

## REPORT OF MONITORING WELL W-1

DRAWN BY: LGR | CHECKED BY: | PROJECT NO: 82C2467 | DATE: 9/26/83 | FIGURE NO:

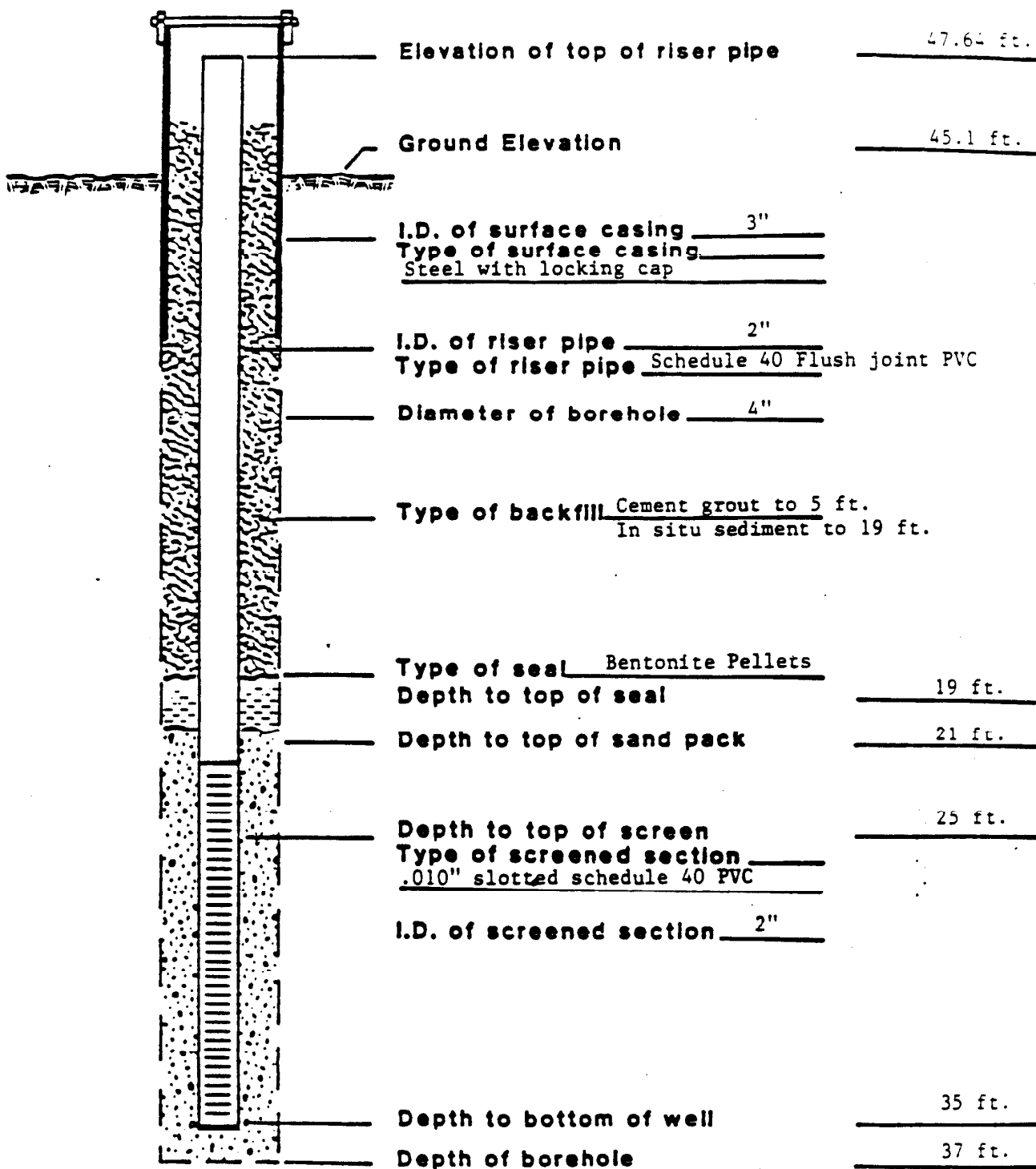
WOODWARD-CLYDE CONSULTANTS  
CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

# LOG of BORING No. W-1

DATE 8/18/83 SURFACE ELEVATION 45.0 LOCATION See Plate

DEPTH, ft.	SAMPLES	(1) SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	(IVA Soil (ppm)
0		2	Brown to tan fine Sand, trace of gravel, trace of of organics (FILL)		1
5		2			200
		3 (2)	- becoming black		300
10		30 (3)	Brown fine Sand, trace of mica	35.0	12
		16			3
15		12	- becoming gray with trace of medium Sand and trace of silt.		< 1
20		19			8
25		26			90
30		40	- red-brown fine sand seams		65
35		27		9.0	3
40		30	Grey gravelly coarse to medium Sand, trace of mica		-
		-	(1) 3 1/2-inch O.D. split spoon sampler driven with 300-lb. hammer. (2) Offset approximately 4 feet east of original borehole due to obstruction.	.5	3
45		-	(3) Second offset approximately 20 feet east of original borehole.		

Completion Depth 44.5 Feet Water Depth 2.64 Feet Date 11/17/83  
 Project Name BEATRICE Project Number 82 C 2467



## REPORT OF MONITORING WELL SW-1

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WOODWARD-CLYDE CONSULTANTS

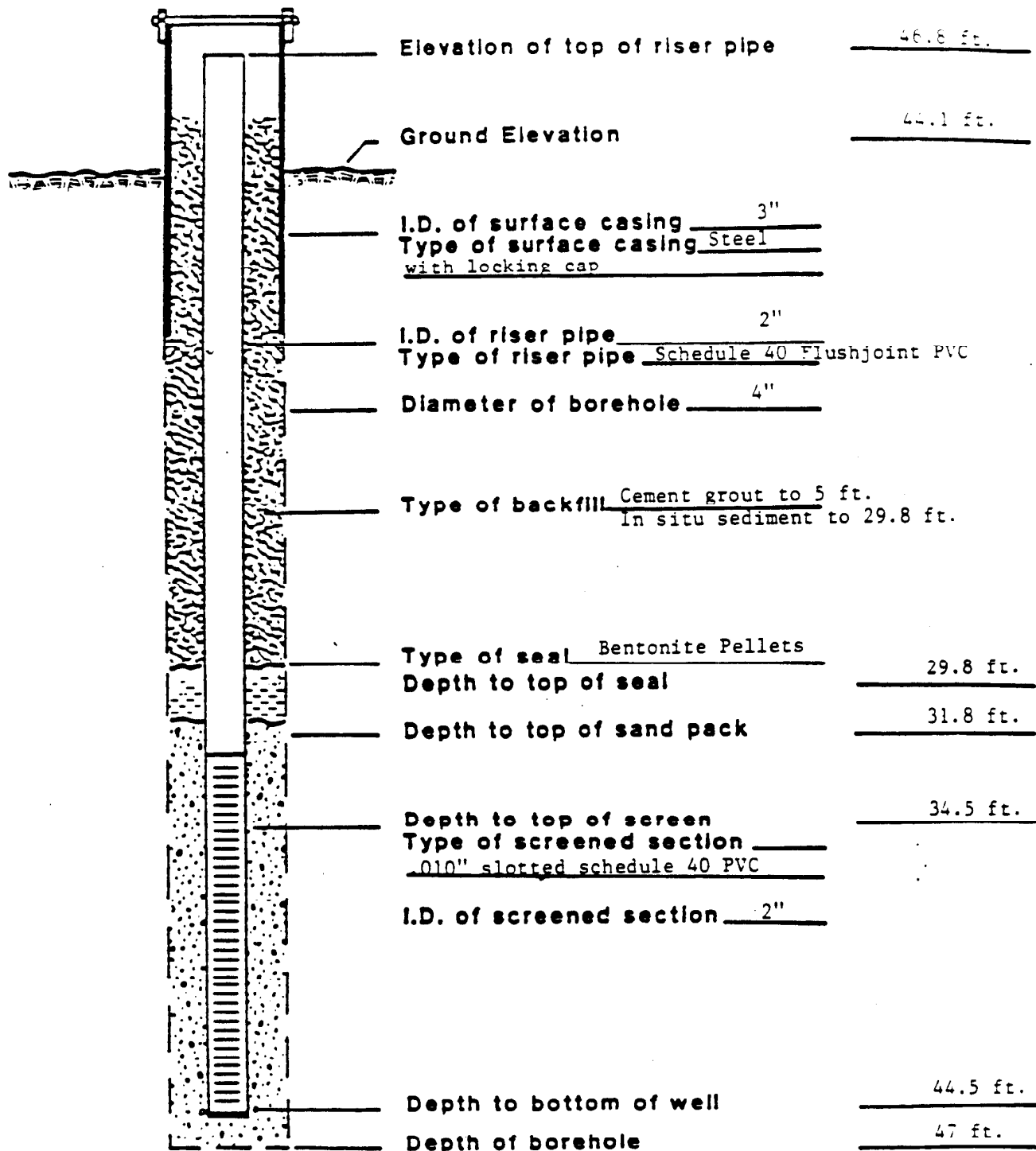
CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTIST

# LOG of BORING No.SW-1

DATE 8/31/83 SURFACE ELEVATION 45.1 LOCATION See Plate

DEPTH, ft.	SAMPLES	(1) SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	SWA Soil (ppm)
0			(See log of W-1 for 0-25 feet)		
5					
10					
15					
20					
25				20.1	
			Tan to orange fine Sand, with silt seams		2.5
30			- trace of oxides		7
				11.6	
35			Tan coarse to fine Sand, trace of gravel		4
				8.1	
			(1) 3/4-inch O.D. split spoon sampler driven with 300-lb hammer.		

Completion Depth 37 Feet Water Depth 3.11 Feet Date 11/17/83  
 Project Name BEATRICE Project Number 82 C 2467



## REPORT OF MONITORING WELL W-2

DRAWN BY: \_\_\_\_\_ CHECKED BY: \_\_\_\_\_ PROJECT NO: 82C2467 DATE: 9/26/83 FIGURE NO: \_\_\_\_\_

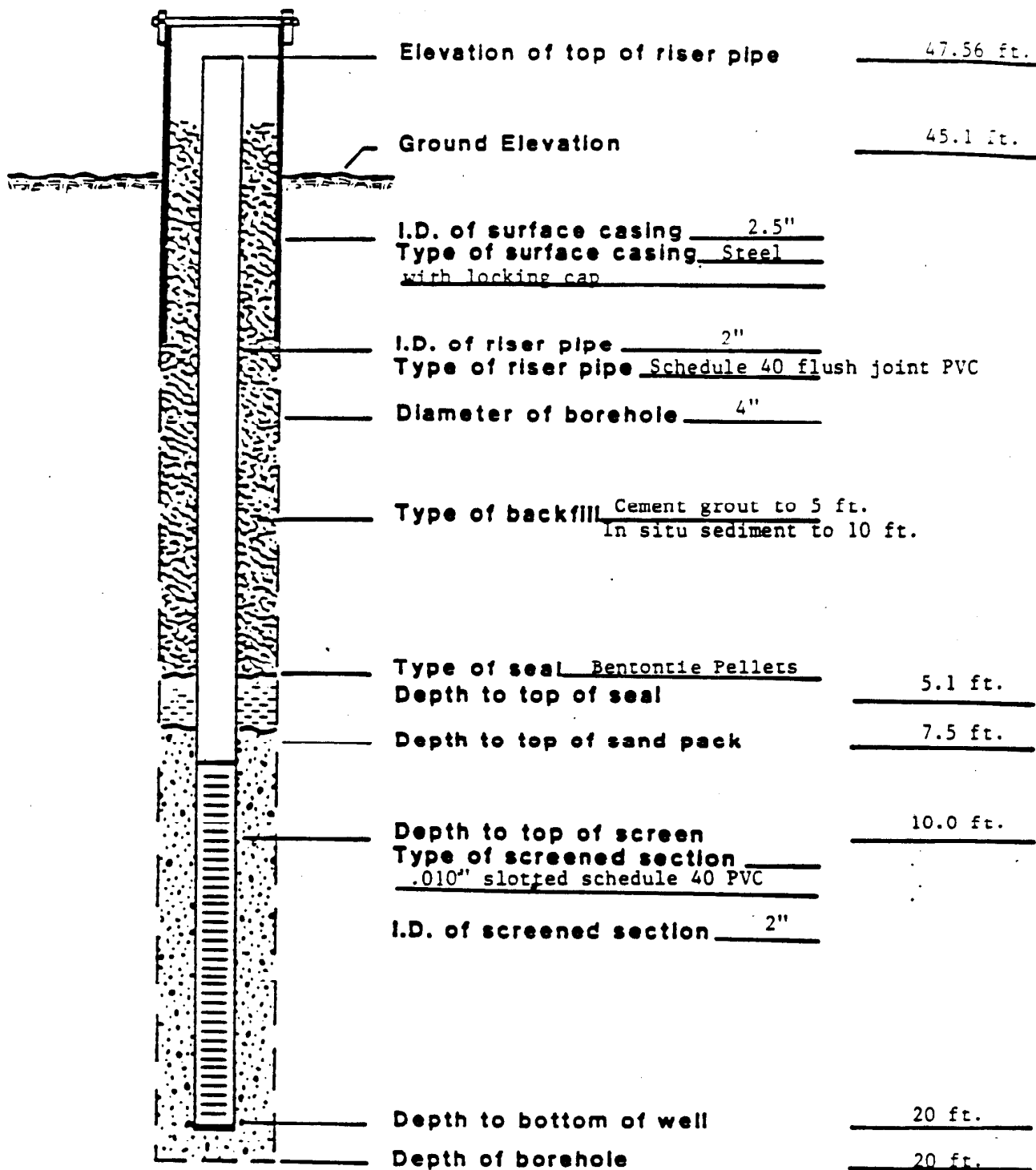
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 CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

# LOG of BORING No. W-2

DATE 8/19/83 SURFACE ELEVATION 44.1 LOCATION See Plate

DEPTH, ft.	SAMPLES	(1) SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	QVA Soil (ppm)
0		3	Black organic, silty, fine Sand	37.6	<1
5		19	Grey to tan medium to fine Sand, trace of mica		<1
10		13			<1
15		9			<1
20		14			<1
25		25	Brown coarse to medium sandy Gravel	15.6	<1
30		25			1
35		42			1
40		52			ND
45		14	(1) 3 1/2-inch O.D. split spoon sampler driven with 300-lb hammer	-2.9	1

Completion Depth 47 Feet Water Depth 5.27 Feet Date 11/17/83  
 Project Name BEATRICE Project Number 82 C 2467



## REPORT OF MONITORING WELL SW-2

DRAWN BY: LGR | CHECKED BY: | PROJECT NO: 82C2467 | DATE: 9/26/83 | FIGURE NO

WOODWARD-CLYDE CONSULTANTS  
 CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

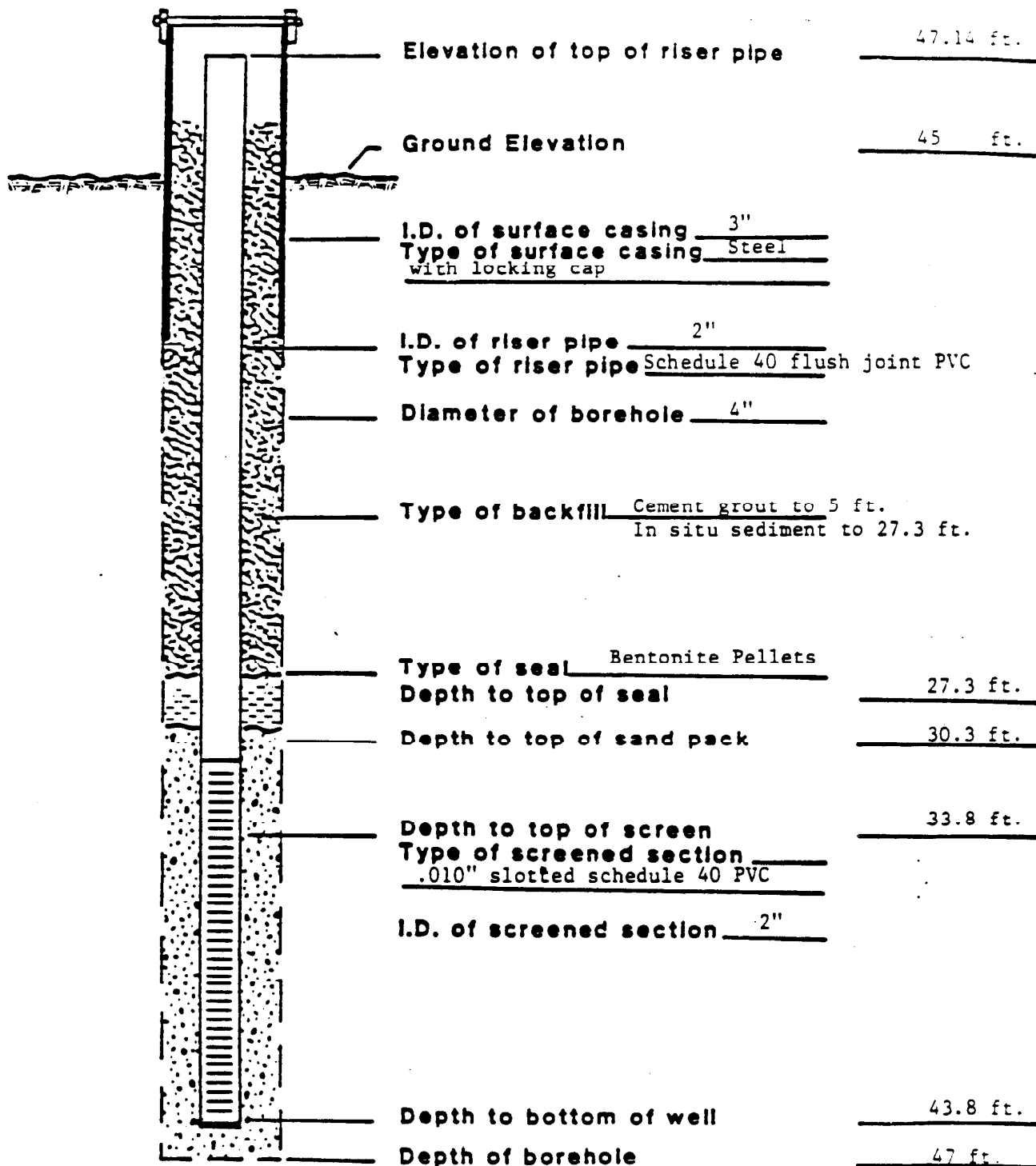
# LOG of BORING No.SW

DATE 8/30/83 SURFACE ELEVATION 45.1 LOCATION See Plate

DEPTH, ft.	SAMPLES	(1) SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	QVA Soil (ppm)
0					
5		23	Tan fine Sand, trace of mica		<1
		30			<1
		18	- with medium Sand		<1
10		11			<1
15		10			<1
20		8	- trace of gravel	23.1	<1
			(1) 3-1/2 inch O.D. split spoon sampler driven with 300 lb. hammer		

Completion Depth 20 Feet Water Depth 4.42 Feet Date 11/17/83  
 Project Name BEATRICE Project Number 82 C 2467





## REPORT OF MONITORING WELL W-3

DRAWN BY: LGR    CHECKED BY:    PROJECT NO: 82C2467    DATE: 9/26/83    FIGURE NO

WOODWARD-CLYDE CONSULTANTS

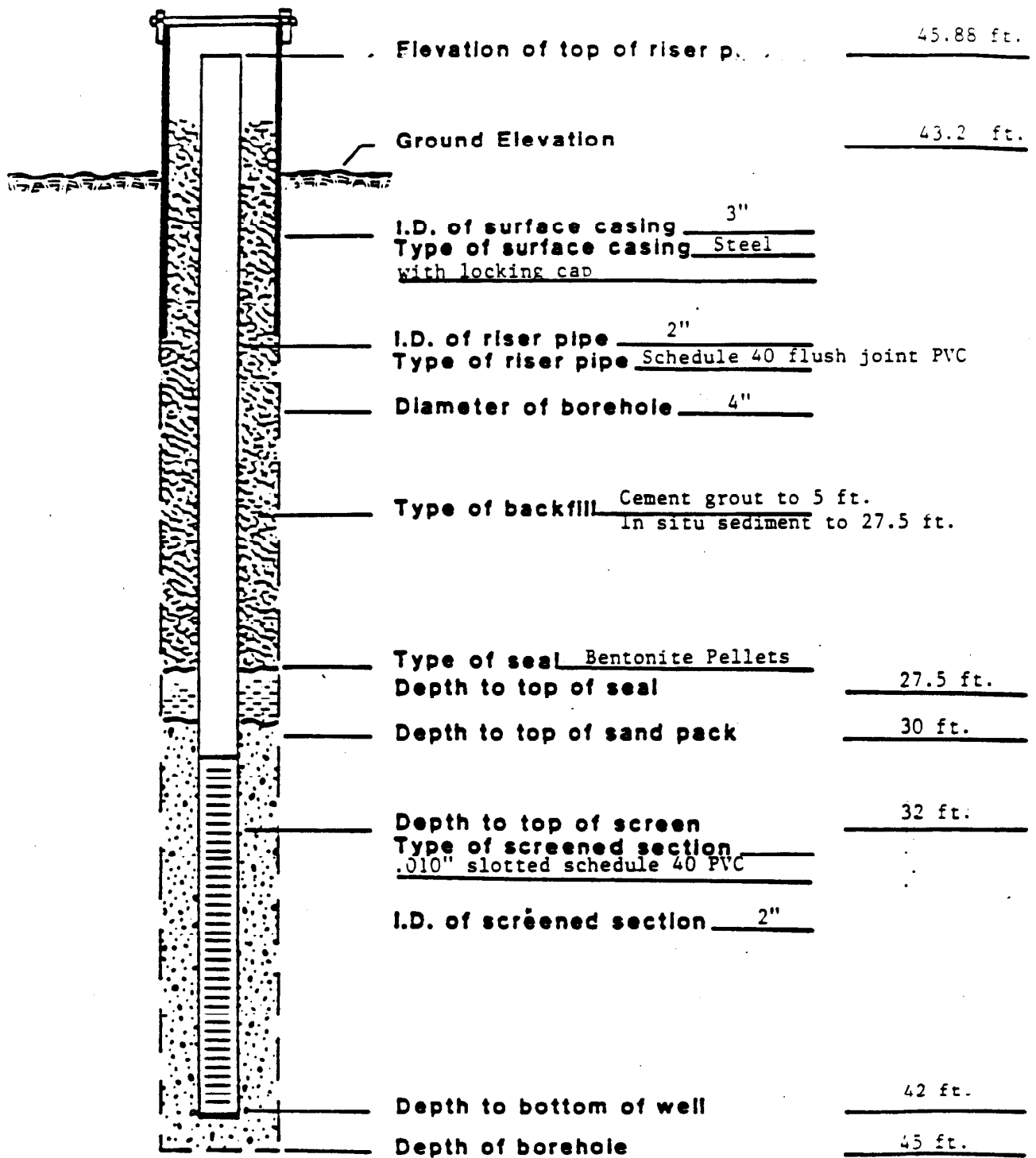
CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

# LOG of BORING No. W-3

DATE 8/26/83 SURFACE ELEVATION 45.0 LOCATION See Plate

DEPTH, ft.	SAMPLES	(1) SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	OWA Soil (ppm)
5		38	Brown fine Sand, trace of silt, trace of mica		1.5
10		13			< 1
15		20	- becoming grey with trace of medium Sand		ND
20		8			2
25		20		16.5	-
30		20	Grey coarse to fine sandy Gravel, trace of mica		1
35		14			-
40		50			< 1
45		23	(1) 3½-inch O.D. split spoon sampler driven with 300-lb. hammer.	-2.0	1

Completion Depth 47 Feet Water Depth 8.66 Feet Date 11/17/83  
 Project Name BEATRICE Project Number 82 C 2467



## REPORT OF MONITORING WELL W-4

DRAWN BY: LGR | CHECKED BY: | PROJECT NO: 82C2467 | DATE: 9/26/83 | FIGURE NO

WOODWARD-CLYDE CONSULTANTS

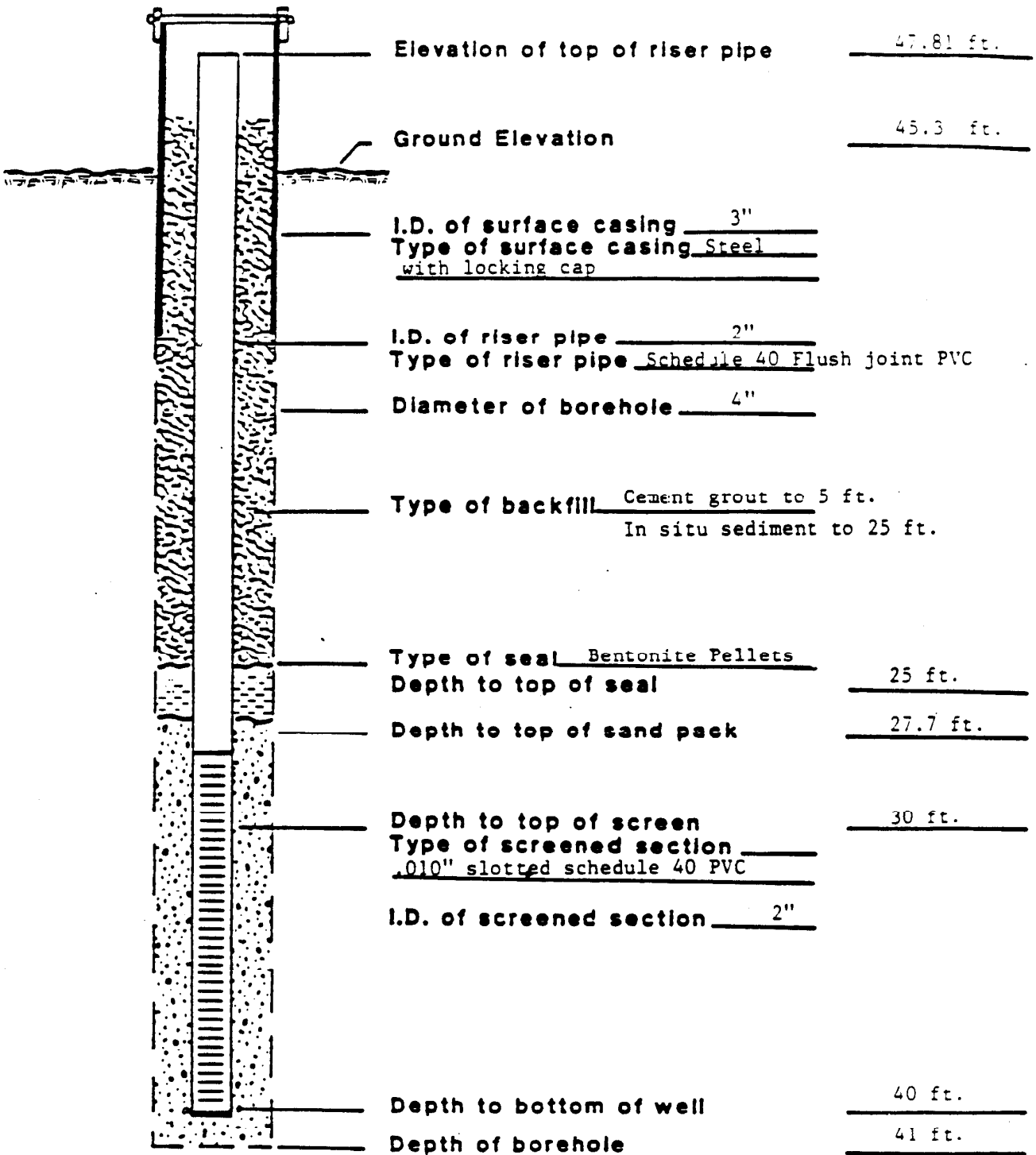
CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

# LOG of BORING No. W-4

DATE 8/25/83 SURFACE ELEVATION 43.2 LOCATION See Plate

DEPTH, ft.	SAMPLES	(1) SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	AVA Soil (ppm)
0					
5		35	Tan to grey medium to fine Sand, trace of mica, trace of organics.		1
10		11		29.7	<1
15		8	Tan to orange medium to fine Sand		<1
20		11			<1
25		15	- some coarse sand, trace of mica		1.5
30		33		11.2	<1
35		50	Tan to grey coarse to fine sandy Gravel trace of silt, trace of mica.		-
40		10 <sup>(2)</sup>	(1) 3½-inch O.D. split spoon sampler driven with 300-lb. hammer		<1
		100 <sup>(2)</sup> 0"	(2) 2-inch O.D. split spoon sampler driven with 300-lb. hammer	-1.8	-
45					

Completion Depth 45 Feet Water Depth 2.97 Feet Date 11/17/83  
 Project Name BEATRICE Project Number 82C2467



## REPORT OF MONITORING WELL W-5

DRAWN BY: LGR | CHECKED BY: | PROJECT NO: 82C2467 | DATE: 9/26/83 | FIGURE NO:

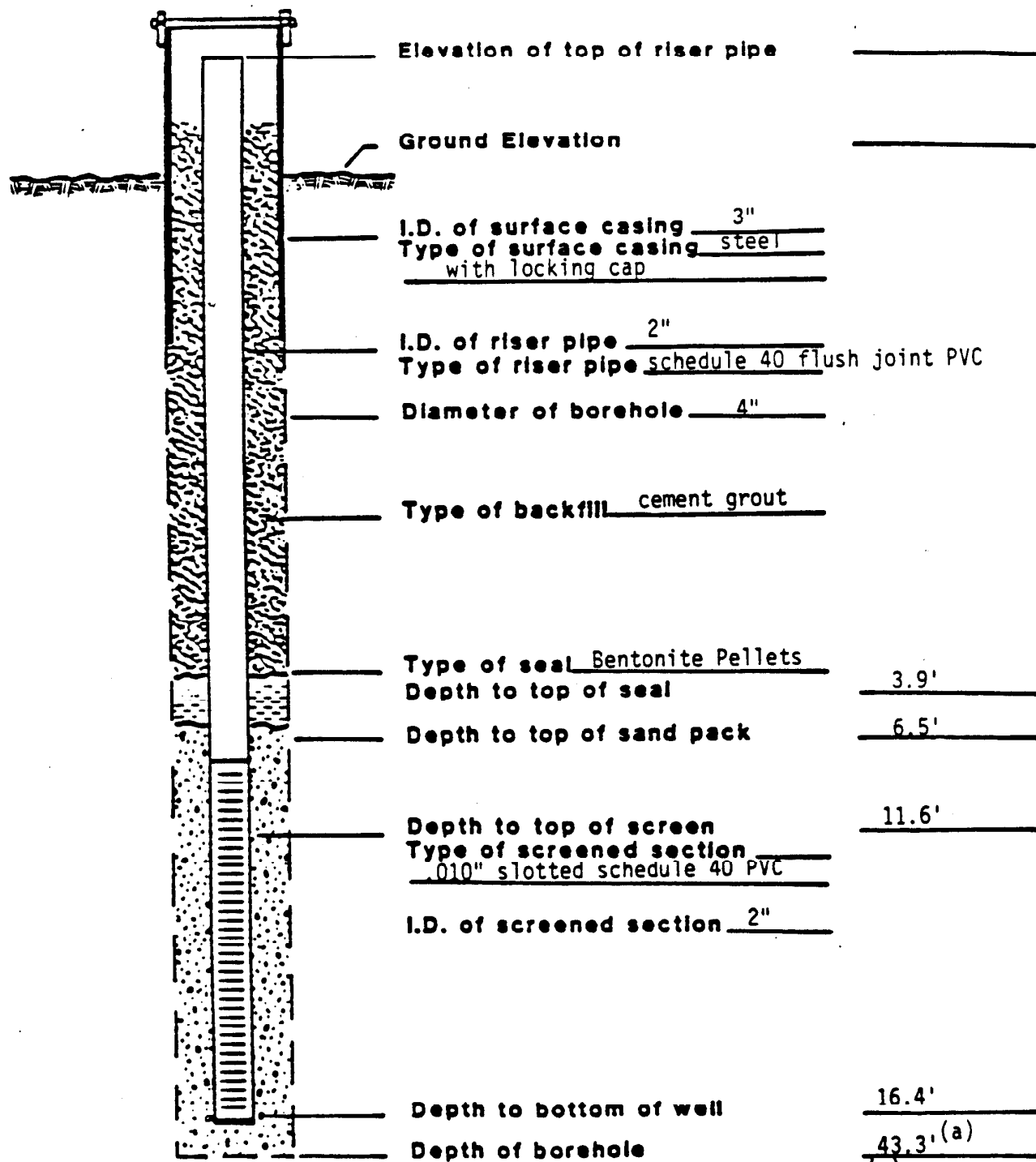
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CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

# LOG of BORING No.W-5

DATE 9/24/83 SURFACE ELEVATION 45.3 LOCATION See Plate

DEPTH, ft.	SAMPLES	(1) SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	CVA Soil (ppm)
0		14	Brown silty, gravelly fine Sand, trace of organics	42.8	1.5
5		87	Brown gravelly coarse to fine Sand		< 1
10		81			1.5
15		50 3"			-
20		45			< 1
25		80 (2)			< 1
30		88 (3)			1
35		60			1
40		150 6"		4.3	
			(1) 3 1/2-inch O.D. split spoon sampler driven with 300-lb hammer. (2) Sampled with drillers open ended "A" rod (3) Offset approximately 30 feet south of original borehole		

Completion Depth 41 Feet Water Depth 6.23 Feet Date 11/17/83  
 Project Name BEATRICE Project Number 82 C 2467



(a) Backfill: sand-pack from 20' to 6.5' in situ sediment below 20'

# REPORT OF MONITORING WELL

SSW-6

DRAWN BY: KRM

CHECKED BY: *[Signature]*

PROJECT NO: 82C2467B

DATE: 7-20-84

FIGURE NO

WOODWARD-CLYDE CONSULTANTS

CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

# LOG of BORING No. SW-6

 DATE 7/17/84

SURFACE ELEVATION \_\_\_\_\_

LOCATION \_\_\_\_\_

DEPTH, ft.	SAMPLES	SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
		2	Dark brown organic silt					10
		14	Tan silt					520
10		23	Becomin					>1000
		23	Tan fine sand, trace of mica					100
20		13						40
		7						22
		19						28
30		19	Becoming co fine sand, trace of fine gravel,					55
		10						25
40		71	Tan coarse to medium sand and coarse to fine gravel, trace of silt					43
		47						53
		137						10
50			Cobbles, boulders					
60			Granite Bedrock -NX Core -End of borehole					
70								
80			1. 3½-inch OD split spoon sampler driven with 300 lb. hammer.					
90			(1) OVA reading in ppm					

 Completion Depth 32.5 Feet

 Water Depth 5' Feet

 Date 7-17-84

 Project Name Beatrice

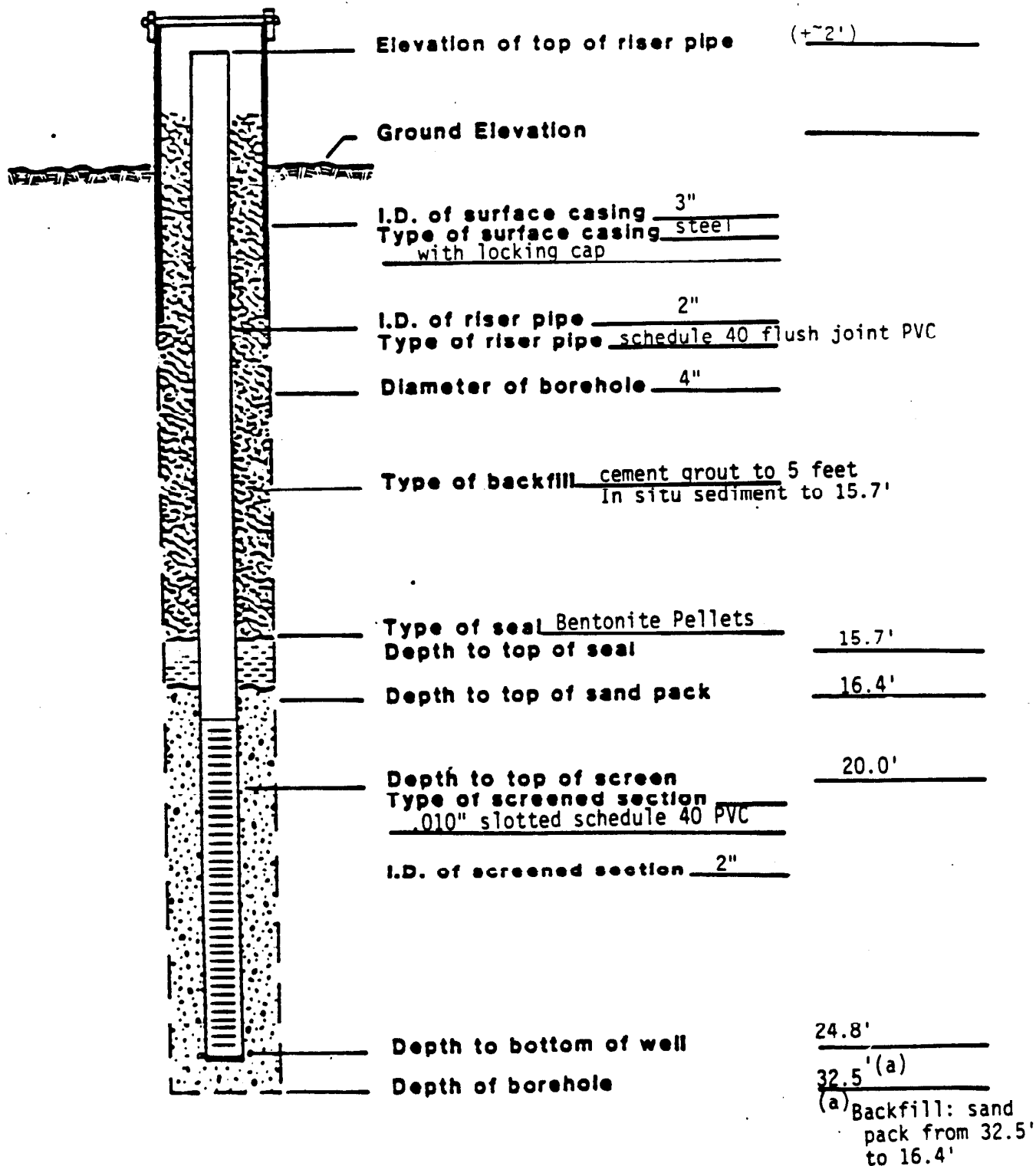
 Project Number 82C2467B

WOC - RP 1





SW-6



# REPORT OF MONITORING WELL SW-6

DRAWN BY: LGR    CHECKED BY: *[signature]*    PROJECT NO: 82C2467B    DATE 7/17/84    FIGURE NO

WOODWARD-CLYDE CONSULTANTS

CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

# LOG of BORING No.

SSW-6

DATE 7/20/84

SURFACE ELEVATION \_\_\_\_\_

LOCATION \_\_\_\_\_

DEPTH, ft.	SAMPLES	SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS (1)
10			(see log of SW6 for 0-25 feet)					
20								
30								
40								
50								
60			N					
70			N					
80			NX					
90			NX END OF BOREHOLE					

Scale ERROR  
÷ 2

(1) OVA reading in ppm

Completion Depth 43.3 Feet

Water Depth 5 Feet

Date 7/20/84

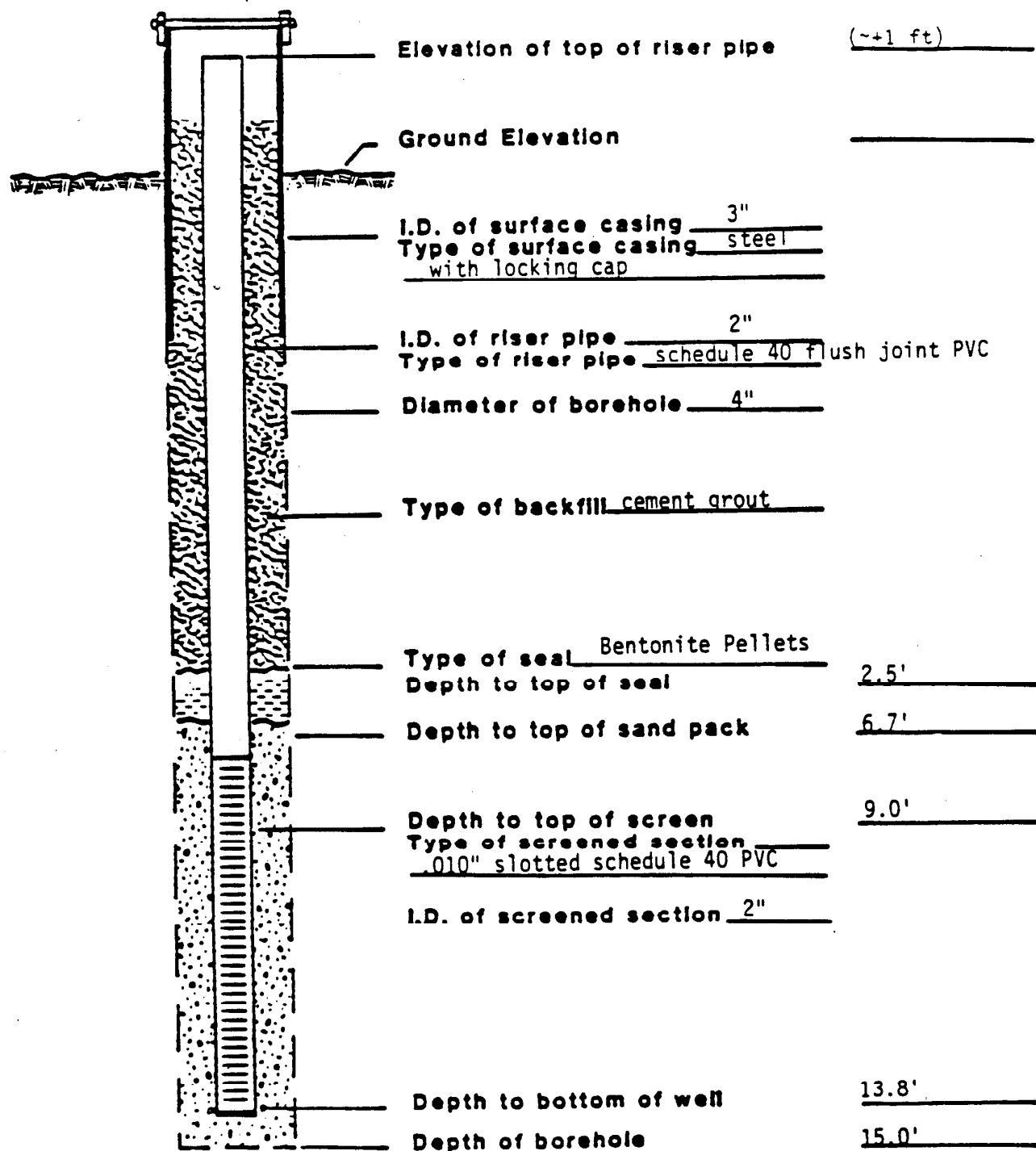
Project Name Beatrice

Project Number 82C2467B

WCC - RP 1



SW-7



# REPORT OF MONITORING WELL SW-7

DRAWN BY: KRM	CHECKED BY: <i>AMH</i>	PROJECT NO: 82C2467B	DATE: 7-24-84	FIGURE NO
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WOODWARD-CLYDE CONSULTANTS

CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

# LOG of BORING No.

SW-7

DATE 7-24

SURFACE ELEVATION \_\_\_\_\_

LOCATION \_\_\_\_\_

DEPTH, ft.	SAMPLES	SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	(1) OTHER TESTS
0			Dark Brown organic silty medium to fine sand					
10			Brown medium to fine sand, trace of organics, trace of silt.					
20		4	becoming tan-grey medium to fine sand, trace of silt,					5
30		5						30
40								
50								
60								
70			1. 3½-inch OD split spoon sampler driven with 300 lb. hammer.					
80								
90			(1) OVA reading in ppm					

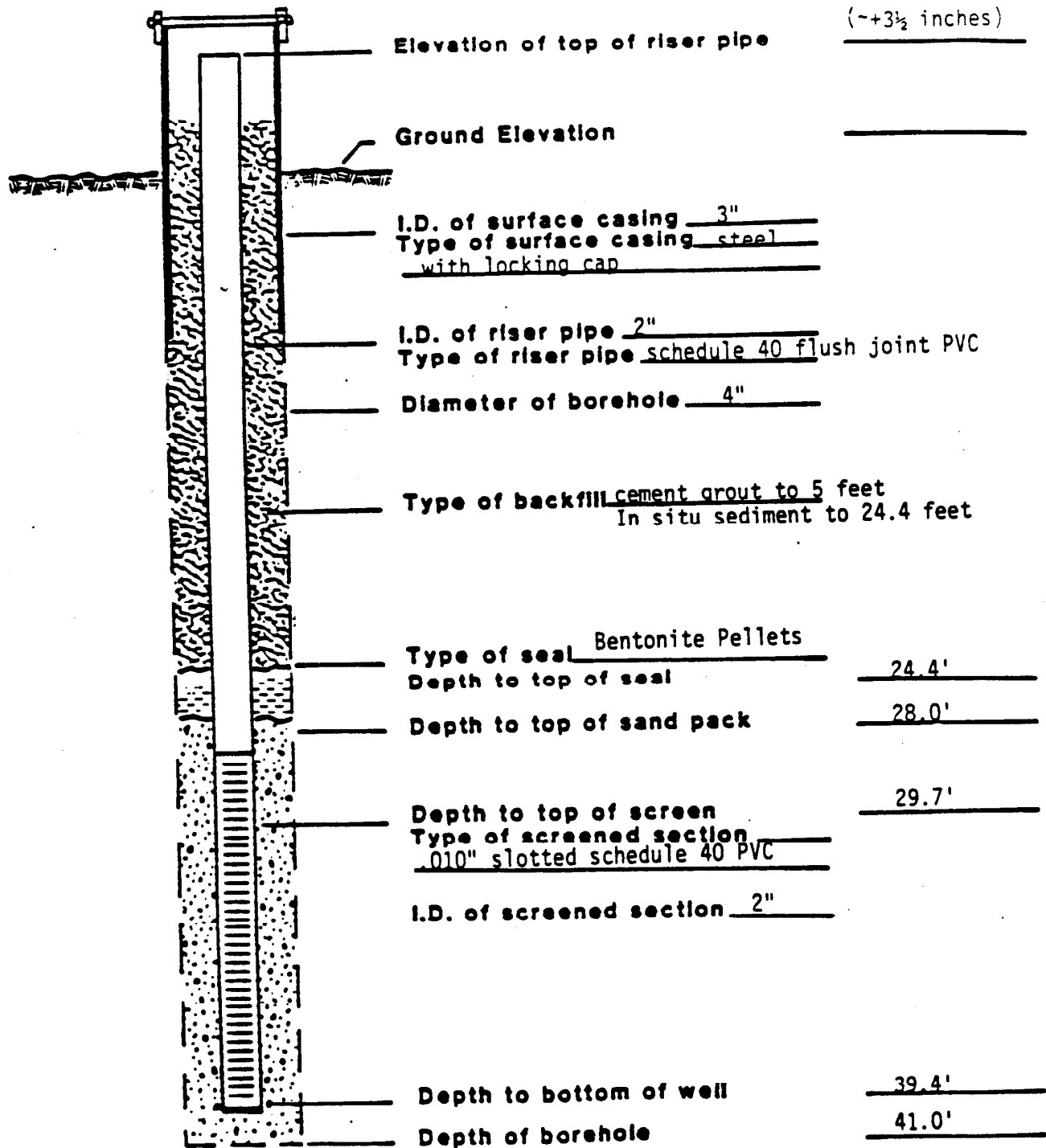
Completion Depth 15 Feet

Water Depth 2 Feet

Date 7-24-84

Project Name Beatrice

Project Number 82C2467B



# REPORT OF MONITORING WELL W-7

DRAWN BY: KRM

CHECKED BY: AKH

PROJECT NO: 82C2467B

DATE 7-23-84

FIGURE NO

WOODWARD-CLYDE CONSULTANTS

CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

# LOG of BORING No.

W-7

DATE 7-23-84

SURFACE ELEVATION \_\_\_\_\_

LOCATION \_\_\_\_\_

DEPTH, ft.	SAMPLES	SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
0		4 <sup>(1)</sup>	Dark brown organic silty fine sand					2
12			Brown medium to fine sand, trace of organics, trace of silt					NR <sup>(4)</sup>
19								100
20		18 <sup>(2)</sup>						350
21		10 <sup>(3)</sup>	Becoming tan medium to fine sand, trace silt.					1000
28		8						3
30		6						12
33		3						NR
36		5						NR
39		2						NR
42		7						NR
45		5						NR
48		7						NR
51		15	Becoming grey medium to fine sand, trace of silt.					1
54		6						NR
57		10						0.5
60		8						NR
63		5						NR
66		5						NR
69								NR
72								
75								
78								
81								
84								
87								
90								
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267								
270								
273								
276								
279								
282								
285								
288								
291								
294								
297								
300								

*Scale error*

*2*

1. 3 1/2-inch O.D. Split Spoon sampler driven with 140 lb hammer.
  2. Offset approximately 3 feet west of the original borehole due to obstruction.
  3. 3 1/2 inch OD split spoon sampler driven with 300 lb hammer.
  4. No recovery.
- (1)OVA reading in ppm

Completion Depth 41 Feet

Water Depth 2 Feet

Date 7-23-84

Project Name Beatrice

Project Number 82C2467B



# LOG of BORING No.B-1

DATE 8/30/83 SURFACE ELEVATION 45.8 LOCATION See Plate

DEPTH, ft.	SAMPLES	(1) SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	OWA Soil (ppm)
0					
5		13	Tan fine sand, trace of medium sand	40.8	ND
		27	Tan to gray fine sand, trace of coarse to medium sand	38.8	<1
		24	Tan gravelly coarse to fine sand	36.8	<1
10		24	Tan fine sand, trace of medium sand	34.3	<1
			(1) 3-1/2 - inch O.D. split spoon sampler driven with 300 lb. hammer		

Completion Depth 11 Feet

Water Depth NA Feet

Date 8/30/83

Project Name Beatrice

Project Number 82C2467

# LOG of BORING No. B-1

DATE 8/30/83 SURFACE ELEVATION 46.8 LOCATION See Plate

DEPTH, ft.	SAMPLES	(1) SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	QVA Split (ppm)
0					
5		9	Tan to gray fine sand, trace of medium sand		1
		38			1.2
		25			1
10		18		35.8	<1
			(1) 3-1/2 - inch O.D. split spoon sampler driven with 300 lb. hammer		

Completion Depth 11 Feet Water Depth NA Feet Date 8/30/83  
 Project Name Beatrice Project Number 8202467



# LOG of BORING No. B-3

DATE 8/31/83 SURFACE ELEVATION 46.6 LOCATION See Plate

DEPTH, ft. SAMPLES	(1) SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	QVA Soil (lb/in <sup>2</sup> )
0	-	Brown to black organic silty fine Sand	44.6	1.4
5	14	Tan fine Sand, trace of medium sand		7
	35			2
	20			1.2
10	14		35.6	<1
		(1) 3-1/2 - inch O.D. split spoon sampler driven with 300 lb. hammer		

Completion Depth 10 Feet Water Depth NA Feet Date 8/31/83  
 Project Name Beatrice Project Number 82C2467

# LOG of BORING No. B-4

DATE 9/1/83 SURFACE ELEVATION 46.5 LOCATION See Plate

DEPTH, ft.	SAMPLES	(1) SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	QVA Soil (lb./sq. ft.)
0					
	4		Brown to black organic, silty coarse to fine Sand	44.5	30
	9		Tan silty fine Sand, trace of organics, trace of medium Sand	42.5	50
5	26				1000
	19		Tan to brown fine Sand, trace of medium Sand,	38.5	1000
10			(1) 3-1/2 - inch O.D. split spoon sampler driven with 300 lb. hammer		

Completion Depth 8 Feet      Water Depth NA Feet      Date 9/1/83  
 Project Name Beatrice      Project Number 82C2467

Completion Depth 8 Feet Water Depth NA Fee: \_\_\_\_\_ Date 9/1/83  
Project Name Beatrice Project Number 82C2467

**Woodward-Clyde Consultants** 

# LOG of BORING No. B-5

DATE 9/1/83 SURFACE ELEVATION 44.3 LOCATION See Plate

DEPTH, ft.	SAMPLES	(1) SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	QVA1 Soil (ppm)
0		4	Black organic silty fine Sand	42.3	<1
		11			<1
5		20	Tan fine Sand, trace of medium Sand		3
		27			>100
10		14		34.3	9
			(1) 3-1/2 - inch O.D. split spoon sampler driven with 300 lb. hammer		

Completion Depth 10 Feet Water Depth NA Feet Date 9/1/83  
 Project Name Beatrice Project Number 82C2467

## LOG OF BORING NO. B-9

DATE 9/1/83

SURFACE ELEVATION 45.0

LOC 10N

See Plate

DEPTH, ft.	SAMPLES	(1) SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	QVA Soil (ppm)
0		5	Black to tan organic silty fine Sand	43.0	< 1
		8	Tan fine Sand, trace of medium Sand		< 1
5		24			1
		30			1
10		27		35.0	1
			(1) 3-1/2 - inch O.D. split spoon sampler driven with 300 lb. hammer		

Completion Depth 10 Feet Water Depth NA Feet Date 9/1/83

Project Name Beatrice Project Number 82C2467

Woodward-Clyde Consultants



# LOG of BORING No. B-7

DATE 9/2/83 SURFACE ELEVATION 44.6 LOCATION See Plate

DEPTH, ft.	SAMPLES	(1) SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	OVA Soil (ppm)
0		3	Brown to black organic silty fine Sand	42.6	< 1
		19	Tan to brown fine Sand		< 1
5		24	-with trace of medium sand		1.4
		25			1.8
10		25		34.6	-
			(1) 3-1/2 - inch O.D. split spoon sampler driven with 300-lb. hammer		

Completion Depth 10 Feet Water Depth NA Feet Date 9/2/83  
 Project Name Beatrice Project Number 82C2467

# LOG of BORING No. B-8

DATE 9/2/83 SURFACE ELEVATION 43.7 LOCATION See Plate

DEPTH, ft.	SAMPLES	(1) SAMPLING RESISTANCE	DESCRIPTION	ELEVATION	NOVA Soil BPM
0		2	Black organic silty fine Sand	41.7	<1
24		25	Brown fine Sand, trace of medium Sand		2
5		26			18
		21	medium to fine sand	33.7	1.2
10			(1) 3-1/2 - inch O.D. split spoon sampler driven with 300 lb. hammer		1

Completion Depth 10 Feet Water Depth NA Feet Date 9/2/83  
 Project Name Beatrice Project Number 82C2467