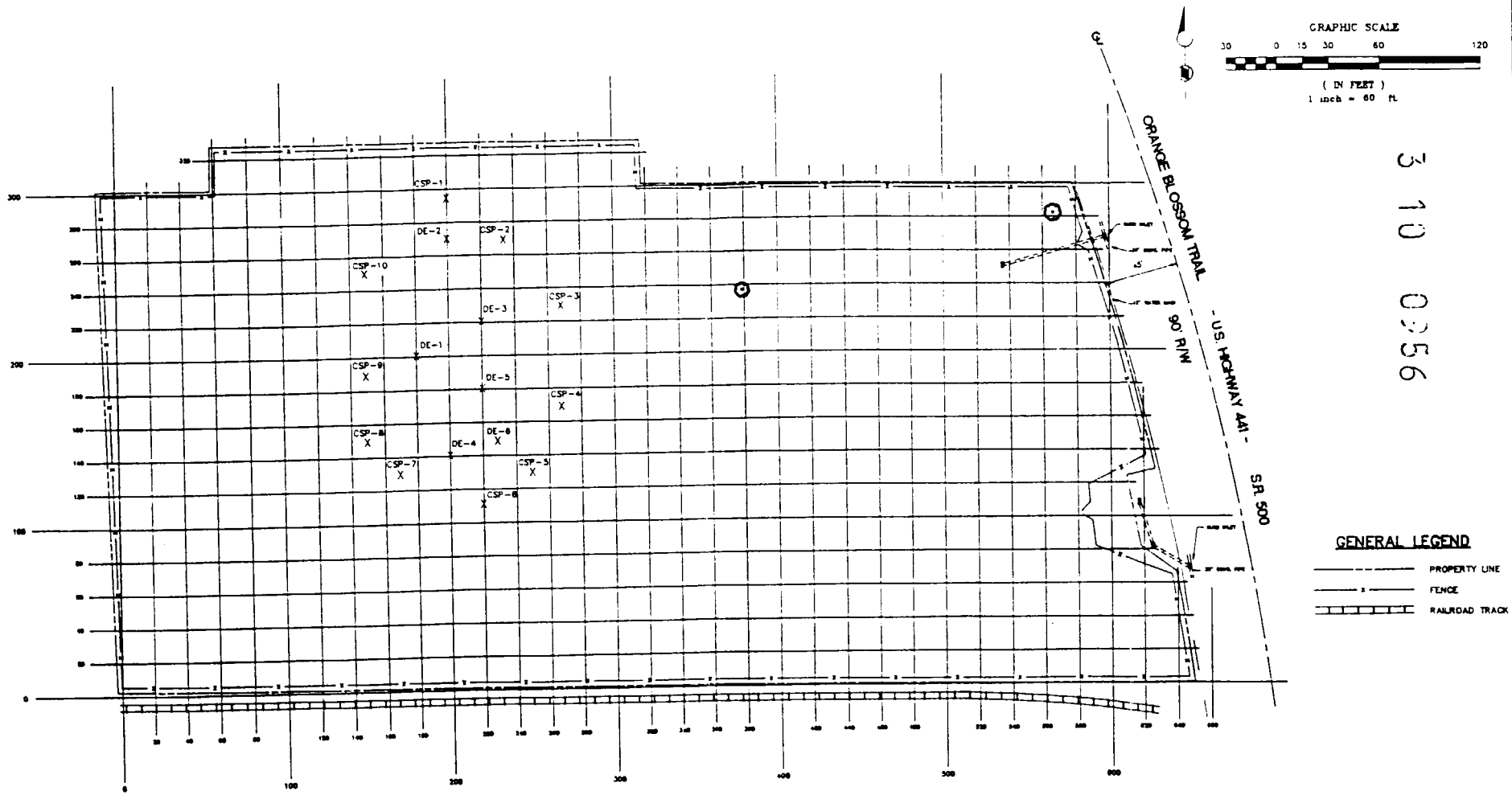

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Figure E-15
CSP and DE Samples

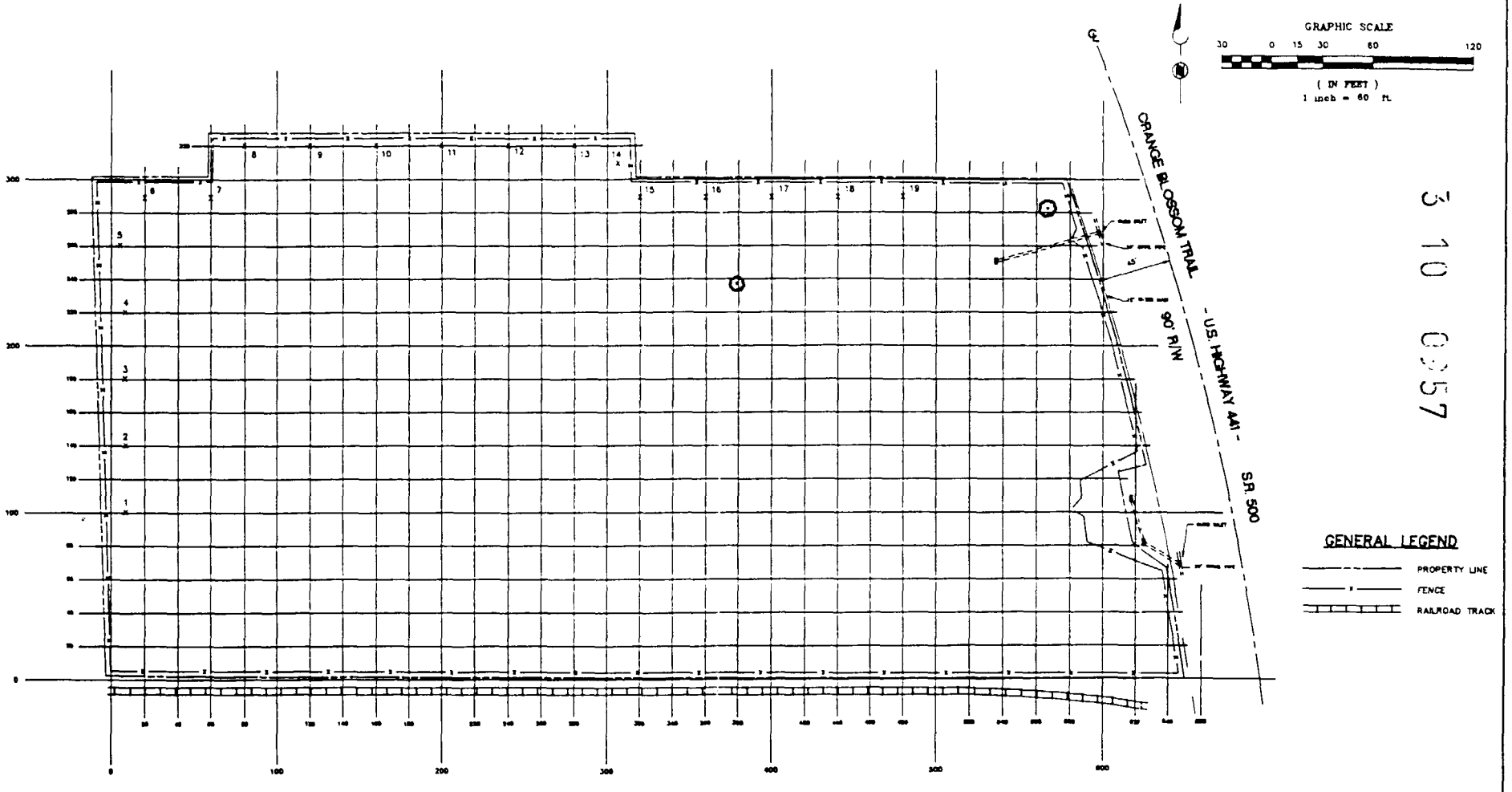

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Figure E-16
Berm Samples

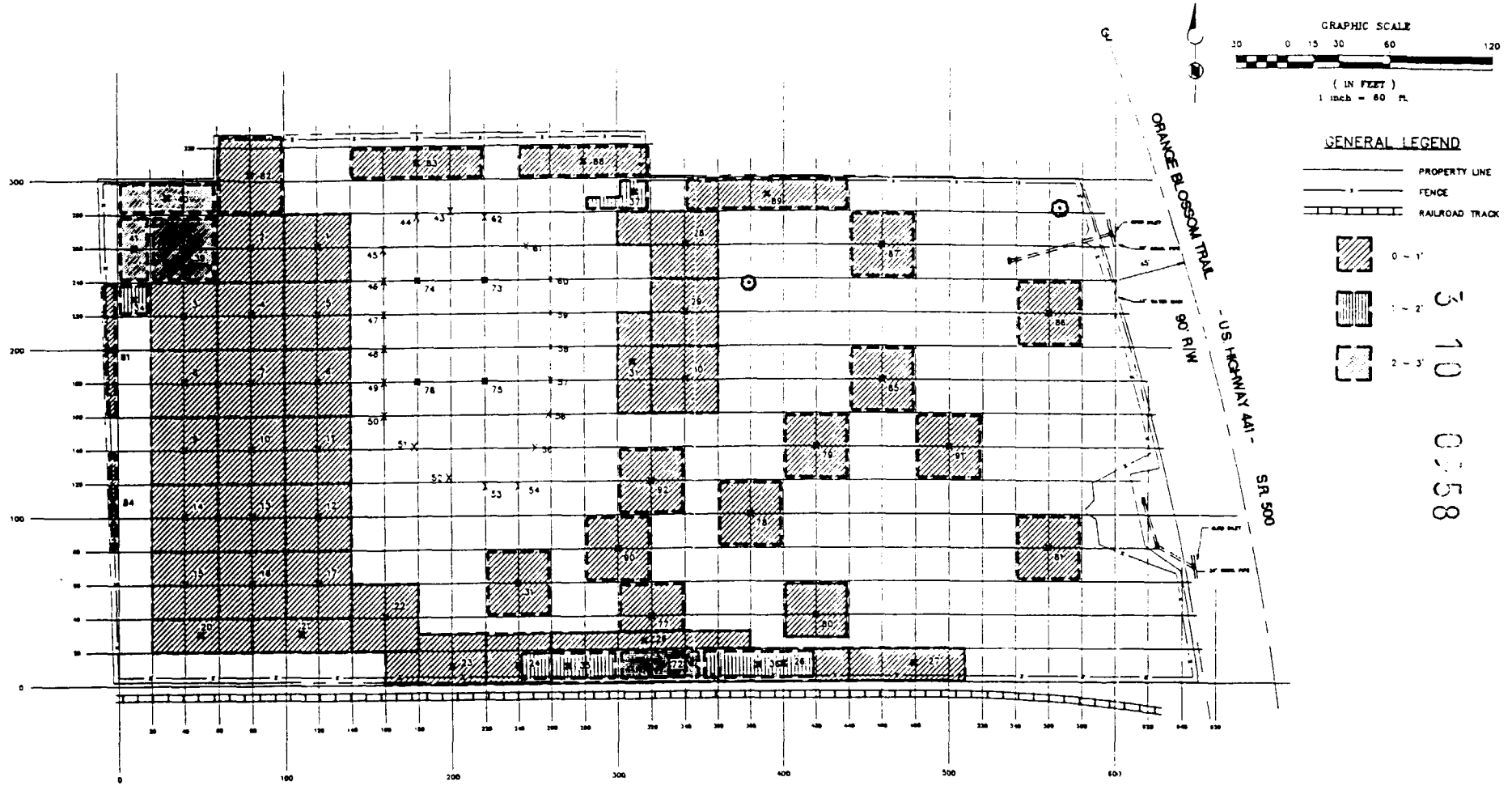

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Figure E-17
Confirmation Samples

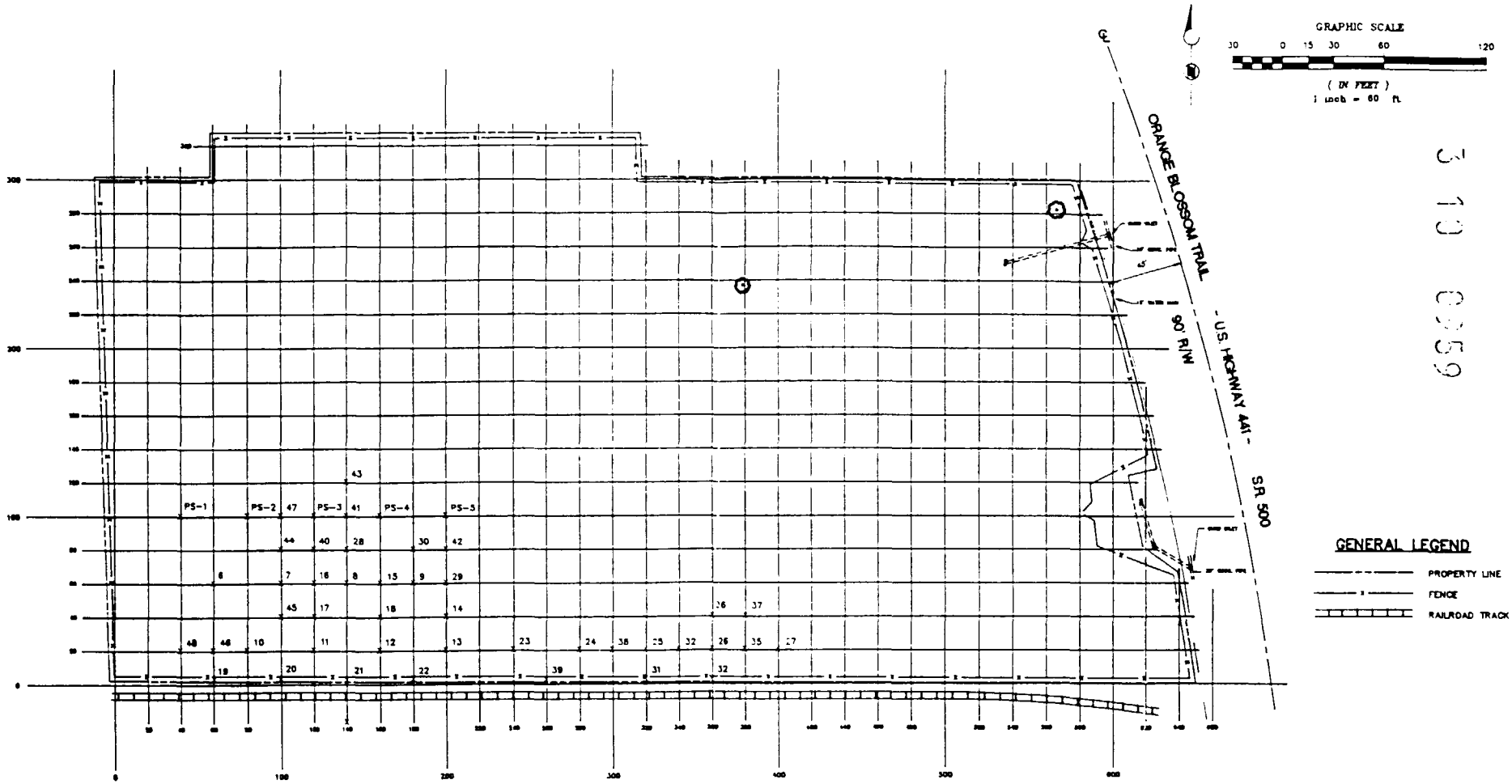

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Figure E-18
Petroleum Screening Samples