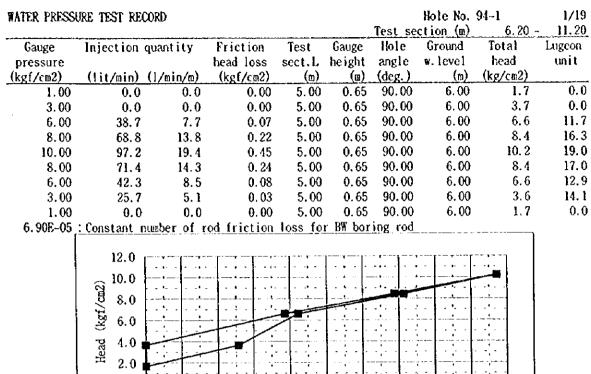
C2.2 Lugeon Test Results of Grand Falls Dam Site

đ

Û



2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0 Injection quantity (lit/min/m)

WATER PRESSURE TEST RECORD

0.0

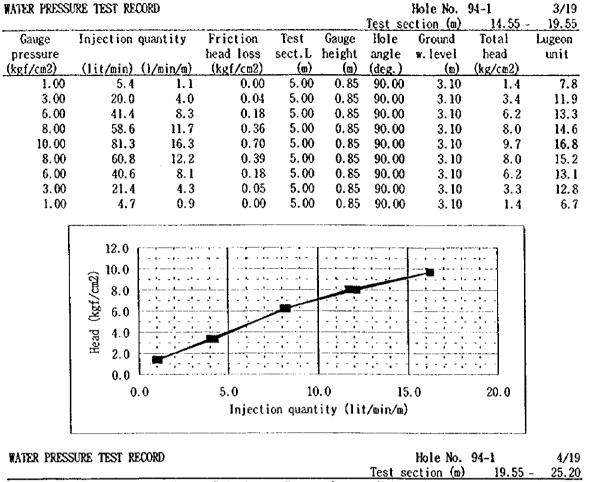
0.0

Hole No. 94-1 2/19

$\begin{array}{c c c c c c c c c c c c c c c c c c c $	INTER TREND	NE IENI NEA	UND .					1010 101	V1 1	0/10
Gauge pressure Injection (1)/min/m) Friction (kgf/cm2) Test (1)/min/m) Gauge sect. L (m) Hole (m) Ground (m) Total head Lugeon unit 1.00 0.0 0.0 0.00 5.00 1.75 90.00 12.45 2.4 0.0 3.00 0.0 0.0 0.00 5.00 1.75 90.00 12.45 7.2 12.7 8.00 75.0 15.0 0.48 5.00 1.75 90.00 12.45 8.9 16.8 10.00 98.7 19.7 0.84 5.00 1.75 90.00 12.45 9.0 15.6 10.00 98.7 19.7 0.84 5.00 1.75 90.00 12.45 9.0 15.6 6.00 49.9 10.0 0.21 5.00 1.75 90.00 12.45 4.3 14.1 1.00 0.0 0.0 0.00 5.00 1.75 90.00 12.45 2.4 0.0 1.00 0.0 0							Test se	ction (m)	10.70 -	- <u>15.70</u>
pressure head loss sect. L height angle w. level head unit $kgf/ca2$) (1it/min) (1/min/m) (kgf/ca2) (m) (a) (deg.) (m) (kg/ca2) 1.00 0.0 0.0 0.00 5.00 1.75 90.00 12.45 2.4 0.0 3.00 0.0 0.0 0.00 5.00 1.75 90.00 12.45 2.4 0.0 6.00 45.8 9.2 0.18 5.00 1.75 90.00 12.45 7.2 12.7 8.00 75.0 15.0 0.48 5.00 1.75 90.00 12.45 8.9 16.8 10.00 98.7 19.7 0.84 5.00 1.75 90.00 12.45 9.0 15.8 6.00 49.9 10.0 0.21 5.00 1.75 90.00 12.45 9.0 15.8 6.00 49.9 10.0 0.21 5.00 1.75 90.00 12.45 7.2 13.8 3.00 32.0 6.4 0.09 5.00 1.75 90.00 12.45 7.2 13.8 3.00 32.0 6.4 0.09 5.00 1.75 90.00 12.45 4.3 14.1 1.00 0.0 0.0 0.0 0.00 5.00 1.75 90.00 12.45 4.3 14.1 0.0 0.0 0.0 0.0 0.00 5.00 1.75 90.00 12.45 0.0 1.5 90.00 12.5 90.00 12.45 0.0 1.5 90.00 12.5 90.00 12.	Gauge	Injection	quantity	Friction	Test	Gauge			Total	Lugeon
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	pressure		•		sect.L		angle	w.level	head	unit
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	<u>(n)</u>	(kg/cm2)	
$\begin{array}{c} 6.00 \\ 6.00 \\ 75.0 \\ 75$		0.0	0.0	0.00	5.00	1.75	90.00	12.45		0.0
$\begin{array}{c} 8.00 & 75.0 & 15.0 & 0.48 & 5.00 & 1.75 & 90.00 & 12.45 & 8.9 & 16.8 \\ 10.00 & 98.7 & 19.7 & 0.84 & 5.00 & 1.75 & 90.00 & 12.45 & 10.6 & 18.7 \\ 8.00 & 71.0 & 14.2 & 0.43 & 5.00 & 1.75 & 90.00 & 12.45 & 9.0 & 15.8 \\ 6.00 & 49.9 & 10.0 & 0.21 & 5.00 & 1.75 & 90.00 & 12.45 & 7.2 & 13.8 \\ 3.00 & 32.0 & 6.4 & 0.09 & 5.00 & 1.75 & 90.00 & 12.45 & 4.3 & 14.3 \\ 1.00 & 0.0 & 0.0 & 0.00 & 5.00 & 1.75 & 90.00 & 12.45 & 2.4 & 0.0 \\ \hline 10.0 & 8.0 & 0.0 & 5.00 & 1.75 & 90.00 & 12.45 & 2.4 & 0.0 \\ \hline 10.0 & 8.0 & 0.0 & 0.00 & 5.00 & 1.75 & 90.00 & 12.45 & 2.4 & 0.0 \\ \hline 12.0 & 0.0 & 0.0 & 0.00 & 5.00 & 1.75 & 90.00 & 12.45 & 2.4 & 0.0 \\ \hline 12.0 & 0.0 & 0.0 & 0.00 & 5.00 & 1.75 & 90.00 & 12.45 & 2.4 & 0.0 \\ \hline 12.0 & 0.0 & 0.0 & 0.00 & 5.00 & 1.75 & 90.00 & 12.45 & 2.4 & 0.0 \\ \hline 12.0 & 0.0 & 0.0 & 0.00 & 5.00 & 1.75 & 90.00 & 12.45 & 2.4 & 0.0 \\ \hline 12.0 & 0.0 & 0.0 & 0.00 & 5.00 & 1.75 & 90.00 & 12.45 & 2.4 & 0.0 \\ \hline 12.0 & 0.0 & 0.0 & 0.00 & 5.00 & 1.75 & 90.00 & 12.45 & 2.4 & 0.0 \\ \hline 12.0 & 0.0 & 0.0 & 0.0 & 0.00 & 5.00 & 1.75 & 90.00 & 12.45 & 2.4 & 0.0 \\ \hline 12.0 & 0.0 & 0.0 & 0.00 & 5.00 & 1.75 & 90.00 & 12.45 & 2.4 & 0.0 \\ \hline 12.0 & 0.0 & 0.0 & 0.00 & 5.00 & 1.75 & 90.00 & 12.45 & 2.4 & 0.0 \\ \hline 12.0 & 0.0 & 0.0 & 0.0 & 0.00 & 5.00 & 1.75 & 90.00 & 12.45 & 2.4 & 0.0 \\ \hline 12.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 12.0 & 14.0 & 16.0 & 18.0 & 20.0 \\ \hline 12.0 & 0.0 & 2.0 & 4.0 & 6.0 & 8.0 & 10.0 & 12.0 & 14.0 & 16.0 & 18.0 & 20.0 \\ \hline 12.0 & 0.0 & 2.0 & 4.0 & 6.0 & 8.0 & 10.0 & 12.0 & 14.0 & 16.0 & 18.0 & 20.0 \\ \hline 12.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 \\ \hline 12.0 & 0.0 & $	3.00	0.0	0.0	0.00	5.00	1.75	90.00	12.45		0.0
10.00 98.7 19.7 0.84 5.00 1.75 90.00 12.45 10.6 18.7 19.7 0.84 5.00 1.75 90.00 12.45 9.0 15.8 5.00 1.75 90.00 12.45 9.0 15.8 5.00 1.75 90.00 12.45 7.2 13.8 5.00 1.75 90.00 12.45 7.2 13.8 1.00 0.0 0.0 0.0 0.00 5.00 1.75 90.00 12.45 4.3 14.4 1.00 0.0 0.0 0.0 5.00 1.75 90.00 12.45 2.4 0.0 0.0 12.45 2.4 0.0 0.0 12.45 2.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	6.00	45.8	9.2	0.18	5.00	1.75	90.00	12.45	7.2	12.7
$ \begin{array}{c} 8.00 \\ 8.00 \\ 6.00 \\ 49.9 \\ 10.0 \\ 32.0 \\ 6.4 \\ 0.00 \\ 5.00 \\ 1.75 \\ 90.00 \\ 12.45 \\ 4.3 \\ 1.00 \\ 0.0 \\ 0.0 \\ 12.45 \\ 2.4 \\ 0.0 \\ 12.45 \\ 2.4 \\ 0.0 \\ 12.45 \\ 2.4 \\ 0.0 \\ 12.45 \\ 2.4 \\ 0.0 \\ 12.45 \\ 2.4 \\ 0.0 \\ 12.45 \\ 2.4 \\ 0.0 \\ 12.45 \\ 2.4 \\ 0.0 \\ 12.45 \\ 2.4 \\ 0.0 \\ 12.45 \\ 2.4 \\ 0.0 \\ 12.45 \\ 2.4 \\ 0.0 \\ 12.45 \\ 2.4 \\ 0.0 \\ 12.45 \\ 1.00 \\ 12.45 \\ 1.00 \\ 12.45 \\ 1.00 \\ 12.45 \\ 1.00 \\ 12.45 \\ 1.00 \\ 12.45 \\ 1.00 \\ 12.45 \\ 1.00 \\ 12.45 \\ 1.00 \\ 12.45 \\ 1.00 \\ 12.45 \\ 1.00 \\ 12.45 \\ 1.00 \\ 10.0 \\ 12.45 \\ 1.00 \\ 10.0 \\ 12.45 \\ 1.00 \\ 10.0 \\ 12.45 \\ 1.00 \\ 12.45 \\ 1.00 \\ 12.45 \\ 1.00 \\ 12.45 \\ 1.00 \\ 12.45 \\ 1.00 \\ 12.45 \\ 1.00 \\ 12.45 \\ 1.00 \\ 10.0 \\ 12.45 \\ 1.00 \\ 10.0 \\ 12.45 \\ 1.00 \\ 10.0 \\ 12.45 \\ 1.00 \\ 10.0 \\ 12.45 \\ 10.0$	8.00	75.0	15.0	0.48	5.00	1.75	9 0 . 00	12.45	8.9	16.8
$\begin{array}{c} 6.00 \\ 4.00 \\ 3.00 \\ 32.0 \\ 6.4 \\ 0.00 \\ 0.0 \\ $	10.00	98.7	19.7	0.84	5.00	1.75	90.00	12.45		18.7
$\begin{array}{c} 3.00 \\ 32.0 \\ 1.00 \\ 0.$	8.00	71.0	14.2	0.43	5.00	1.75	90.00	12, 45	9.0	15.8
1.00 0.0 0.0 0.00 5.00 1.75 90.00 12.45 2.4 0.0	6.00	49.9	10.0	0.21	5.00	1.75	90.00	12.45		13.8
$ \begin{array}{c} 12.0 \\ 10.0 \\ 8.0 \\ 10.0 \\ 8.0 \\ 10.$	3.00	32.0	6.4	0.09	5.00	1.75	90.00	12.45	4.3	14.8
$ \begin{array}{c} 10.0 \\ 8.0 \\ \hline \\ 3.0 \\ \hline \\ 3$	1.00	0.0	0.0	0.00	5.00	1.75	90.00	12.45	2.4	0.0
injection quantity (itt/min/m)		0.01 0.8 0.6 0.0 0.0 0.0 0.0	.0 2.0					16.0 18.	0 20.0	
				INJECTI	on quant	119 (11	C/101112/10/			

C2-40

Ŋ



Gauge								23.20
occupo	Injection quantity	y Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure		head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	<u>(lit/min) (l/min/</u>	<u>m) (kgf/cm2)</u>	(m)	(<u>n</u>)	(deg.)	<u>(a)</u>	(kg/ca2)	
1.00	2.4 0	.4 0.00	5.65	1.70	90.00	5.00	1.7	2.5
3.00	10.5 1	.9 0.02		1.70	90.00	5.00	3.7	5.1
6.00	20.7 3	.7 0.06	5.65	1.70	90.00	5.00	6.6	5.5
8.00	30.4 5	.4 0.14	5.65	1.70	90.00	5.00	8.5	6.3
10.00	39.7 7	.0 0.23	5.65	1.70	90.00	5.00	10.4	6.7
8.00	29.4 5	.2 0.13	5.65	1.70	90.00	5.00	8.5	6.1
6.00	19.8 3	.5 0.06	5.65	1.70	90.00	5.00	6.6	5.3
3.00	8.4 1	.5 0.01	5.65	1.70	90.00	5.00	3.7	4.1
1.00	2.7 0	0.5 0.00	5.65	1.70	90.00	5.00	1.7	2.9
	12.0 0.0 0.8 0.8 0.0 H 0.0 H 0.0 0.0 H 0.0 0.0							
	0.0 1.0		4.0 5 ion quant	.0 6.0 tity (lit		8.0 9.0) 10.0	

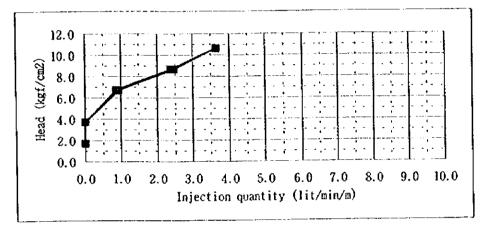


C2-41

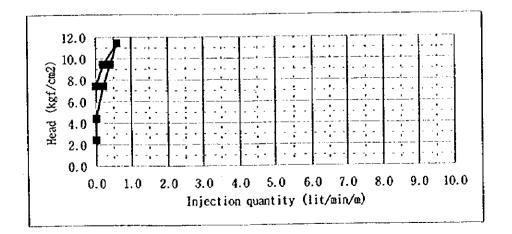
I

_

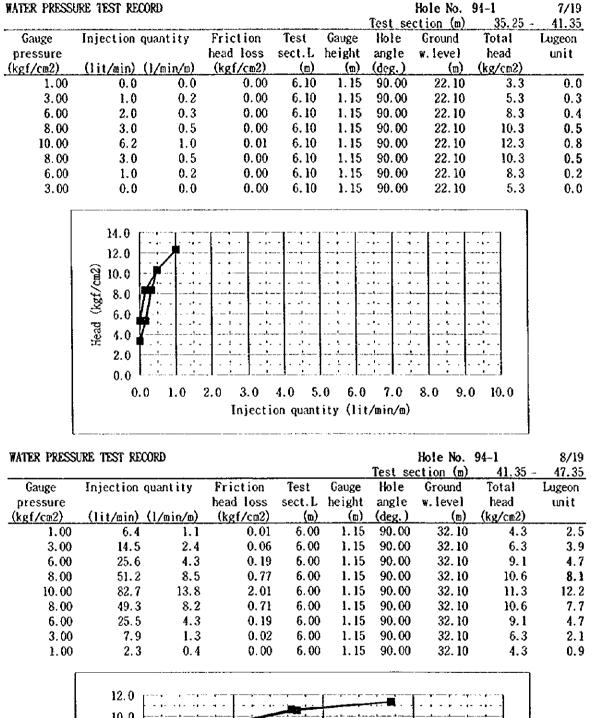
water pressi	jre test re	CORD				Test se	Hole No. ction (m)	941 25.20 -	5/19 31.25
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	llole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/@in/@)	(kgf/cm2)	(m)	(m)	(deg.)	(n)	(kg/cm2)	
1.00	0.0	0.0	0.00	6.05	0.75	90.00	6.40	1.7	0.0
3.00	0.0	0.0	0.00	6.05	0.75	90.00	6.40	3.7	0.0
6.00	5.7	0.9	0.01	6.05	0.75	90.00	6.40	6.7	1.4
8.00	14.9	2.5	0.04	6.05	0.75	90.00	6.40	8.7	2.8
10.00	22.1	3.7	0.09	6.05	0.75	90.00	6.40	10.6	3.4
8.00	14.4	2.4	0.04	6.05	0.75	90.00	6.40	8.7	2.7
6.00	5.2		0.00	6.05	0.75		6.40	6.7	1.3
3.00	0.0		0.00	6.05	0.75		6.40	3.7	0.0

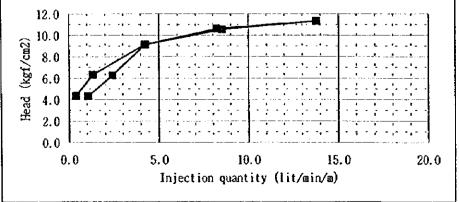


WATER PRESSU	RE TEST RE	CORD					Hole No.	94-1	6/19
minut meet						Test se	ction (m)	29.25	- 34.25
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure	,		head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	(@)	(kg/cm2)	
1.00	0.0		0.00	5.00	1.15	90.00	13.20	2.4	0.0
3.00	0.0	0.0	0.00	5.00	1.15	90.00	13.20	4.4	0.0
6.00	1.0		0.00	5.00	1.15	90.00	13.20	7.4	0.3
8.00	2.0		0.00	5.00	1.15	90.00	13.20	9.4	0.4
10.00	3.0		0.00	5.00	1.15	90.00	13.20	11.4	0.5
8.00	1.0	• • •	0.00	5.00	1.15	90.00	13.20	9.4	0.2
6.00	0.0		0.00	5.00	1.15	90.00	13.20	7.4	0.0



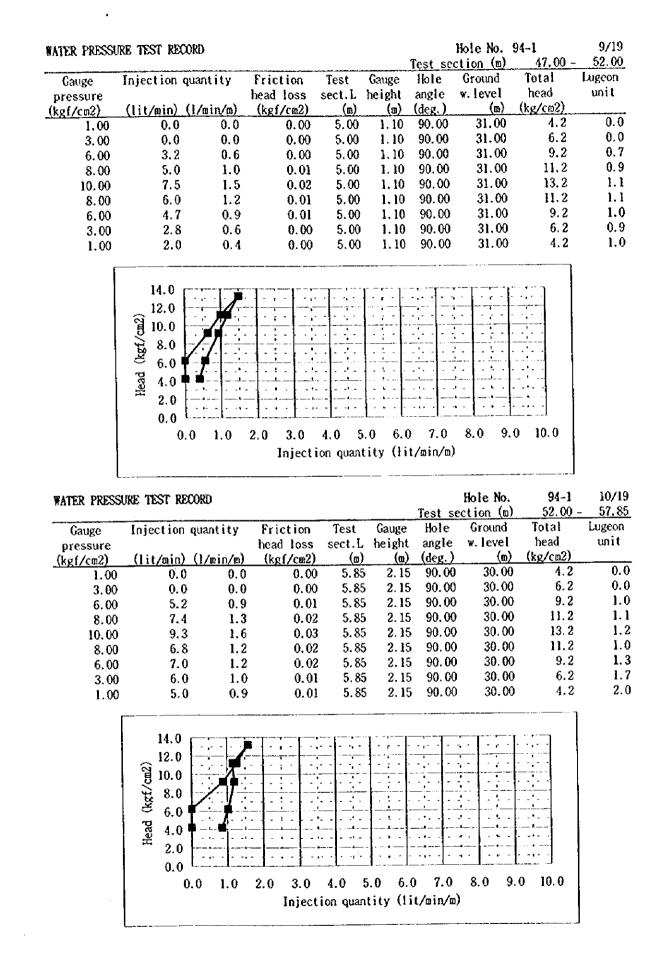
J





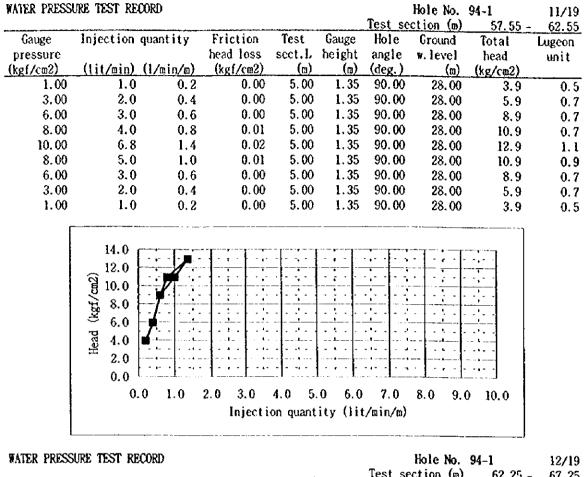
() 1990

I

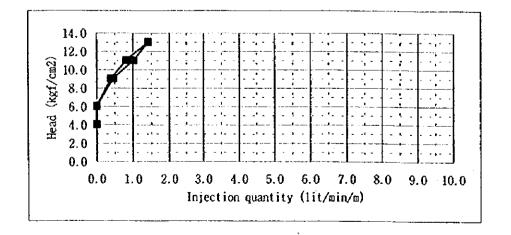


Ĩ

Ţ

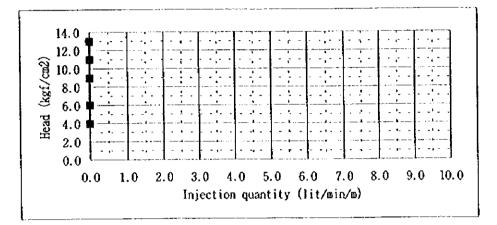


						<u>Test</u> se	<u>ction (m)</u>	62.25 -	67.25
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	<u>(lit/min)</u>	<u>(1/min/m)</u>	<u>(kgf/cm2)</u>	<u>(n)</u>	<u>(a)</u>	(deg.)	(8)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.15	90.00	29.30	4.0	0.0
3.00	0.0	0.0	0.00	5.00	1.15	90.00	29.30	6.0	0.0
6.00	2.3	0.5	0.00	5.00	1.15	90.00	29.30	9.0	0.5
8.00	5.1	1.0	0.01	5.00	1.15	90.00	29.30	11.0	0.9
10.00	7.1	1.4	0.02	5.00	1.15	90.00	29.30	13.0	1.1
8.00	4.1	0.8	0.01	5.0 0	1.15	90.00	29.30	11.0	0.7
6.00	2.0	0.4	0.00	5.00	1.15	90.00	29.30	9.0	0.4
3.00	0.0	0.0	0.00	5.00	1.15	90.00	29.30	6.0	0.0



I

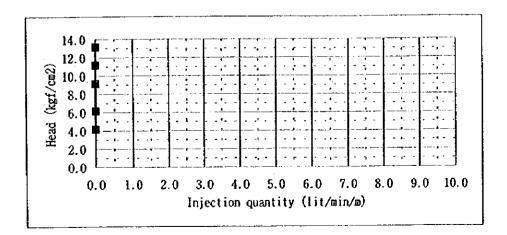
NATER PRESS	jre test rea	DORD				Test se	Hole No. ction (m)	94-1 67.05 -	13/19 - 72.05
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	Hole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	<u>(lit/min)</u>	<u>(1/min/m)</u>	(kgf/ca2)	<u>(D)</u>	<u>(D)</u>	(deg.)	(a)	<u>(kg/cu2)</u>	
1.00	0.0	0.0	0.00	5.00	0.90	90.00	28.80	4.0	0.0
3.00	0.0	0.0	0.00	5.00	0.90	90.00	28.80	6.0	0.0
6.00	0.0	0.0	0.00	5.00	0.90	90.00	28.80	9.0	0.0
8,00	0.0	0.0	0.00	5.00	0.90	90.00	28.80	11.0	0.0
10.00	0.0	0.0	0.00	5.00	0.90	90.00	28.80	13.0	0.0



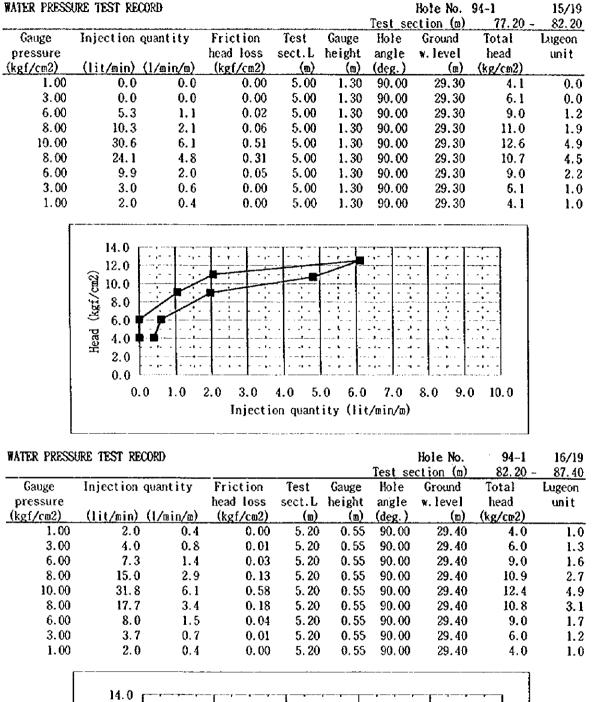
WATER PRESSURE TEST RECORD

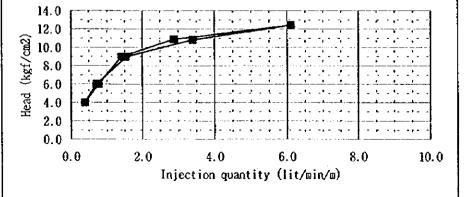
Hole No. 94-1 14/19

						Test se	<u>ction (m)</u>	72.05	<u> </u>
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure	-	-	head loss	sect.L	height	angle	w. level	head	wit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(a)	(deg.)	(D)	(kg/cm2)	
1.00	0.0		0.00	5.40	1.85	90.00	29.55	4.1	0.0
3.00	0.0	0.0	0.00	5.40	1.85	90.00	29.55	6.1	0.0
6.00	0.0	0.0	0.00	5.40	1.85	90.00	29.55	9.1	0.0
8.00	0.0		0.00	5.40	1.85	90.00	29.55	11.1	0.0
10.00	0.0		0.00	5.40	1.85	90.00	29.55	13.1	0.0



3

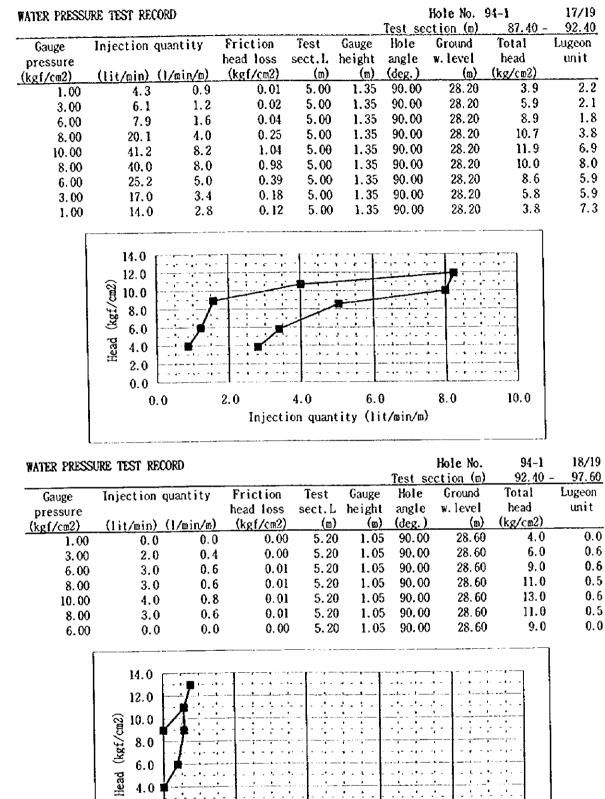




.

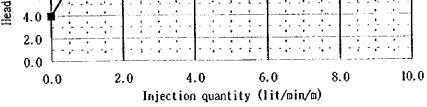
Ī.

T



ightarrow

2



NATER PRESS	ure test re	CORD					Hole No.	94-1	19/1
al							<u>ction (m)</u>	95.20 -	<u>- 100. 2</u>
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	<u>(lit/win)</u>	<u>(]/min/m)</u>	(kgf/cm2)	(m)	(n)	(deg.)	(a)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.25	90.00	29.50	4.1	0.
3.00	2.0	0.4	0.00	5.00	1.25	90.0 0	29.50	6.1	0.1
6.00	3.0	0.6	0.01	5.00	1.25	90.00	29.50	9.1	0.1
8.00	4.0	0.8	0.01	5.00	1.25	90.00	29.50	11.1	0.1
10.00	5.0	1.0	0.02	5.00	1.25	90.00	29.50	13.1	0.
8.00	3.0	0.6	0.01	5.00	1.25	90.0 0	29.50	11, 1	0.
6.00	2.0	0.4	0.00	5.00	1.25	90.00	29.50	9.1	0.
3.00	0.0	0.0	0.00	5.00	1.25	90.00	29.5 0	6.1	0.
	14.0 12.0 (kgt/cm5) 8.0 6.0 4.0 2.0								
	0.0		<u>} · · ·</u>	<u></u>	• •	_ <u>'</u> · _ · _ ·			
	0	. 0	2.0	4.0	6.0)	8.0	10.0	
			Injecti	on quant	ity (li)	t/min/m)			

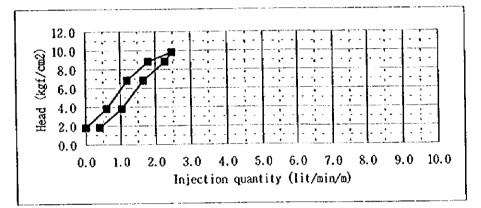
I

合肥

1

WATER PRESS	ure test r	ECORD					Hole No.		1/13
						Test se	<u>ction (m)</u>	7.15	- <u>12.15</u>
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure		•	head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(]/min/m)	(kgf/cm2)	(m)	(11)	<u>(deg.)</u>	<u>(u)</u>	(kg/cm2)	
1.00	2.0	0.4	0.00	5.00	0.60		7.65	1.8	2.2
3.00	5.2	1.0	0.00	5.00	0.60	90.00	7.65	3,8	2.7
6.00	8.3	_	0.00	5.00	0.60	90.00	7.65	6.8	2.4
8.00	11.4		0.01	5.00	0.60	90.00	7.65	8.8	2.6
9.00	12.4		0.01	5.00	0.60	90.00	7.65	9.8	2.5
8.00	9.0		0.00	5.00	0.60	90.00	7.65	8.8	2.0
6.00	6.0		0.00	5.00	0.60	90.00	7.65	6.8	1.8
3.00	3.0		0.00	5.00	0.60	90.00	7.65	3.8	1.6
1.00	0.0		0.00	5.00	0.60	90.00	7.65	1.8	0.0

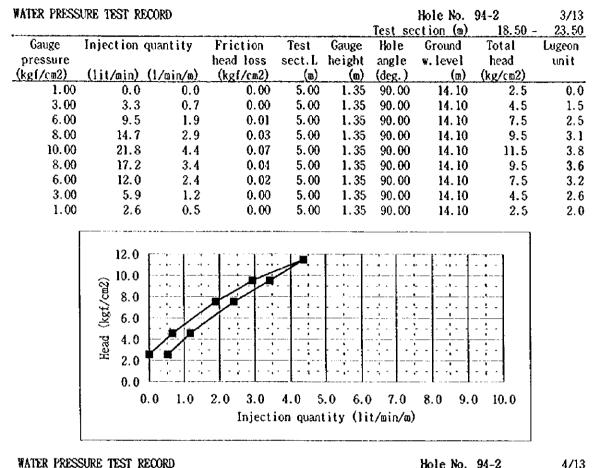
6.90E-05: Constant number of rod friction loss for BW boring rod



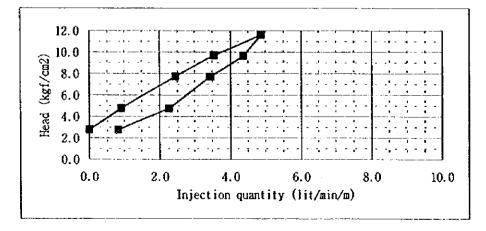
WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)		2/13 18.50
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure	- · · •	•	head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	<u>(@)</u>	(m)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	0.45	90.00	6.65		0.0
3.00	0.0	0.0	0.00	5.00	0.4 5	90.00	6.65		0.0
6.00	1.1	0.2	0.00	5.00	0.45	90.00	6.65		0.3
8.00	5.8	1.2	0.00	5.00	0.45	90.00	6.65		1.3
10.00	7.2		0.00	5.00		90.00	6.65		1.3
8.00	5.7	1.1	0.00	5.00			6.65		1.3
6.00	4.0	0.8	0.00	5.00			6.65		1.2
3.00	3.0	0.6	0.00	5.00			6.65		1.6
1.00	2.0	0.4	0.00	5.00	0.45	90.00	6.65	1.7	2.3
	12.0 10.0 0.8 0.8 4.0 2.0 0.0		2.0 3.0	4.0	5.0 6.0		8.0 9.	· · · · · · · · · · · · · · · ·	

Injection quantity (lit/min/m)

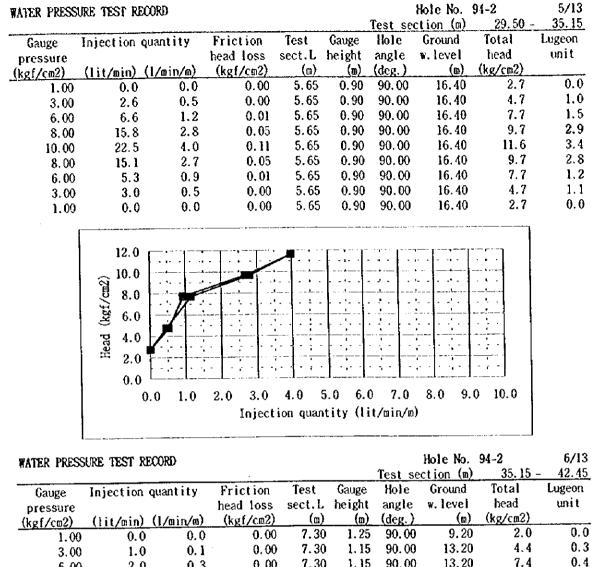
J

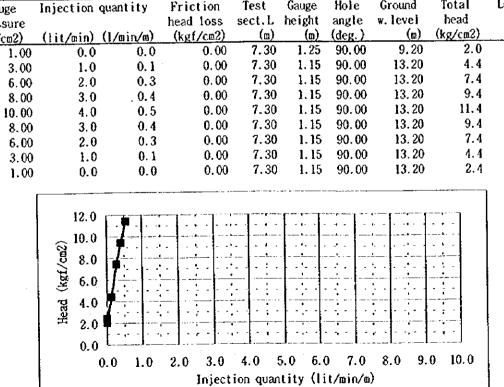


ORE TEST R	LUKU					note No.	94-Z	4/13
-					Test se	ction (m)	23.50 -	29.50
Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
		head loss	sect.L	height	angle	w. level	head	unit
(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	(₀)	(kg/cm2)	
0.0	0.0	0.00	6.00	0.90	90.00	16.70	2.8	0.0
5.5	0.9	0.01	6.00	0.90	90.00	16.70	4.8	1.9
14.7	2.5	0.04	6.00	0.90	90.00	16.70	7.7	3.2
21.3	3.6	0.08	6.00	0.90	90.00	16.70	9.7	3.7
29.3	4.9	0.14	6.00	0.90	90.00	16.70	11.6	4.2
26.2	4.4	0.12	6.00	0.90	90.60	16.70	9.6	4.5
20.7	3.5	0.07	6.00	0.90	90.00	16.70	7.7	4.5
13.6	2.3	0.03	6.00	0.90	90.00	16.70	4.7	4.8
5.0	0.8	0.00	6.00	0.90	90.00	16.70	2.8	3.0
	Injection (lit/min) 0.0 5.5 14.7 21.3 29.3 26.2 20.7 13.6	Injection quantity (lit/min) (l/min/m) 0.0 0.0 5.5 0.9 14.7 2.5 21.3 3.6 29.3 4.9 26.2 4.4 20.7 3.5 13.6 2.3	Injection quantity Friction head loss (lit/min) (1/min/m) (kgf/cm2) 0.0 0.0 0.00 5.5 0.9 0.01 14.7 2.5 0.04 21.3 3.6 0.08 29.3 4.9 0.14 26.2 4.4 0.12 20.7 3.5 0.07 13.6 2.3 0.03	Injection quantity Friction head loss Test sect.L (lit/min) (l/min/m) (kgf/cm2) (m) 0.0 0.0 0.00 6.00 5.5 0.9 0.01 6.00 14.7 2.5 0.04 6.00 21.3 3.6 0.08 6.00 29.3 4.9 0.14 6.00 26.2 4.4 0.12 6.00 20.7 3.5 0.07 6.00 13.6 2.3 0.03 6.00	Injection quantity Friction head loss Test height Gauge height (lit/min) (l/min/m) (kgf/cm2) (m) (m) 0.0 0.0 0.00 6.00 0.90 5.5 0.9 0.01 6.00 0.90 14.7 2.5 0.04 6.00 0.90 29.3 4.9 0.14 6.00 0.90 26.2 4.4 0.12 6.00 0.90 20.7 3.5 0.07 6.00 0.90 13.6 2.3 0.03 6.00 0.90	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $



Ĩ





0.4

0.5

0.4

0.4

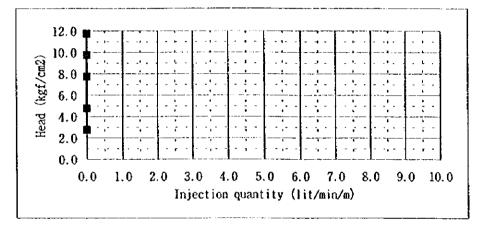
0.3

0.0

1

Ţ

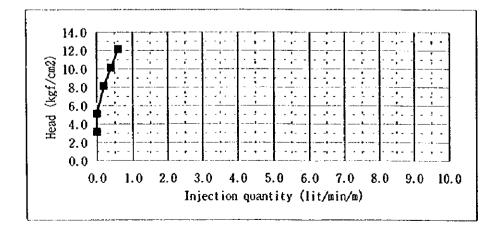
WATER PRESS	ure test r	ECORD				Hole No. 94-2 7/2					
						Test se	<u>ction (m)</u>	42.40 -	47.40		
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon		
pressure			head loss	sect.L	height	angle	w. level	head	unit		
(kgf/cm2)	(lit/min)	(<u>]/min/m</u>)	(kgf/cm2)	<u>(B)</u>	<u>(a)</u>	(deg.)	(a)	(kg/cm2)			
1.00	0.0	0.0	0.00	5.00	1.65	90.00	15.80	2.7	0.0		
3.00	0.0	0.0	0.00	5.00	1.65	90.00	15.80	4.7	0.0		
6.00	0.0	0.0	0.00	5.00	1.65	90.00	15.80	7.7	0.0		
8.00	0.0	0.0	0.00	5.00	1.65	90.00	15.80	9.7	0.0		
10.00	0.0	0.0	0.00	5.00	1.65	90.00	15.80	11.7	0.0		



WATER PRESSURE TEST RECORD

Hole No. 94-2 8/13

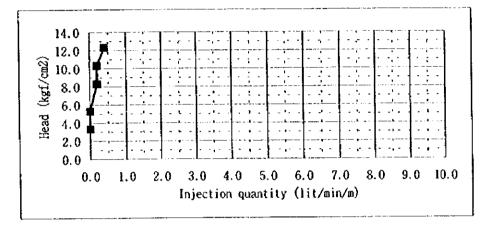
						Test se	<u>ction (m)</u>	47.10	- 52.10
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	<u>(lit/min)</u>	(1/min/m)	(kgf/cm2)	<u>(m)</u>	<u>(n)</u>	(deg.)	<u>(n)</u>	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.30	90.00	20.10	3.1	0.0
3.00	0.0	0.0	0.00	5.00	1.30	90.00	20.10	5.1	0.0
6.00	1.0	0.2	0.00	5.00	1.30	90.00	20.10	8.1	0.2
8.00	2.0	0.4	0.00	5.00	1.30	90.00	20.10	10.1	0.4
10.00	3.0	0.6	0.00	5.00	1.30	90.00	20.10	12.1	0.5
8.00	2.0	0.4	0.00	5.00	1.30	90.00	20.10	10.1	0.4
6.00	1.0	0.2	0.00	5.00	1.30	90.00	20.10	8.1	0.2
3.00	0.0	0.0	0.00	5.00	1.30	90.00	20.10	5.1	0.0



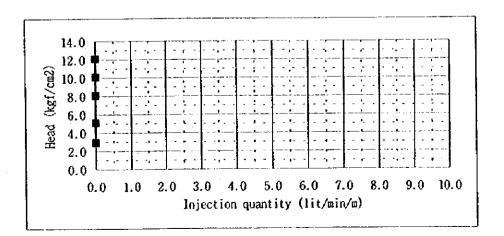
Ţ

I

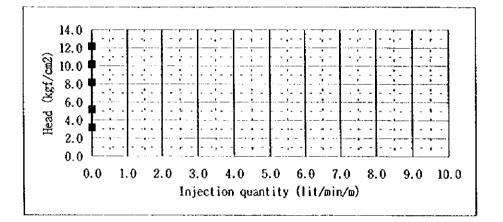
WATER PRESS	ure test r	ECORD					Hole No.		9/13
							<u>ction (m)</u>	52.05 -	
Gauge	Injection	quantity	Friction	Test	Gauge	llole	Ground	Total	Lugeon
pressure	•		head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(]/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	<u>(a)</u>	(kg/cm2)	
1.00	0.0		0.00	5.00	0.65	90.00	22.40	3.3	0.0
3.00	0.0	0.0	0.00	5.00	0.65	90.00	22.40	5.3	0.0
6.00	1.0		0.00	5.00	0.65	90.00	22.40	8.3	0.2
8.00	1.0		0.00	5.00	0.65	90.00	22.40	10.3	0.2
10.00	2.0		0.00	5.00	0.65	90.00	22.40	12.3	0.3
8.00	1.0		0.00	5.00	0.65		22.40	10.3	0.2
6.00		• •	0.00	5.00	0.65		22.40		0.2
3.00			0.00	5.00	0.65		22.40		0.0



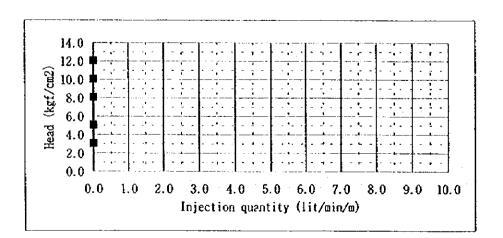
WATER PRESS	URE TEST R	ECORD					Hole No.	94-2	10/13
						Test se	ction (m)	56.95 -	<u>61.95</u>
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(<u>deg.</u>)	<u>(n)</u>	(kg/ca2)	
1.00	0.0		0.00	5.00	0.45	90.00	18.60	2.9	0.0
3.00	0.0	0.0	0.00	5.00	2.15	90.00	18.60	5.1	0.0
6.00	0.0	0.0	0.00	5.00	2.15	90.00	18.60	8.1	0.0
8.00	0.0	0.0	0.00	5.00	2.15	90.00	18.60	10.1	0.0
10.00	0.0		0.00	5.00	2.15	90.00	18.60	12.1	0.0



WATER PRESS	SURE TEST R	ecord					Hole No.	94-2	11/13
			·····			Test se	<u>ction (m)</u>	61.85 -	66.85
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	(a)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.70	90.00	19.90	3.2	0.0
3.00	0.0	0.0	0.00	5.00	1.70	90,00	19.90	5.2	0.0
6.00	0.0	0.0	0.00	5.00	1.70	90.00	19.90	8.2	0.0
8.00	0.0	0.0	0.00	5.00	1.70	90.00	19.90	10.2	0.0
10.00	0.0	0.0	0.00	5.00	1.70	90.00	19.90	12.2	0.0



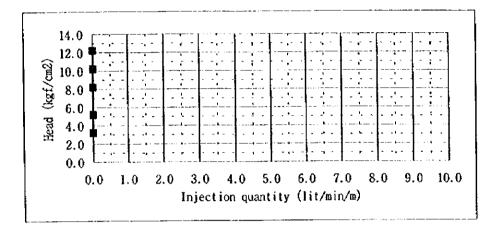
WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)	94-2 65.00 -	12/13
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.45	90.00	19.20	3.1	0.0
3.00	0.0	0.0	0.00	5.00	1.45	90.00	19.20	5.1	0.0
6.00	0.0	0.0	0.00	5.00	1.45	90.00	19.20	8.1	0.0
8.00	0.0	0.0	0.00	5.00	1.45	90.00	19.20	10.1	0.0
10.00	0.0	0.0	0.00	5.00	1.45	90.00	19.20	12.1	0.0



NAME OF

Ţ

WATER PRESS	ure test ri	ECORD				Test se	Hole No. ction (m)	94-2 70.00 -	13/13 75.00
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/ain)	(1/min/m)	(kgf/cm2)	(m)	(<u>a</u>)	(deg.)	<u>(n)</u>	<u>(kg/ca2)</u>	
1.00	0.0	0.0	0.00	5.00	0.95	90.00	21.10	3.2	0.0
3.00	0.0	0.0	0.00	5.00	0,95	90.00	21.10	5.2	0.0
6.00	0.0	0.0	0.00	5.00	0.95	90.00	21.10	8.2	0.0
8.00	0.0	0.0	0.00	5.00	0.95	90.00	21.10	10.2	0.0
10.00	0.0	0.0	0.00	5.00	0.95	90.00	21.10	12.2	0.0

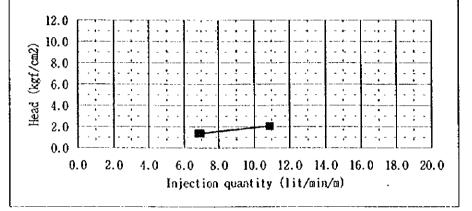


ļ

1

WATER PRESS	sure test r	ECORD				π	Hole No.		1/19
Gauge pressure (kgf/cm2)	Injection (lit/min)	quantity (1/min/w)	Friction head loss (kgf/cm2)	Test sect.L (m)	Gauge height (m)	lest se llole angle (deg.)	ction (m) Ground w.level (m)	<u>4.00</u> Total head (kg/cm2)	- <u>10.05</u> Lugeon unit
1.00 1.80 1.00	41, 3 65, 9 42, 3	10.9	0.07 0.17 0.07	6.05 6.05 6.05	1,60 1,60 1,60	60.00 60.00 60.00	3, 10 3, 10 3, 10 3, 10	1.4 2.1 1.4	50.1 52.9 51.4

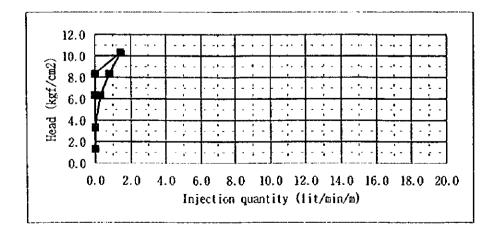
δ.90E-05: Constant number of rod friction loss for BW boring rod



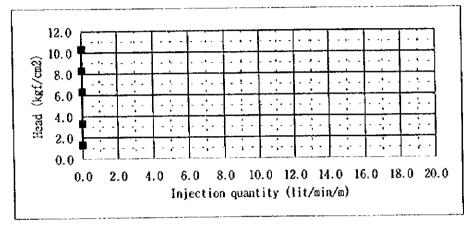
WATER PRESS	URE TEST	RECORD
-------------	----------	--------

Hole No. 94-3 2/19

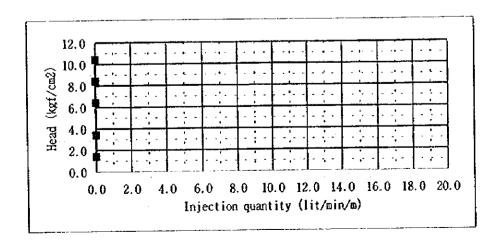
						Test se	ction (m)	11,60 -	16.80
Gauge	Injection	quantity	Friction	Test	Gauge	llole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	<u>(1/min/m)</u>	(kgf/cm2)	<u>(a)</u>	(m)	(deg.)	<u>(B</u>)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.20	0.60	60.00	3.00	1.3	0.0
3.00	0.0	0.0	0.00	5.20	0.60	60.00	3.00	3.3	0.0
6.00	0.0	0.0	0.00	5.20	0.60	60.00	3.00	6.3	0.0
8.00	0.0	0.0	0.00	5.20	0.60	60.00	3.00	8.3	0.0
10.00	7.5	1.4	0.00	5.20	0.60	60.00	3.00	10.3	1.4
8.00	4.2	0.8	0.00	5.20	0.60	60.00	3.00	8.3	1.0
6.00	1.6	0.3	0.00	5.20	0.60	60.00	3.00	6.3	0.5
3.00	0.0	0.0	0.00	5.20	0.60	60.00	3.00	3.3	0.0



WATER PRESS	URE TEST RI	ECORD					Hole No.	94-3	3/19
,						Test se	ction (m)	16.30 -	21.30
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure	,	•	head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	<u>(n)</u>	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	0.45	60.00	3.00	1.3	0.0
3.00	0.0	0.0	0.00	5.00	0.45	60.00	3.00	3.3	0.0
6.00	0.0	0.0	0.00	5.00	0.45	60.00	3.00	6.3	0.0
8.00	0.0	0.0	0.00	5.00	0.45	60.00	3.00	8.3	0.0
10.00	0.0	0.0	0.00	5,00	0.45	60.00	3.00	10.3	0.0



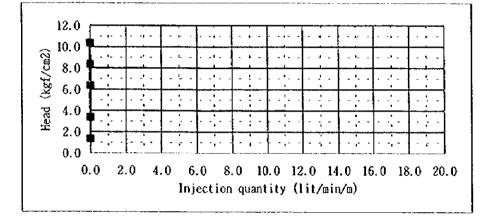
WATER PRESS	ure test r	ECORD				Test se	Hole No. cti <u>on (m)</u>	94-3 21.30 -	4/19 26.45
Gauge pressure (kgf/cm2)	Injection	quantity (l/min/m)	Friction head loss (kgf/cm2)	Test sect.L (m)	Gauge height (m)	Hole angle (deg.)	Ground w.level (m)	Total head (kg/cm2)	Lugeon unit
1.00 3.00 6.00	0.0 0.0 0.0	0.0	0.00 0.00 0.00 0.00	5. 15 5. 15 5. 15 5. 15	1.60 1.60 1.60	60.00 60.00 60.00	3.00 3.00 3.00	1.4 3.4 6.4	0.0 0.0 0.0
8.00 10.00	0.0	0.0	0.00	5. 15 5. 15	1.60 1.60	$60.00 \\ 60.00$	3.00 3.00	8.4 10.4	$\begin{array}{c} 0.0\\ 0.0\end{array}$



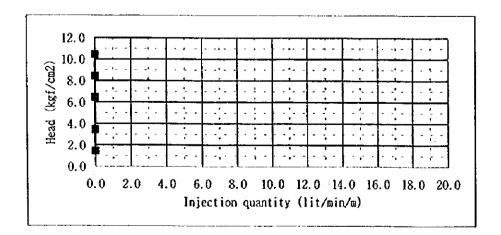
)

J

WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)	94-3 26,45 -	5/19 - 31.60
Gauge	Injection	quantity	Friction	Test	Gauge	llole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	<u>(a)</u>	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.15	0.75	60.00	3.20	1.4	0.0
3.00	0.0	0.0	0.00	5.15	0.75	60.00	3.20	3.4	0.0
6.00	0.0	0.0	0.00	5.15	0.75	60.00	3.20	6.4	0.0
8.00	0.0	0.0	0.00	5.15	0.75	60.00	3.20	8.4	0.0
10.00	0.0	0.0	0.00	5.15	0.75	60.00	3.20	10.4	0.0



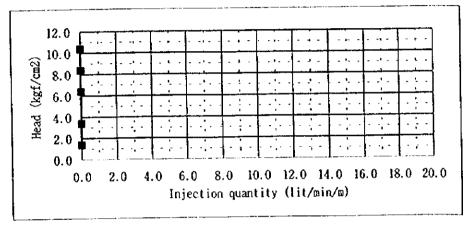
MATER PRESS	ure test r	ECORD				6/19			
						Test se	<u>ction (m</u>)	31.60 -	36.60
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	<u>(lit/min)</u>	<u>(1/min/m)</u>	(kgf/cm2)	(m)	(m)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.85	60.00	3.00	1.4	0.0
3.00	0.0	0.0	0.00	5.00	1.85	60.00	3.00	3.4	0.0
6.00	0.0	0.0	0.00	5.00	1.85	60.00	3.00	6.4	0.0
8.00	0.0	0.0	0.00	5.00	1.85	60.00	3.00	8.4	0.0
10.00	0.0	0.0	0.00	5.00	1.85	60.00	3.00	10.4	0.0



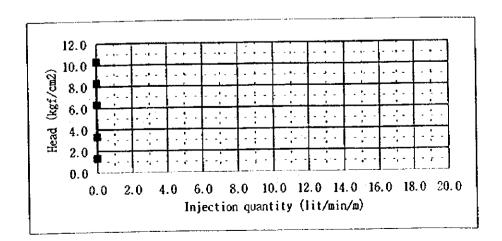
100

1

WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)	94-3 36.60 -	7/19 41.85
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	llole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	<u>(1/ain/a)</u>	(kgf/cm2)	<u>(D)</u>	(<u>m</u>)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.25	1.30	60.00	2.90	1.4	0.0
3.00	0.0	0.0	0.00	5.25	1.30	60.00	2.90	3.4	0,0
6.00	0.0		0.00	5.25	1,30	60.00	2.90	6.4	0.0
8.00	0.0		0.00	5.25	1.30	60.00	2.90	8.4	0.0
10.00	0.0		0.00	5.25	1.30	60.00	2.90	10.4	0.0

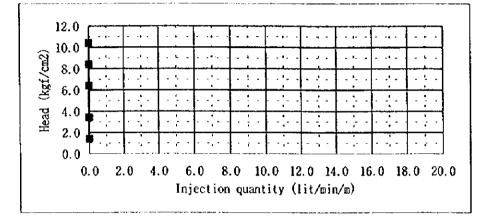


WATER PRESS	ure test r	ECORD				Test se	Hole No. <u>ction (a)</u>	94-3 41.85 -	8/19 46.85
Gauge pressure	Injection		Friction head loss	Test sect.L (m)	Gauge height (m)	Hole angle (deg.)	Ground w.levei (m)	Total head (kg/cm2)	Lugeon unit
<u>(kgf/cm2)</u> 1.00	<u>(lit/min)</u> 0.0	0.0	(kgf/cm2) 0.00	5.00	0.55	60.00	3.00 3.00	1.3 3.3	0.0
3.00 6.00	0.0 0.0	0.0	0.00	5.00 5.00	0.55 0.55	60.00	3.00	6.3	0.0
8.00 10.00	0.0 0.0		0.00 0.00	5.00 5.00	0.55 0.55		3.00 3.00	8.3 10.3	0.0 0.0



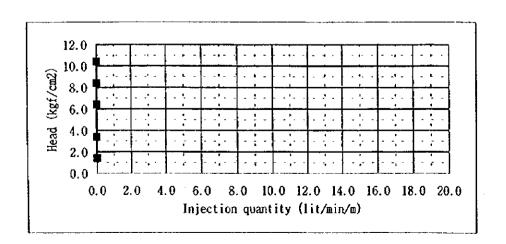
I

WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)	943 46.85 -	9/19 - 52.00
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure		-	head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.15	1.55	60.00	3.00	1.4	0.0
3.00	0.0	0.0	0.00	5.15	1.55	60,00	3.00	3.4	0.0
6.00	0.0	0.0	0.00	5.15	1.55	60.00	3.00	6.4	0.0
8.00	0.0	0.0	0.00	5.15	1.55	60.00	3.00	8.4	0.0
10.00	0.0	0.0	0.00	5.15	1.55	60.00	3.00	10.4	0.0



WATER PRESS	ure test r	ecord				Test se	Hole No. ction (m)	943 52.00 -	10/19 - 57.50
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min)	(1/mi <u>n/m)</u>	(kgf/cm2)	(B)	(m)	(deg.)	(n)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.50	0.90	60.00	3.60	1.4	0.0
3.00	0.0	0.0	0.00	5.50	0.90	60.00	3.60	3.4	0.0
6.00	0.0	0.0	0.00	5.50	0.90	60.00	3.60	6.4	0.0
8.00	0.0	0.0	0.00	5.50	0.90	60.00	3.60	8.4	0.0
10.00	0.0	0.0	0.00	5.50	0.90	60.00	3.60	10.4	0.0

.



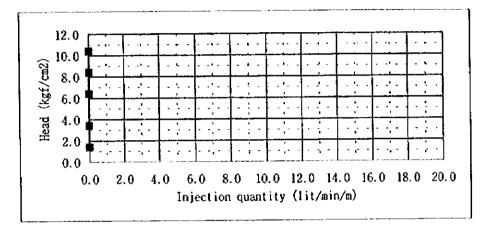
C2-61

など

1

I

WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)	94-3 57.40 -	11/19 62.40
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	llole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/ain/a)	(kgf/cm2)	(m)	(a)	(deg.)	<u>(n)</u>	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.50	60.00	3.00	1.4	0.0
3.00	0.0	0.0	0.00	5.00	1.50	60.00	3.00	3.4	0.0
6.00	0.0	0.0	0.00	5.00	1.50	60.00	3.00	6.4	0.0
8.00	0.0		0.00	5.00	1.50	60.00	3.00	8.4	0.0
10.00	0.0		0.00	5.00	1.50	69.00	3.00	10.4	0.0



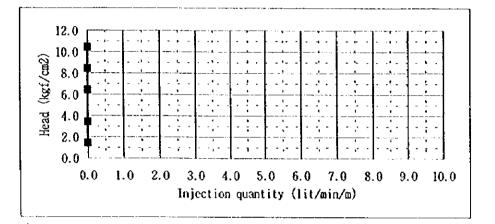
12/19 Hole No. 94-3 WATER PRESSURE TEST RECORD Test section (m) 67.60 62.40 -Hole Ground Total Lugeon Test Gauge Friction Injection quantity Gauge angle w.level head unit height sect.L head loss pressure (m) (kg/cm2) (m) (deg.) (lit/min) (l/min/m) (kgf/cm2) (<u>n</u>) (kgf/cm2) 9.5 60.00 3.00 1.3 5.20 0.90 1.3 0.021.006.6 60.00 3.00 3.3 5.9 5.20 0.90 2.0 0.0510.23.0060.00 3.00 6.3 4.1 5.20 0.90 6.00 2.6 0.0813.3 60.00 3.00 8.2 4.1 0.13 5.20 0.90 17.5 3.4 8.00 60.00 3.00 10.1 4.3 5.20 0.90 0.22 22.5 4.3 10.00 60.00 3.00 8.2 4.1 5.20 0.9017.6 3.4 0.14 8.00 60.00 3.00 6.3 4.0 5.20 0.90 6.00 13.1 2.5 0.07 60.003.003.3 5.6 5.20 0.90 1.8 0.04 3.00 9.6 5.20 0.90 60.00 3.001.3 8.1 1.1 0.01 1.00 5.6 12.0 -1 10.0 Head (kgf/cm2) л., 8.0 . ٠. ; 6.0 4.0 . 2.0 0.0 7.0 8.0 9.0 10.0 2.0 4.0 5.0 6.0 3.0 1.0 0.0

J

C2-62

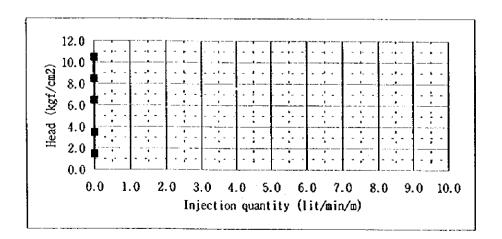
Injection quantity (lit/min/m)

WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)	94-3 67.60 -	13/19 - 72.75
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	Hole angle	Ground w.level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(]/min/m)	(kgf/cm2)	(m)	(a)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.15	1.80	60.00	3.00	1.4	0.0
3.00	0.0	0.0	0.00	5.15	1.80	60.00	3.00	3.4	0.0
6.00	0.0	0.0	0.00	5.15	1.80	60.00	3.00	6.4	0.0
8.00	0.0	0.0	0.00	5.15	1.80	60.00	3.00	8.4	0.0
10.00	0.0	0.0	0.00	5.15	1.80	60.00	3.00	10.4	0.0



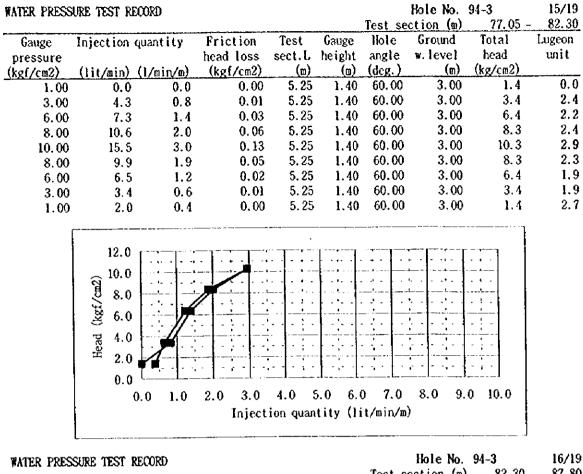
14/19 Hole No. 94-3

						Test se	ction (m)	72.05 -	77.05
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
<u>(kgf/cm2)</u>	(lit/min)	<u>(1/min/m)</u>	(kgf/cm2)	(B)	(m)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.85	60.00	3.20	1.5	0.0
3.0 0	0.0	0.0	0.00	5.00	1.85	60.00	3.20	3.5	0.0
6.00	0.0	0.0	0.00	5.00	1.85	60.00	3.20	6.5	0.0
8.00	0.0	0.0	0.00	5.00	1.85	60.00	3.20	8.5	0.0
10.00	0.0	0.0	0.00	5.00	1.85	60.00	3.20	10.5	0.0



C2-63

(1998)



						Test see	ction (m)	82.30 -	87.80
Gauge	Injection qu	uantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure	•	•	head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min) (1/ain/a)	(kgf/cm2)	(<u>B</u>)	(m)	(deg.)	(a)	(kg/cm2)	
1.00	2.7	0.5	0.00	5.50	0.60	60.00	3.00	1.3	3.7
3.00	6.5	1.2	0.02	5.50	0.60	60.00	3.00	3.3	3.6
6.00	9.4	1.7	0.05	5.50	0.60	60.00	3.00	6.3	2.7
8.00	14.7	2.7	0.12	5.50	0.60	60.00	3.00	8.2	3.3
10.00	20.7	3.8	0.25	5.50	0.60	60.00	3.00	10. 1	3.7
8.00	14.7	2.7	0.12	5.50	0.60	60.00	3.00	8.2	3.3
6.00	9.2	1.7	0.05	5.50	0.60	60.00	3.00	6.3	2.7
3.00	5.7	1.0	0.02	5.50	0.60	60.00	3.00	3.3	3.1
1.00	2.3	0.4	0.00	5.50	0.60	60.00	3.00	1.3	3.2
	12.0 10.0 0.8 0.0 10.0 10.0 10.0 0.0 0.0 0.0	0	2.0	4.0	6.0		8.0	10.0	

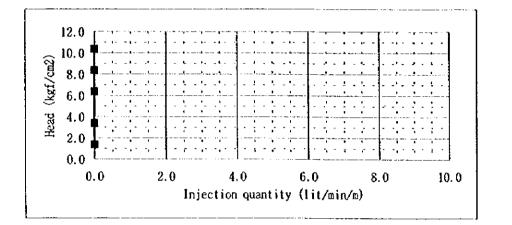
Injection quantity (lit/min/m)

1

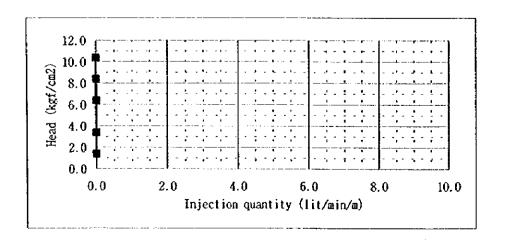
1

WATER PRESS	SURE TEST R	ECORD				17/19			
						Test se	ction (m)	87.80 -	92.65
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(<u>n</u>)	(m)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	4.85	1.10	60.00	3.00	1.4	0.0
3.00	0.0	0.0	0.00	4.85	1.10	60.00	3.00	3.4	0.0
6.00	0.0	0.0	0.00	4.85	1.10	60.00	3.00	6.4	0.0
8.00	0.0	0.0	0.00	4.85	1.10	60.00	3.00	8.4	0.0
10.00	0.0	0.0	0.00	4.85	1.10	60.00	3.00	10.4	0.0

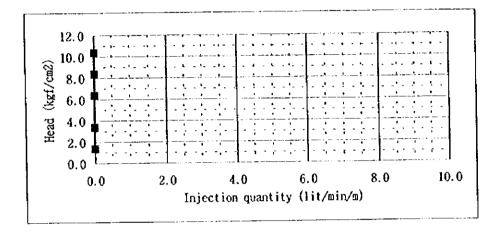
1



WATER PRESS	ure test r	ECORD					Hole No. ction (m)		18/19 - 97.25
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(B)	(D)	(deg.)	(a)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.20	60.00	3.00	1.4	0.0
3.00	0.0	0.0	0.00	5.00	1.20	60.00	3.00	3.4	0.0
6.00	0.0	0.0	0.00	5.00	1.20	60.00	3.00	6.4	0.0
8.00	0.0	0.0	0.00	5.00	1.20	60.00	3.00	8.4	0.0
10.00	0.0	0.0	0.00	5.00	1.20	60.00	3.00	10.4	0.0



WATER PRESS	ure test ri	ECORD					Hole No. ction (m)	94-3 95,25 -	19/19 100.25
Gauge pressure	Injection	quant i t y	Friction head loss	Test sect.L	Gauge height	Hole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/ain/m)	(kgf/cm2)	(a)	<u>(D)</u>	(deg.)	(B)	(kg/cm2)	
1.00	0.0	0.0	0.00	5,00	1.15	60.00	3.00	1.4	0.0
3,00	0.0	0.0	0.00	5.00	1.15	60.00	3.00	3.4	0.0
6.00	0.0	0.0	0.00	5.00	1.15	60.00	3.00	6.4	0.0
8.00	0.0	0.0	0.00	5.00	1, 15	60.00	3.00	8.4	0.0
10.00	0.0		0.00	5.00	1.15	60.00	3.00	10.4	0.0

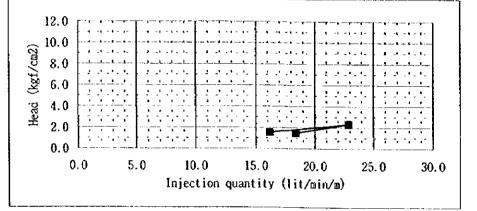


Ţ

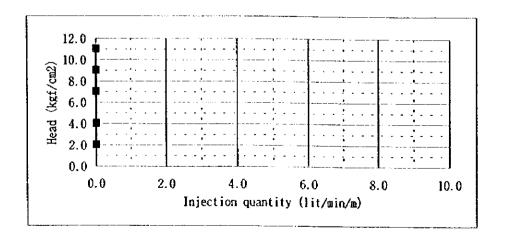
Ţ

WATER PRESS	SURE TEST R	ECORD				Test se	Hole No. ction (m)		1/24 - 11.05
Gauge pressure (kgf/cm2)	Injection (lit/min)	quantity (l/min/m)	Friction head loss (kgf/cm2)	Test sect.L (m)	Gauge height (m)	Hole angle (deg.)	Ground w.level (m)	Total head (kg/cm2)	Lugeon unit
1.00 2.00 1.00	64.7 91.6 73.6		0.23 0.46 0.30	4.00 4.00 4.00	0.90 0.90 0.90	90.00 90.00 90.00	6, 80 6, 80 6, 80	1.5 2.3 1.5	105.0 99.1 124.9

6.90E-05 :Constant number of rod friction loss for BW boring rod

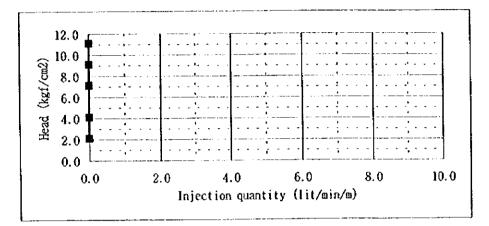


WATER PRESS	URE TEST R	ECORD					Hole No.		2/24
Gauge	Injection	quantity	Friction	Test	Gauge	<u>Test se</u> Hole	<u>ction (m)</u> Ground	<u> </u>	- 17.05 Lugeon
pressure		geostere y	head loss	sect.L		angle	w.level	head	unit
(kgf/cm2)	<u>(lit/min)</u>	<u>(1/ain/w)</u>	(kgf/cm2)	(m)	(m)	(deg.)	(D)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.95	90.00	8.40	2.0	0.0
3.00	0.0	0.0	0.00	5.00	1.95	90.00	8.40	4.0	0.0
6.00	0.0	0.0	0.00	5.00	1.95	90.00	8.40	7.0	0.0
8.00	0.0	0.0	0.00	5.00	1.95	90.00	8.40	9.0	0.0
10.00	0.0	0.0	0.00	5.00	1.95	90.00	8.40	11.0	0.0

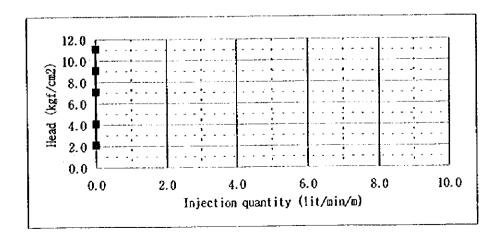


I

WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)	94-4 16.55 -	3/24 - 21.55
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure	-	•	head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(g)	<u>(n)</u>	(deg.)	<u>(0)</u>	<u>(kg/cm2)</u>	
1.00	0.0	0.0	0.00	5.00	1.30	90.00	10.00	2.1	0.0
3.00	0.0	0.0	0.00	5.00	1.30	90.00	10.00	4.1	0.0
6.00	0.0	0.0	0.00	5.00	1.30	90.00	10.00	7.1	0.0
8.00	0.0	0.0	0.00	5.00	1.30	90.00	10.00	9.1	0.0
10.00	0.0	0.0	0.00	5.00	1.30	90.00	10.00	11.1	0.0



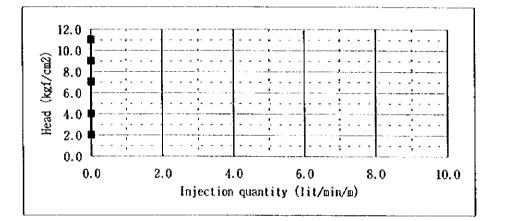
WATER PRESS	ure test r	ECORD					Hole No.		4/24
						<u>Test</u> se	ction (m)	<u> </u>	26.15
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure	-		head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf <u>/cm2)</u>	(m)	<u>(m)</u>	(deg.)	(m)	(kg/cm2)	<u> </u>
1.00	0.0		0.00	5.00	1.30	90.00	9.60	2.1	0.0
3.00	0.0	0.0	0.00	5.00	1.30	90.00	9.60	4.1	0.0
6.00	0.0	0.0	0.00	5.00	1.30	90.00	9.60	7.1	0.0
8.00	0.0	0.0	0.00	5.00	1.30	90.00	9.60	9.1	0.0
10.00	0.0		0.00	5.00	1.30	90.00	9.60	11.1	0.0



<u>_____</u>

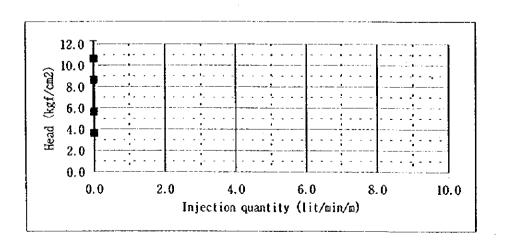
1

WATER PRESS	uke test r	ECORD				Test se	Hole No. ction (m)	94-4 26, 15 -	5/24 31.25
Gauge	Injection	quantity	Friction	Test	Gauge	lble	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	<u>(n</u>)	(m)	(deg.)	(n)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.10	1.25	90.00	9.20	2.0	0.0
3.00	0.0	0.0	0.00	5.10	1.25	90.00	9.20	4.0	0.0
6.00	0.0	0.0	0.00	5.10	1.25	90.00	9.20	7.0	0.0
8.00	0.0	0.0	0.00	5.10	1.25	90.00	9.20	9.0	0.0
10.00	0.0	0.0	0.00	5.10	1.25	90.00	9.20	11.0	0.0



WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)	94-4 31.25 -	6,/24 - 36.35
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	<u>(@)</u>	(deg.)	(n)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.10	1.65	90.00	24.60	3.6	0.0
3.00	0.0	0.0	0.00	5.10	1.65	90.00	24.60	5.6	0.0
6.00	0.0	0.0	0.00	5.10	1.65	90.00	24.60	8.6	0.0
8.00	0.0	0.0	0.00	5.10	1.65	90.00	24.60	10.6	0.0
10.00	0.0	0.0	0.00	5.10	1.65	90.00	24 .60	12.6	0.0

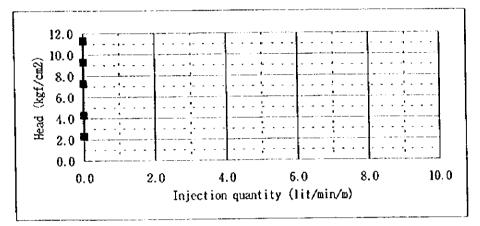
•



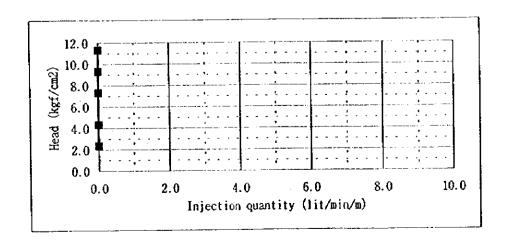
ALC: NO

I

WATER PRESS	ure test ri	ECORD					Hole No. ction (m)	94-4 36.15 -	7/24
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	llole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(n)	(n)	(deg.)	(a)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.75	90.00	11.10	2.3	0.0
3.00	0.0	0.0	0.00	5.00	1.75	90.00	11.10	4.3	0.0
6.00	0.0	0.0	0.00	5.00	1.75	90.00	11.10	7.3	0.0
8.00	0.0	0.0	0.00	5.00	1.75	90.00	11.10	9.3	0.0
10.00	0.0		0.00	5.00	1.75	90.00	11.10	11.3	0.0



WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)	94-4 <u>41.15 -</u>	8/24 46.35
Gauge pressure	Injection	-	Friction head loss	Test sect.L	Gauge height	Hole angle (deg.)	Ground w. level (a)	Total head (kg/cm2)	Lugeon unit
<u>(kgf/cm2)</u> 1.00	<u>(lit/min)</u> 0.0	<u>(1/min/m)</u> 0.0	(kgf/cm2) 0.00	(m) 5.20	(m) 1.25		12.00	2.3	0.0
3.00 6.00	0.0 0.0		0.00 0.00	5.20 5.20	1.25 1.25		12.00 12.00	4.3 7.3	0.0 0.0
8.00 10.00	0.0 0.0	0.0	0.00 0.00	5.20 5.20	1.25 1.25	90.00 90.00	12.00 12.00	9.3 11.3	0.0 0.0

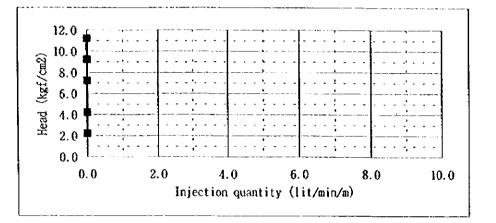


Ĩ

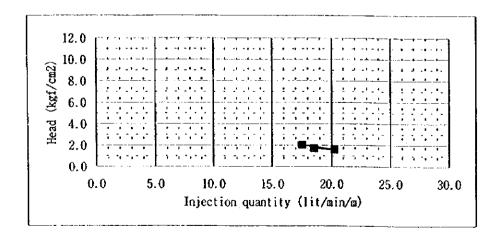
C2-70

J

WATER PRESS	ure test r	ecord					Hole No.	94-4	9/24
						Test se	ction (m)	46.35 -	51.35
Gauge	Injection	quantity	Friction	Test	Gauge	llole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	<u>(1/ain/a)</u>	(kgf/cm2)	<u>(0)</u>	(m)	(deg.)	(a)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	0.85	90.00	11.30	2.2	0.0
3.00	0.0	0.0	0.00	5.00	0.85	90.00	11.30	4.2	0.0
6.00	0.0	0.0	0.00	5.00	0.85	90.00	11.30	7.2	0.0
8.00	0.0	0.0	0.00	5.00	0.85	90.00	11.30	9.2	0.0
10.00	0.0	0.0	0.00	5.00	0.85	90.00	11.30	11.2	0.0

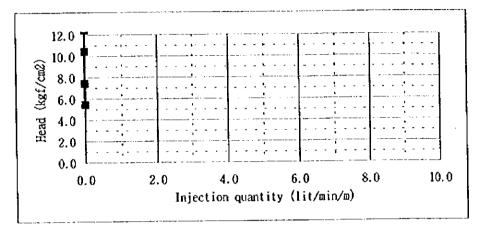


WATER PRESS	WRE TEST R	ECORD					Hole No. ction (m)	94-4 51.00 -	10/24 - 56.00
Gauge pressure	Injection		Friction head loss	Test sect.L	Gauge height	Hole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	<u>(lit/min)</u>	<u>(1/@in/@)</u>	<u>(kgf/cm2)</u>	(m)	(m)	(deg.)	(a)	(kg/cm2)	
1.00	87.6	17.5	2.79	5.00	1.75	90.00	36.50	2.0	86.2
1.50	101.2	20.2	3.73	5.00	1.75	90.00	36.50	1.6	126.7
1.00	92.6	18.5	3.12	5.00	1.75	90.00	36.50	1.7	108.7

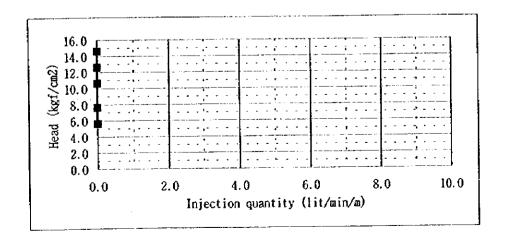


Ţ

WATER PRESS	ure test r	ECORD				Test sc	Hole No. ction (m)	94-4 56.00 -	11/24 60.85
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	llole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/ain/m)	(kgf/cm2)	<u>(n)</u>	<u>(n)</u>	<u>(deg.)</u>	<u>(n)</u>	(kg/cm2)	
1.00	0.0	0.0	0.00	4.85	1.25	90.00	43.25	5.5	0.0
3.00	0.0	0.0	0.00	4.85	1.25	90.00	43.25	7.5	0.0
6.00	0.0	0.0	0.00	4.85	1.25	90.00	43.25	10.5	0.0
8.00	0.0		0.00	4.85	1.25	90.00	43.25	12.5	0.0
10.00	0.0		0.00	4.85	1.25	90.00	43.25	14.5	0.0

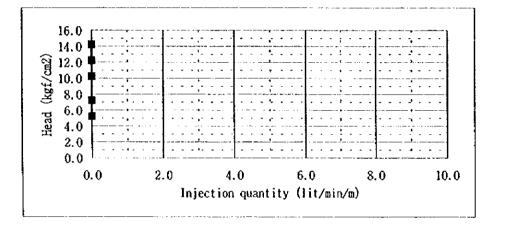


WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)	94–4 60,85 -	12/24 66.00
Gauge pressure	Injection		Friction head loss	Test sect.L	Gauge height	Hole angle	Ground w. level	Total head	Lugeon unit
(kgf/ca2)		<u>(1/@in/@)</u>	<u>(kgf/cm2)</u>	<u>(a)</u>	<u>(m)</u>	<u>(deg.)</u> 90.00	<u>(m)</u> 45.10	<u>(kg/cm2)</u> 5.6	0.0
1.00 3.00	0.0 0.0	0.0 0.0	0.00	5. 15 5. 15	1.05 1.05	90.00	45.10	7.6	0.0
6.00	0.0		0.00	5.15	1.05	90.00	45.10	10.6	0.0
8.00 10.00	0.0 0.0		0.00 0.00	5.15 5.15	1.05 1.05	90.00 90.00	45.10 45.10	12.6 14.6	0.0 0.0

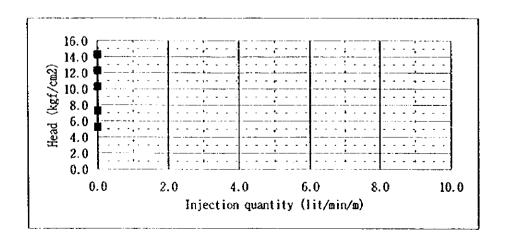


I

WATER PRESS	ure test a	ECORD				Test se	Hole No. ction (m)	94-4 66.00 -	13/24 - 71.40
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	wit
(kgf/cm2)	(lit/min)	(1/@in/@)	(kgf/cm2)	(D)	(B)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.40	1.95	90.00	40.30	5.2	0.0
3.00	0.0	0,0	0.00	5.40	1.95	90.00	40.30	7.2	0.0
6.00	0.0	0.0	0.00	5.40	1.95	90.00	40.30	10.2	0.0
8.00	0.0	0.0	0.00	5.40	1.95	90.00	40.30	12.2	0.0
10.00	0.0	0.0	0.00	5.40	1.95	90.00	40.30	14.2	0.0

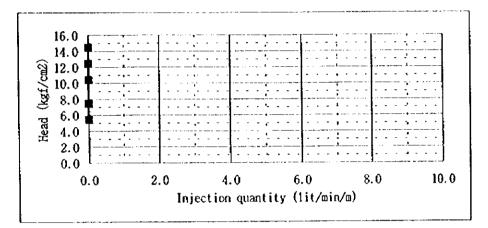


WATER PRESS	URE TEST R	ECORD					Hole No. ction (m)	94-4 71.40 -	14/24
Gauge	Injection	quantity	Friction	Test	Gauge	llole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	<u>(lit/min)</u>	<u>(1/min/m)</u>	(kgf/cm2)	(m)	(m)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.10	1.50	90.00	40.80	5.2	0.0
3.00	0.0	0.0	0.00	5.10	1.85	90.00	40.80	7.3	0.0
6.00	0.0	0.0	0.00	5.10	1.85	90.00	40.80	10.3	0.0
8.00	0.0	0.0	0.00	5.10	1.85	90.00	40.80	12.3	0.0
10.00	0.0	0.0	0.00	5.10	1.85	90.00	40.80	14.3	0.0

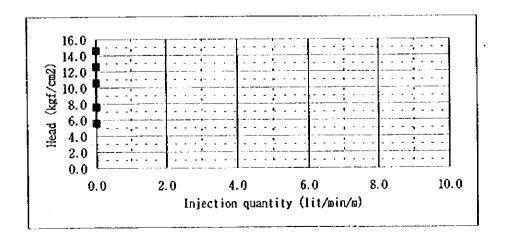


4 (N

WATER PRESS	ure test ri	ecord				Test se	Hole No. ction (m)	94-4 76.50 -	15/24 81.40
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure	-	•	head loss	sect.L	height	angle	w. tevel	head	unit
(kgf/cm2)	(lit/min)	(1/min/w)	(kgf/cm2)	(m)	(m)	(deg.)	(a)	(kg/cm2)	
1.00	0.0	0.0	0.00	4.90	1.90	90.00	42.40	5.4	0.0
3.00	0.0	0.0	0.00	4.90	1.90	90.00	42.40	7.4	0.0
6.00	0.0	0.0	0.00	4.90	1.90	90.00	42.40	10.4	0.0
8.00	0.0	0.0	0.00	4.90	1.90	90.00	42.40	12.4	0.0
10.00	0.0	0.0	0.00	4.90	1.90	90.00	42.40	14.4	0.0



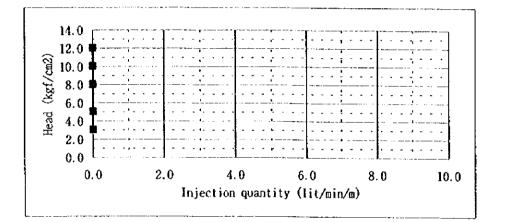
WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)	94-4 81.40 -	16/24 86.40
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	Hole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/win/w)	(kgf/cm2)	(m)	(n)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.52	90.00	44.30	5.6	0.0
3.00	0.0	0.0	0.00	5.00	1.52	90.00	44.30	7.6	0.0
6.60	0.0	0.0	0.00	5.00	1.52	90.00	44.30	10.6	0.0
8.00	0.0	0.0	0.00	5.00	1.52	90.00	44.30	12.6	0.0
10.00	0.0	0.0	0.00	5.00	1.52	90.00	44.30	14.6	0.0



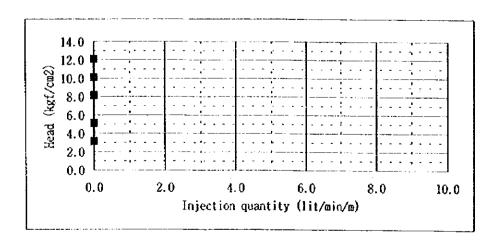
Ĩ

1

WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)	94-4	17/24 - 91.40
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	Hole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	(n)	(kg/cm2)	(0)10
1.00	0.0	0.0	0.00	5.00	1.00	90.00	19.60	3.1	0.0
3.00	0.0	0.0	0.00	5.00	1.00	90.00	19.60	5.1	0.0
6.00	0.0	0.0	0.00	5.00	1.00	90.00	19.60	8.1	0.0
8.00	0.0	0.0	0.00	5.00	1.00	90.00	19,60	10.1	0.0
10.00	0.0	0.0	0.00	5.00	1.00	90.00	19.60	12.1	0.0



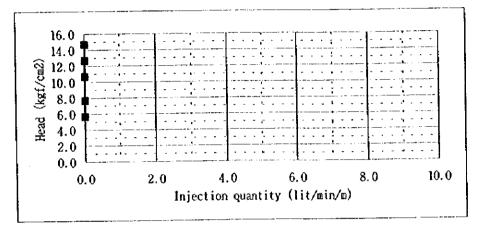
WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)	94-4 91,40 -	18/24 96.40
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(a)	(deg.)	(B)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	2.00	90.00	19.20	3.1	0.0
3.00	0.0	0.0	0.00	5.00	2.00	90.00	19.20	5.1	0.0
6.00	0.0	0.0	0.00	5.00	2.00	90.00	19.20	8.1	0.0
8.00	0.0	0.0	0.00	5.00	2.00	90.00	19.20	10.1	0.0
10.00	0.0	0.0	0.00	5.00	2.00	90.00	19.20	12.1	0.0



J

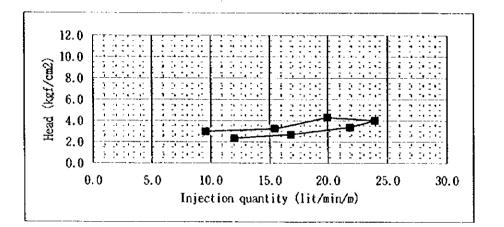
WATER PRESS	ure test r	ecord					Hole No. ction (m)	94-4 96.40 -	19/24 101.40
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total head	Lageon
pressure	(1:4/-:-)	(1/a)	head loss (kgf/cm2)_	sect.L (m)	height (m)	angle (deg.)	w.level (B)	(kg/ca2)	Unit
<u>(kgf/cm2)</u> 1.00	<u>(11(/a1n)</u> 0.0	<u>(1/ain/a)</u> 0.0	0.00	5.00	1.50	90.00	45.10	5.7	0.0
3.00	0.0		0.00	5.00	1.50	90.00	45.10	7.7	0.0
6,00	0.0	0.0	0.00	5.00	1.50	90.00	45.10	10.7	0.0
8.00	0.0	0.0	0.00	5.00	1.50	90.00	45.10	12.7	0.0
10.00	0.0	0.0	0.00	5.00	1.50	90.00	45.10	14.7	0.0

Í

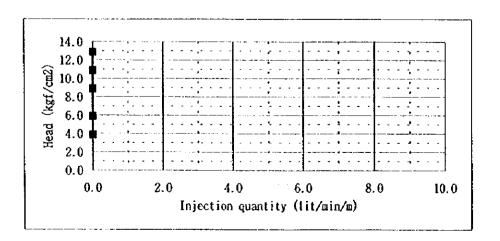


ATER PRESS	ure test ri	ecord					Hole No. ction (m)	944 101.40	20/2 106.4
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeo
pressure	111,000100	,	head loss	sect.L	height	angle	w. level	head	unit
kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	<u>(B)</u>	(kg/cm2)	
1.00	37.4	9.4	0.99	4.00	1.00	90.00	32.00	3.3	28
3.00	51.2	12.8	1.85	4.00	1.00	90.00	32.00	4.4	28
6.00	68.6	17.2	3.33	4.00	1.00	90.00	32.00	6.0	28
8.00	77.9	19.5	4.29	4.00	1.00	90.00	32.00	7.0	27
10.00	88.4	22.1	5.52	4.00	1.00	90.00	32.00	7.8	28
8.00	78.2	_	4.32	4.00	1.00	90.00	32.00	7.0	28
6.00	67.2		3.19	4.00	1.00	90.00	32.00	6.1	27
3.00	46.4	11.6	1.52	4.00	1.00	90.00	32.00	4.8	24
1.00	27.4		0.53	4.00	1.00	90.00	32.00	3.8	18
	12.0 10.0 0.8 0.0 4.0 2.0								
	0.0		5.0 10.	-	5.0	20.0	25.0	30.0	
			Inject	ion quan	tity (li	t/min/m))		

WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)	94-4 106.40 -	21/24 - 111.50
Gauge pressure (kgf/cm2)	Injection (lit/min)	quantity (1/min/m)	Friction head loss (kgf/cm2)	Test sect.L (m)	Gauge height (m)	llole angle (deg.)	Ground w. level (m)	Total head (kg/cm2)	Lugeon unit
1.00	48. 1	12.0	1.73	4.00	2.00	90.00	28.80	2.3	51.2
3.00	67.3	16.8	3, 39	4.00	2.00	90.00	28.80	2.7	62.5
6.00	87.4	21.9	5.71	4.00	2.00	90.00	28.80	3.4	64.9
7.80	95.8	24.0	6.86	4.00	2.00	90.00	28.80	4.0	59.6
6.00	79.9	20.0	4.77	4.00	2.00	90.00	28.80	4.3	46.4
3.00	61.8	15.5	2.86	4.00	2.00	90.00	28.80	3.2	47.9
1.00	38.3	9,6	1.10	4.00	2.00	90.00	28.80	3.0	32.1

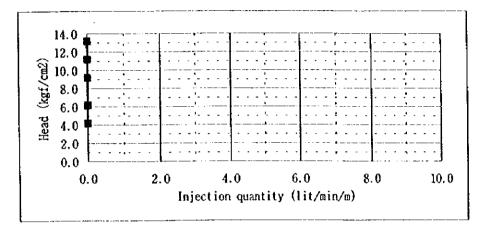


WATER PRESS	ure test r	ECORD					Hole No.	94 - 4	22/24
						Test se	<u>ection (m)</u>	<u> </u>	<u>116.40</u>
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
<u>(kgf/cm2)</u>	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	(m)	(kg/ca2)	
1.00	0.0	0.0	0.00	5.00	1.40	90.00	27.30	3.9	0.0
3.00	0.0	0.0	0.00	5.00	1.40	90.00	27.30	5.9	0.0
6.00	0.0	0.0	0.00	5.00	1.40	90.00	27.30	8.9	0.0
8.00	0.0	0.0	0.00	5.00	1.40	90.00	27.30	10.9	0.0
10.00	0.0	0.0	0.00	5.00	1.40	90.00	27.30	12.9	0.0

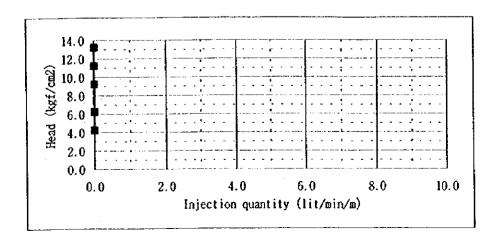




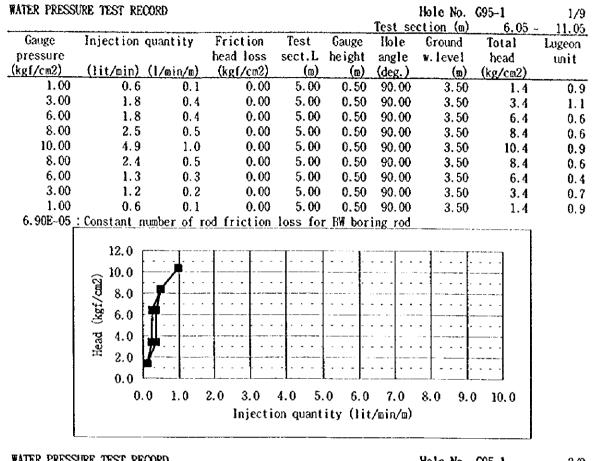
WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)	94-4 116.40 -	23/24 - 121.40
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure		•	head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	<u>(m)</u>	<u>(D)</u>	(deg.)	<u>(B)</u>	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	0.90	90.00	30.80	4.2	0.0
3.00	0.0	0.0	0.00	5.00	0.90	90.00	30.80	6.2	0.0
6.00	0.0	0.0	0.00	5.00	0.90	90.00	30.80	9.2	0.0
8.00	0.0	0.0	0.00	5.00	0.90	90.00	30.80	11.2	0.0
10.00	0.0	0.0	0.00	5.00	0.90	90.00	30, 80	13.2	0.0



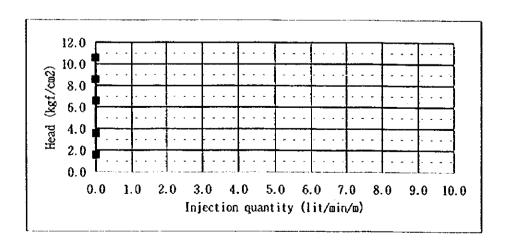
WATER PRESS	ure test r	ECORD				Test se	Hole No. ction (m)	94-4 120.35 -	24/24 125.35
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	Hole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(D)	(m)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.55	90.00	30.80	4.2	0.0
3.00	0.0	0.0	0.00	5.00	1.55	90.00	30.80	6.2	0.0
6.00	0.0	0.0	0.00	5.00	1.55	90.00	30.80	9.2	0.0
8.00	0.0	0.0	0.00	5.00	1.55	90.00	30.89	11.2	0.0
10.00	0.0	0.0	0.00	5.00	1.55	90.00	30.80	13.2	0.0



Ţ

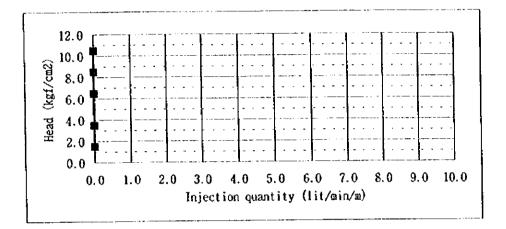


Injection					— ·			
Injection					lest see	<u>ction (m)</u>	11.05 -	15.80
injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
		head loss	sect.L	height	angle	w.level	head	unit
(lit/min)	<u>(1/min/m)</u>	(kgf/cm2)	(m)	(m)	(deg.)	(m)	(kg/cm2)	÷
0.0	0.0	0.00	4.75	1.25	90.00	4.50	1.6	0.0
0.0	0.0	0.00	4.75	1.25	90.00	4.50	3.6	0.0
0.0	0.0	0.00	4.75	1.25	90.00	4.50	6.6	0.0
0.0	0.0	0.00	4.75	1.25	90.00	4.50	8.6	0.0
0.0	0.0	0.00	4.75	1.25	90.00	4.50	10.6	0.0
	(lit/min) 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0	head loss (lit/min) (l/min/m) (kgf/cm2) 0.0 0.0 0.00 0.0 0.0 0.00 0.0 0.0 0.00 0.0 0.0 0.00 0.0 0.0 0.00 0.0 0.0 0.00	$\begin{array}{c ccccc} & head loss & sect. L \\ \hline (1it/min) & (1/min/m) & (kgf/cm2) & (m) \\ \hline 0.0 & 0.0 & 0.00 & 4.75 \\ \hline 0.0 & 0.0 & 0.00 & 4.75 \\ \hline 0.0 & 0.0 & 0.00 & 4.75 \\ \hline 0.0 & 0.0 & 0.00 & 4.75 \\ \hline 0.0 & 0.0 & 0.00 & 4.75 \\ \hline \end{array}$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

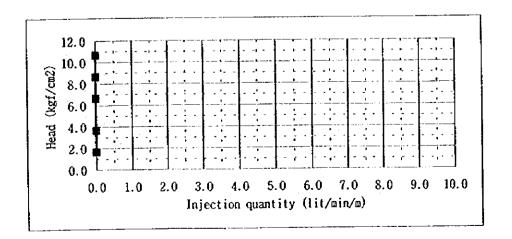


お読ん

NATER PRESSU	re test rea	CORD					Hole No. ction (m)	G95-1 16.00 -	3/9 - 21.00
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	llole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(a)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	0.30	90.00	4.60	1.5	0.0
3.00	0.0	0.0	0.00	5.00	0.30	90.00	4.60	3.5	0.0
6.00	0.0	0.0	0.00	5.00	0.30	90.00	4.60	6.5	0.0
8.00	0.0	0.0	0.00	5.00	0.30	90.00	4.60	8.5	0.0
10.00	0.0	0.0	0.00	5.00	0.30	90.00	4.60	10.5	0.0



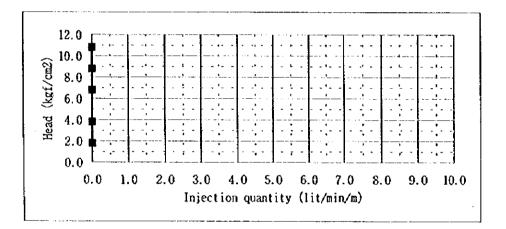
WATER PRESS	ire test re	CORD				Test se	Hole No. ction (m)	695–1 21.00 -	4/9 - <u>26.00</u>
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	(m)	(kg/ca2)	
1.00	0.0		0.00	5.00	1.20	90.00	5.45	1.7	0.0
3.00	0.0		0.00	5.00	1.20	90.00	5.45	3.7	0.0
6.00	0.0		0.00	5.00	1.20	90.00	5.45	6.7	0.0
8.00	0.0		0.00	5.00	1.20	90.00	5.45	8.7	0.0
10.00	0.0		0.00	5.00	1.20	90.00	5.45	10.7	0.0



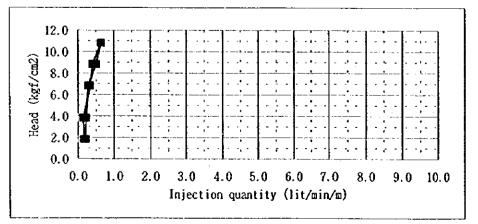
Ţ

C2-80

WATER PRESS	ure test re	CORD				Test se	Hole No. ction (m)	695-1 26.00 -	5/9 - 31.00
Gauge pressure	Injection		Friction head loss	Test sect. L	Gauge height	Hole angle	Ground w. level	Total head	Lugeon unit
<u>(kgf/cm2)</u>	<u>(lit/min)</u>	<u>(1/min/m)</u>	(kgf/cm2)	<u>(B)</u>	<u>(a)</u>	(deg.)	()	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.30	90.00	6.65	1.8	0.0
3.00	0.0	0.0	0.00	5.00	1.30	90.00	6.65	3.8	0.0
6.00	0.0	0.0	0.00	5.00	1.30	90.00	6.65	6.8	0.0
8.00	0.0	0.0	0.00	5.00	1.30	90.00	6.65	8.8	0.0
10.00	0.0	0.0	0.00	5.00	1.30	90.00	6.65	10.8	0.0



WATER PRESS	URE TEST RE	CORD					Hole No.	695-1	6/9
						Test se	<u>ction (m)</u>	31.00 -	36.00
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
<u>(kgf/cm2)</u>	<u>(lit/min)</u>	<u>(1/min/m)</u>	(kgf/cm2)	(n)	(n)	(deg.)	(a)	(kg/cm2)	
1.00	1.0	0.2	0.00	5.00	0.80		7.40	1.8	1.1
3.00	1.1	0.2	0.00	5.00	0.80	90.00	7.40	3.8	0.6
6.00	1.4	0.3	0.00	5.00	0.80	90.00	7.40	6.8	0.4
8.00	2.5	0.5	0.00	5.00	0.80	90.00	7.40	8.8	0.6
10.00	3.2	0.6	0.00	5.00	0.80	90.00	7.40	10.8	0.6
8.00	2.0	0.4	0.00	5.00	0.80	90.00	7.40	8.8	0.5
6.00	1.7	0.3	0.00	5.00	0.80	90.00	7.40	6.8	0.5
3.00	0.7	0.1	0.00	5.00	0.80	90.00	7.40	3.8	0.4
1.00	0.8	0.2	0.00	5.00	0.80	90.00	7.40	1.8	0.9



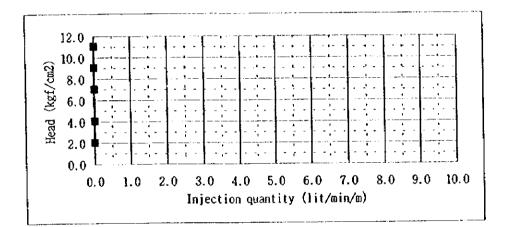
C2-81

Ţ

١<u>ş</u>

WATER PRESSU	ire test rea	XORD				Test se	Hole No. ction (m)	695-1 36.00 -	7/9 41.05
Gauge	Injection	quantity	Friction head loss	Test sect.L	Gauge height	llole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(11)	(deg.)	<u>(n)</u>	(kg/cm2)	
1.00	0.0	0.0	0.00	5.05	0.40	90.00	10.20	2.1	0.0
3.00	0.0	0.0	0.00	5.05	0.40	90.00	10.20	4.1	0.0
6.00	0.0	0.0	0.00	5.05	0.40	90.00	10.20	7.1	0.0
8.00	0.0	0.0	0.00	5.05	0.40	90.00	10.20	9.1	0.0
10.00	0.0	0.0	0.00	5.05	0.40	90.00	10.20	11.1	0.0

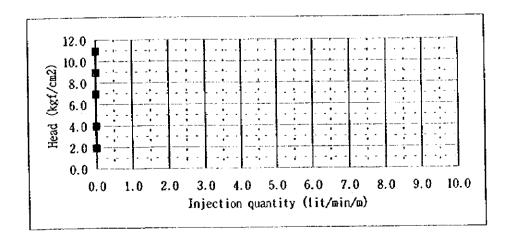
.



WATER PRESSURE TEST RECORD

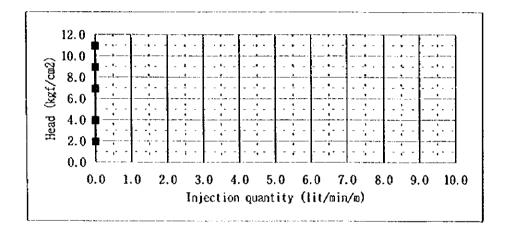
Hole No. 695-1 8/9

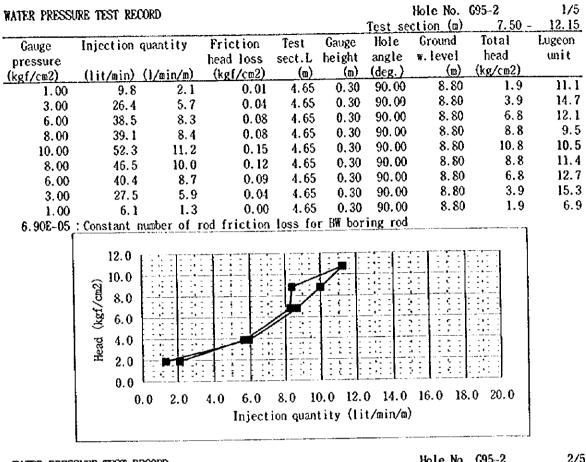
				_	Test see	ction (m)	41.05 -	<u> </u>
Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon unit
(); t (m; n)	(1/min/m)							unt
		0.00	4.95	1.25	90.00	8.20	1.9	0.0
	_	0.00	4.95	1.25	90.00	8, 20	3.9	0.0
0.0		0.00	4.95	1.25	90.00			0.0
			4.95 4.95	• • • • •	90.00 90.00	8.20 8.20	8.9 10.9	0.0 0.0
	Injection (lit/min) 0.0 0.0 0.0 0.0	Injection quantity (lit/min) (l/min/m) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Injection quantity Friction head loss (lit/min) (l/min/m) (kgf/cm2) 0.0 0.0 0.00 0.0 0.0 0.00 0.0 0.0 0.00 0.0 0.00 0.00 0.0 0.00 0.00	Injection quantity Friction test head loss sect. L (lit/min) (l/min/m) (kgf/cm2) (m) 0.0 0.0 0.00 4.95 0.0 0.0 0.00 4.95 0.0 0.0 0.00 4.95 0.0 0.0 0.00 4.95 0.0 0.0 0.00 4.95 0.0 0.0 0.00 4.95 0.0 0.0 0.00 4.95 0.0 0.0 0.00 4.95	Injection quantity Friction head loss Test best best best best best best best b	Test set Injection quantity Friction head loss Test set Gauge Hole head loss sect.L height angle (lit/min) (l/min/m) (kgf/cm2) (m) (m) (deg.) 0.0 0.0 0.00 4.95 1.25 90.00 0.0 0.0 0.00 4.95 1.25 90.00 0.0 0.00 0.00 4.95 1.25 90.00 0.0 0.00 4.95 1.25 90.00 0.0 0.00 4.95 1.25 90.00 0.0 0.00 0.00 4.95 1.25 90.00	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $



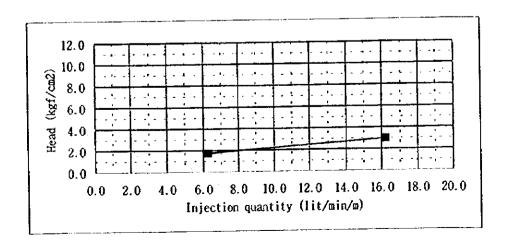
Ĩ

WATER PRESS	jre test re	CORD				Test se	Hole No. ction (m)	695-1 46.00 -	9/9 <u>50,50</u>
Gauge	Injection	quantity	Friction head loss	Test sect.L	Gauge height	Hole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(n)	(deg.)	(@)	(kg/cm2)	GIIV
1.00	0.0	0.0	0.00	4.50	0.80	90.00	8.45	1.9	0.0
3.00	0.0	0.0	0.00	4.50	0.80	90.00	8.45	3.9	0.0
6.00	0.0	0.0	0.00	4.50	0.80	90.00	8.45	6.9	0.0
8.00	0.0	0.0	0.00	4.50	0.80	90.00	8,45	8.9	0.0
10.00	0.0	0.0	0.00	4.50	0.80	90.00	8.45	10.9	0.0



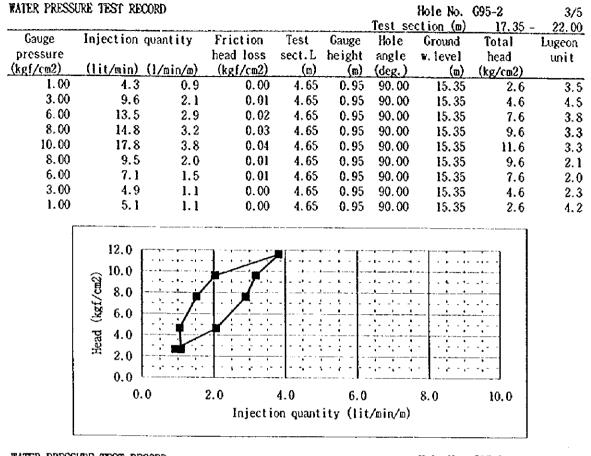


WATER PRESS	ure test re	CORD				Test se	Hole No. ct <u>ion (m)</u>		- 17.35
Gauge pressure	Injection		Friction head loss	Test sect.L (m)	Gauge	Hole angle (deg.)	Ground w.level (m)	Total head (kg/cm2)	Lugeon unit
<u>(kgf/cm2)</u> 1.00 2.80 1.00	(lit/min) 32.1 84.2 32.6		(kgf/cm2) 0.10 0.68 0.10	5.20 5.20 5.20 5.20	1.65 1.65 1.65	90.00 90.00 90.00	6.75 6.75 6.75 6.75	1.7 3.0 1.7	35.4 54.6 36.1

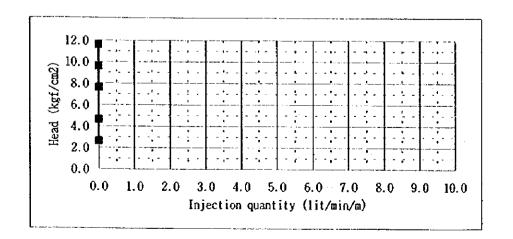


Ţ

C2-84



WATER PRESS	ure test re	CORD					Hole No.	695-2	4/5
	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	·····		Test se	ction (m)	22.00 -	27.00
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
<u>(kgf/cm2)</u>	(lit/min)	(1/min/m)	(kgf/cm2)	(a)	(m)	(deg.)	(a)	(kg/ca2)	
1.00	0.0	0.0	0.00	5.00	0.80	90.00	15.35	2.6	0.0
3.00	0.0	0.0	0.00	5.00	0.80	90.00	15.35	4.6	0.0
6.00	0.0	0.0	0.00	5.00	0.80	90.00	15.35	7.6	0.0
8.00	0.0	0.0	0.00	5.00	0.80	90.00	15.35	9.6	0.0
10.00	0.0	0.0	0.00	5.00	0.80	90.00	15.35	11.6	0.0

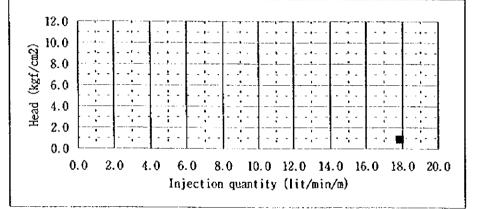


WATER PRESS	re test reco	RD					Hole No.	695-2	5/5
PRILIC FISION						Test se	<u>ction (m)</u>	25.00 -	
Gauge	Injection qu	antity	Friction	Test	Gauge	llole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min) (1/0in/0)	(kgf/cm2)	(m)	(<u>m)</u>	(deg.)	<u>(n)</u>	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	0.80	90.00	15.65	2.6	0.0
3.00	0,0	0.0	0.00	5.00	0.80	90.00	15.65	4.6	0.0
6.00	0.0	0.0	0.00	5,00	0.80	90.00	15.65	7.6	0.0
8.00	0.0	0.0	0.00	5.00	0.80	90.00	15.65	9.6	0.0
10.00	1.1	0.2	0.00	5.00	0.80	90.00	15.65	11.6	0.2
8.00	0.0	0.0	0.00	5.00		90.00	15.65	9.6	0.0
6.00	0.0	0.0	0.00	5.00			15.65	7.6	0.0
3.00	0.0	0.0	0.00	5.00			15.65	4.6	0.0
1.00	0.0	0.0	0.00	5.00	0.80	90.00	15.65	2.6	0.0
	12.0 10.0 0.8 0.6 Head 0.0 0.0) 1.0	2.0 3.0 Inject	4.0 E	5.0 6.0 tity (li		8.0 9.	0 10.0	

Ţ

WATER PRESS	ure test re	XORD					Hole No.		1/6
-						Test se	ction (m)	4.15 -	- 8.75
Gauge	Injection	quantity	Friction	Test	Gauge	Hote	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	<u>(lit/min)</u>	<u>(1/min/m)</u>	(kgf/cm2)	(n)	(<u>n</u>)	(deg.)	(m)	(kg/cm2)	
0.40	82.1	17.8	0.22	4.60	0.65	90.00	6.45	0.9	201.3

6.90E-05 : Constant number of rod friction loss for BW boring rod

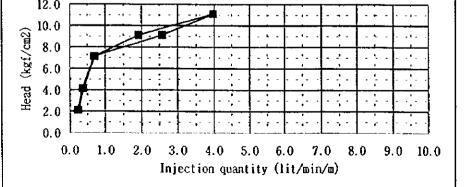


WATER	PRESSURE	TEST	RECORD	

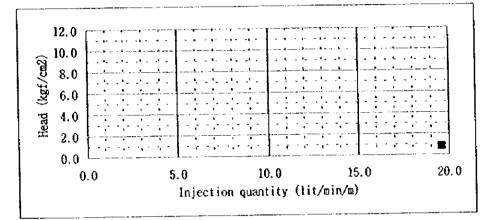
Hole No. 695-3 2/6

T

Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeor
pressure			head loss	sect.L	height	angle	w. level	head	unit
kgf/cm2)	<u>(lit/sin)</u>	<u>(1/¤in/¤)</u>	<u>(kgf/cm2)</u>	<u>(a)</u>	<u>(n)</u>	(deg.)	(a)	(kg/cm2)	
1.00	1.3	0.2	0.00	5.35	0.55	90.00	10.75	2.1	1.
3.00	1.9	0.4	0.00	5.35	0.55	90.00	10.75	4.1	0.
6.00	3.8	0.7	0.00	5.35	0.55	90.00	10.75	7.1	1.
8.00	10.3	1.9	0.01	5.35	0.55	90.00	10.75	9.1	2.
10.00	21.3	4.0	0.03	5.35	0.55	90.00	10.75	11.1	3.
8.00	13.8	2.6	0.01	5.35	0.55	90.00	10.75	9.1	2.
6.00	3.7	0.7	0.00	5.35	0.55	90.00	10.75	7.1	1
3.00	2.1	0.4	0.00	5.35	0.55	90.00	10.75	4.1	1.
1.00	1.2	0.2	0.00	5.35	0.55	90.00	10.75	2.1	1.
									-



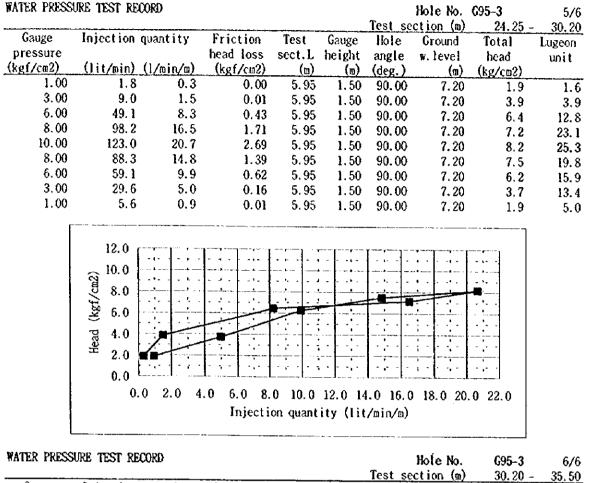
WATER PRESS	ure test rec	XORD				Test se	Hole No. ction (m)	695-3 14.10 -	3/6 19.05
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	llole angle	Ground w. level	Total head	Lugeon unit
<u>(kgf/cm2)</u> 1.00		<u>(1/min/m)</u> 19.6	<u>(kgf/cm2)</u> 0.99	(m) 4.95	(m) 1.20	(deg.) 90.00	<u>(m)</u> 6.90	(kg/cm2) 0.8	239.1



WATER PRESS	jre test rei	DORD					Hole No. ction (m)	<u> </u>	
Gauge	Injection	quantity	Friction	Test	Gauge	llole	Ground	Total	Lugeon
pressure	,		head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	<u>(a)</u>	(m)	(deg.)	<u>(m)</u>	(kg/cm2)	
1.00	0.0	0.0	0.00	5.20	0.75	90.00	7.65	1.8	0.0
3.00	0.8	0.2	0.00	5.20	0.75	90.00	7.65	3.8	0.4
6.00	3.6	0.7	0.00	5.20	0.75	90.00	7.65	6.8	1.0
8.00	5.4	1.0	0.00	5.20	0.75		7.65		1.2
10.00	6.8	1.3	0.01	5.20	0.75		7.65		1.2
8.00	5.4	1.0	0.00	5.20	0.75		7.65		1.2
6.00	4.2	0.8	0.00	5.20	0.75		7.65		1.2
3.00	0.0	0.0	0.00	5.20			7.65		0.0
1.00	0.0	0.0	0.00	5.20	0.75	90.00	7.65	1.8	0.0
	12.0 10.0 0.8 0.0 Head 4.0 Head 2.0 0.0	0.0 1.0	2.0 3.0 Inject		.0 6.0 tity (1i	0 7.0 t/win/w)		.0 10.0	

9

I



記録

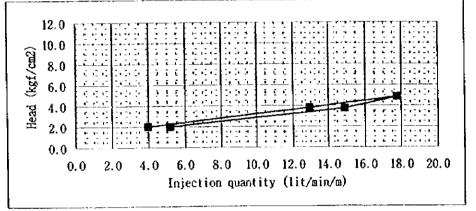
					<u>lest se</u>	CLION (B)	30.20 -	- 3
Gauge	Injection quantity		Test	Gauge	llole	Ground	Total	Lug
pressure		head loss	sect.L	height	angle	w.level	head	ur
(kgf/cm2)	<u>(lit/min) (l/min/n</u>		(<u>n</u>)	<u>(a)</u>	(deg.)	(<u>n</u>)	(kg/cm2)	
1.00		.2 0.00			90.00	7.05	1.8	
3.00		.2 0.00			90.00	7.05	3.8	
6.00		.6 0.00			90.00	7.05	6.8	
8.00		.8 0.00			90.00	7.05	8.8	
10.00		.7 0.02			90.00	7.05	10.8	
8.00		.7 0.00			90.00	7.05	8.8	
6.00		.5 0.00			90.00	7.05	6.8	
3.00		.0 0.00			90.00	7.05	3.9	
1.00	0.0 0	.0 0.00	5.30	1.45	90.00	7.05	1.9	
	12.0 10.0 0.8 0.8 4.0 2.0 0.0 0.0							
	0.0 1.0		4.0 5 ion quant	.0 6.0 ity (lit		8.0 9.() 10.0	

WATER PRESS	ure test re	CORD				T	Hole No. ction (m)	G 95-4 7.00 -	1/8 12.00
Gauge	Injection	quantity	Friction head loss	Test sect.L	Gauge height	liole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	(m)	(kg/cm2)	
1.00	19.9	4.0	0.02	5.00	0.80	90.00	9.50	2.0	19.8
3.00	64.7	12.9	0.23	5.00	0.80	90.00	9.50	3.8	34.0
4.25	88.9	17.8	0.43	5.00	0,80	90.00	9.50	4.9	36.6
3.00	74.5	14.9	0.30	5.00	0.80	90.00	9.50	3.7	39.9
1.00	25.8		0.04	5.00	0.80	90.00	9.50	2.0	25.9

6.90E-05 : Constant number of rod friction loss for BW boring rod

)

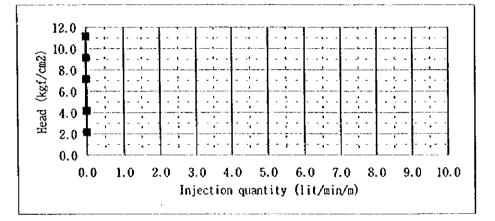
T



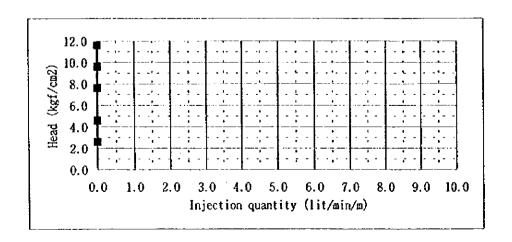
WATER PRESSU	ire test recor	Ð				π	Hole No.		2/8
Courto	Injection qui	antity	Friction	Test	Gauge	<u>Test_se</u> Hole	<u>ction (m)</u> Ground	<u> </u>	<u>19.60</u> Lugeon
Gauge pressure	mjection qu	antry	head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min) (1	/min/m)	(kgf/cm2)	(n)	(n)	(deg.)	(m)	(kg/cm2)	
1.00	14.8	3.0	0.02	5.00	0.70	90.00	14.65	2.5	11.8
3.00	26.4	5.3	0.07	5.00	0 .70	90.00	14.65	4.5	11.8
6.00	46.7	9,3	0.23	5.00	0.70	90.00	14.65	7.3	12.8
8.00	54.1	10.8	0.31	5.00	0.70	90.00	14.65	9.2	11.7
10.00	84.5	16.9	0.75	5.00	0.70	90.00	14.65	10.8	15.7
8.00	72.2	14.4	0.55	5.00	0.70	90.00	14.65	9.0	16.1
6.00	61.1	12.2	0.39	5.00	0.70	90.00	14.65	7.1	17.1
3.00	40.4	8.1	0.17	5.00	0.70	90.00	14.65	4.4	18.5
1.00	24.9	5.0	0.07	5.00	0.70	90.00	14.65	2.5	20.2
	12.0 10.0 8.0 4.0 4.0 2.0 0.0 0.0	2.0	4.0 6.0 Injecti	8.0 10 on quant	0.0 12.0 ity (1i			0 20.0	

C2-90

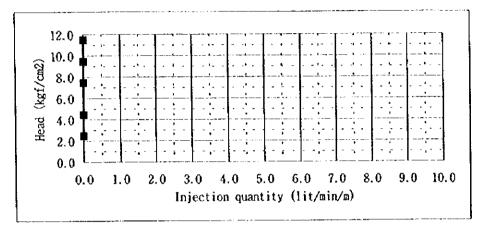
WATER PRESS	ire test re	CORD				Test_se	Hole No. ction (m)	695-4 19.60 -	3/8 - 24.60
Gauge	Injection	quantity	Friction	Test	Gauge	llole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/ca2)	(lit/min)	(1/min/m)	(kgf/cm2)	(n)	(m)	(deg.)	(n)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.70	90.00	9,80	2.2	0.0
3.00	0.0	0.0	0.00	5.00	1.70	90.00	9.80	4.2	0.0
6.00	0.0	0.0	0.00	5.00	1.70	90.00	9.80	7.2	0.0
8.00	0.0	0.0	0.00	5.00	1.70	90.00	9.80	9.2	0.0
10.00	0.0	0.0	0.00	5.00	1.70	90.00	9.80	11.2	0.0



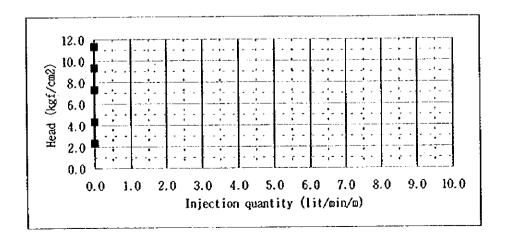
WATER PRESS	ure test re	CORD				Test se	Hole No. ction (m)	G95-4 24.60 -	4/8 - 29.60
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	Hole angle	Ground w. tevel	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.20	90.00	14.60	2.6	0.0
3.00	0.0	0.0	0.00	5.00	1.20	90.00	14.60	4.6	0.0
6.00	0.0	0.0	0.00	5.00	1.20	90.00	14.60	7.6	0.0
8.00	0.0	0.0	0.00	5.00	1.20	90.00	14.60	9.6	0.0
10.00	0.0	0.0	0.00	5.00	1.20	90.00	14.60	11.6	0.0



WATER PRESSU	jre test re	CORD				Test se	Hole No. ction (m)	695-4 29.60 -	5/8 - <u>34,50</u>
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w. level	head	unit
(kgf/ca2)	(lit/min)	(]/min/m)	(kgf/co2)	(m)	(m)	(deg.)	(a)	(kg/cm2)	
1.00	0.0		0.00	4.90	0.80	90.00	13.80	2.5	0.0
3.00	0.0	0.0	0.00	4.90	0.80	90.00	13.80	4.5	0.0
6.00	0.0	0.0	0.00	4.90	0.80	90.00	13.80	7.5	0.0
8.00	0.0	0.0	0.00	4.90	0.80	90.00	13.80	9.5	0.0
10.00	0.0	0.0	0.00	4.90	0.80	90.00	13.80	11.5	0.0



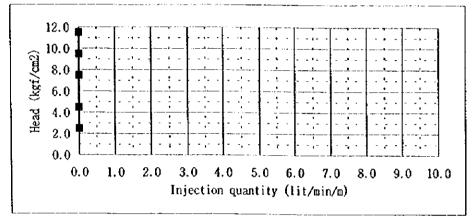
WATER PRESS	ure test rea	CORD					Hole No. ction (m)	G95-4 34.50 -	6/8 - <u>39,50</u>
Gauge pressure	Injection		Friction head loss	Test sect.L		Hole angle (deg.)	Ground w.level (m)	Total head (kg/cm2)	Lugeon unit
<u>(kgf/cm2)</u> 1.00	<u>(lit/min)</u> 0.0	<u>(1/min/m)</u> 0.0	<u>(kgf/cm2)</u> 0.00	<u>(m)</u> 5.00	<u>(m)</u> 0.30		13.00	2.3	0.0
3.00 6.00	0.0 0.0	0.0 0.0	0.00	5.00 5.00	0,30 0,30	90.00 90.00	13.00 13.00	4.3 7.3	0.0 0.0
8.00 10.00	0.0	0.0	0.00	5.00 5.00	0.30 0.30	90.00 90.00	13.00 13.00	9.3 11.3	0.0 0.0



J

•

ATER PRESS	ure test re	CORD				T	Hole No.		7/8
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	lest se llole angle	<u>ction (m)</u> Ground w.level	<u>39.50 </u> Total head	- <u>44.50</u> Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(n)	(deg.)	(m)	(kg/ca2)	witt
1.00	0.0	0.0	0.00	5.00	1.30	90.00	13.60	2.5	0.0
3.00	0.0	0.0	0.00	5.00	1.30	90.00	13.60	4.5	0.0
6.00	0.0	0.0	0.00	5.00	1.30	90.00	13.60	7.5	0.0
8.00	0.0	0.0	0.00	5.00	1.30	90.00	13.60	9.5	0.0
10.00	0.0	0.0	0.00	5.00	1.30	90.00	13.60	11.5	0.0

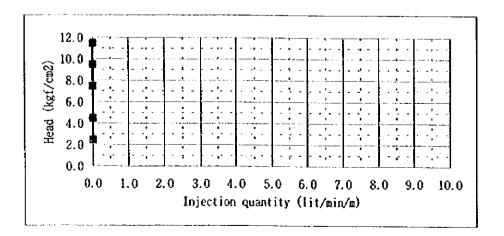


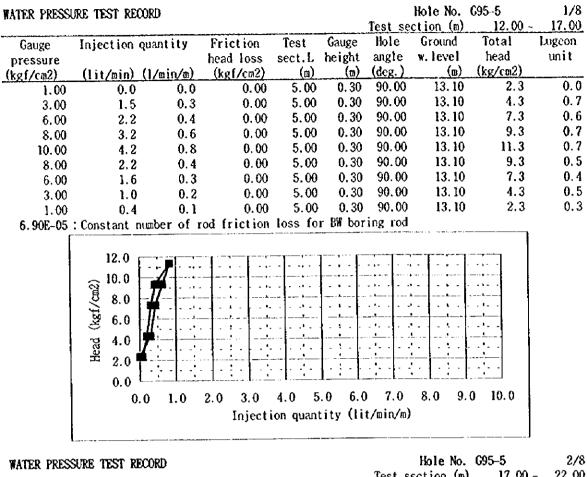
WATER PRESSURE TEST RECORD

		Hole No.	G95-4
		Test No.	8/8
n	(m)	44.50 -	50.25

J

						<u>Test</u> se	<u>ction (m)</u>	44.50	50.25
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.leveł	head	unit
<u>(kgf/cm2)</u>	<u>(lit/min)</u>	<u>(1/ain/a)</u>	(kgf/cm2)	<u>(n)</u>	<u>(</u>)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.75	0.80	90.00	13.80	2.5	0.0
3.00	0.0	0.0	0.00	5.75	0.80	90.00	13.80	4.5	0.0
6.00	0.0	0.0	0.00	5.75	0.80	90.00	13.80	7.5	0.0
8.00	0.0	0.0	0.00	5.75	0.80	90.00	13.80	9.5	0.0
10.00	0.0	0.0	0.00	5.75	0.80	90.00	13.80	11.5	0.0

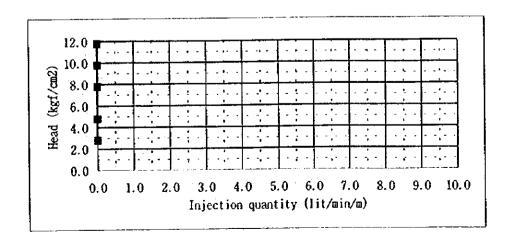




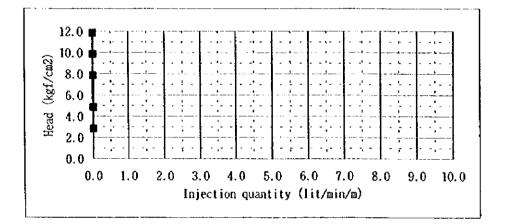
)

I

						Test se	ction (m)	17.00 -	- 22.00
Gauge pressure	Injection	•	Friction head loss	Test sect.L	Gauge height	Hole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)	<u>(kgf/cm2)</u>	(11)	<u>(n)</u>	(deg.)	<u>(m)</u>	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.30	90.00	16.55	2.8	0.0
3.00	0.0	0.0	0.00	5.00	1.30	90.00	16.55	4.8	0.0
6.00	0.0		0.00	5.00	1.30	90.00	16.55	7.8	0.0
8.00	0.0		0.00	5.00	1.30	90.00	16.55	9.8	0.0
10.00	0.0		0.00	5.00	1.30	90.00	16.55	11.8	0.0



WATER PRESS	ure test re	CORD				Test se	Hole No. ction (m)	G955 22.00 -	3/8 - 27.00
Gauge	Injection	quantity	Friction	Test	Gauge	llole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(a)	(<u>n</u>)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	0.80	90.00	17.60	2.8	0.0
3.00	0,0	0.0	0.00	5.00	0.80	90.00	17.60	4.8	0.0
6.00	0.0	0.0	0.00	5.00	0.80	90.00	17.60	7.8	0.0
8.00	0.0	0.0	0.00	5.00	0.80	90.00	17.60	9.8	0.0
10.00	0.0	0.0	0.00	5.00	0.80	90.00	17.60	11.8	0.0

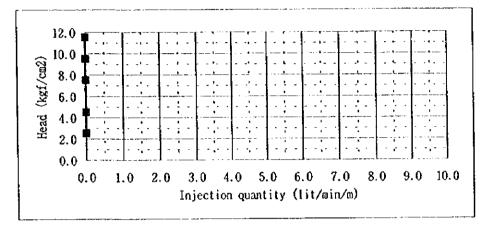


WATER PRESSU	TRE TEST RECORD						Hole No. tion (m)		4/3 33.00
Gauge	Injection quant	ity Fric	tion	Test	Gauge	Hole	Ground	<u> </u>	Lugeon
pressure		head		sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min) (1/mi	n∕a) (kgf	/cm2)	(m)	(m)	(deg.)	(11)	(kg/cm2)	-
1.00	2.1	0.4	0.00	6.00	0.30	90.00	17.10	2.7	1.
3.00	5.7	1.0	0.01	6.00	0.30	90.00	17.10	4.7	2.
6.00	7.9	1.3	0.01	6.00	0.30	90.00	17.10	7.7	1.
8.00	8.4	1.4	0.01	6.00	0,30	90.00	17.10	9.7	1.
10.00	9.6	1.6	0.02	6.00	0.30	90.00	17.10	11.7	1.
8.00	8.2	1.4	0.01	6.00	0.30	90.00	17.10	9.7	1.
6.00	6.8	1.1	0.01	6.00	0.30	90.00	17.10	7.7	1.
3.00	5.3	0.9	0.01	6.00	0.30	90.00	17.10	4.7	1.
1.00	2.0	0.3	0.00	6.00	0.30	90.00	17.10	2.7	1.
	12.0 10.0								
	0.0 L 0.0 1	.0 2.0 I		1.0 5. n quant	0 6.0 ity (lit		8.0 9.0	10.0	

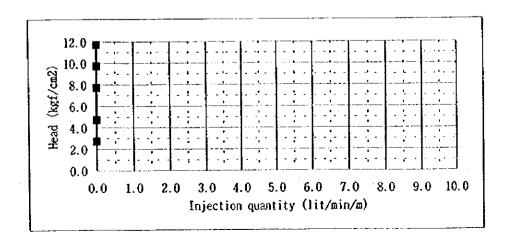
C2-95

Ţ

NATER PRESSU	jre test rei	CORD				Test se	Hole No. ction (m)	6955 33.00 -	5/8 38.00
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	llole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/@in/@)	(kgf/cm2)	(m)	(a)	(deg.)	(a)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	0.30	90.00	15.00	2.5	0.0
3.00	0.0	0.0	0,00	5.00	0.30	90,00	15.00	4.5	0.0
6.00	0.0	0.0	0.00	5,00	0.30	90,00	15.00	7.5	0.0
8.00	0.0	0.0	0.00	5.00	0.30	90.00	15.00	9.5	0.0
10.00	0.0		0.00	5.00	0.30	90.00	15.00	11.5	0.0

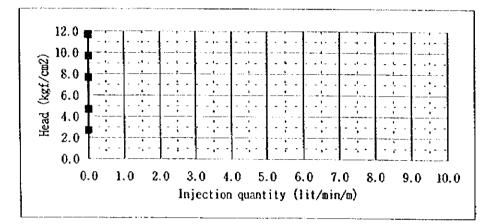


WATER PRESS	JRE TEST RE	CORD			Hole No. 695-5 6/8				
							<u>ction (m)</u>	<u> </u>	
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	<u>(a)</u>	(B)	(deg.)	<u>(m)</u>	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.60	90.00	15.65	2.7	0.0
3.00	0.0	0.0	0.00	5.00	1.60	90.00	15.65	4.7	0.0
6.00	0.0	0.0	0.00	5.00	1.60	90.00	15.65	7.7	0.0
8,00	0.0	0.0	0.00	5.00	1.60	90.00	15.65	9.7	0.0
10.00	0.0	0.0	0.00	5.00	1.60	90.00	15.65	11.7	0.0



C2-96

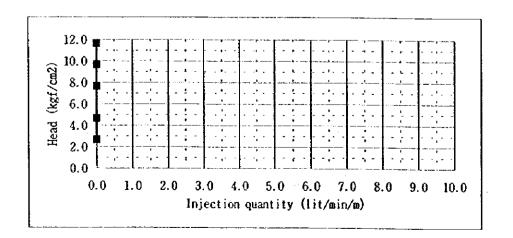
WATER PRESS	ure test re	CORD					Hole No.	C 95-5 Test No.	7/8
	······					Test se	ction (m)	40.00 -	45.00
Gauge	Injection	quantity	Friction	Test	Gauge	llole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(l/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	0.80	90.00	15.80	2.7	0.0
3.00	0.0	0.0	0.00	5.00	0.80	90.00	15.80	4.7	0.0
6.00	0.0	0.0	0.00	5.00	0.80	90.00	15.80	7.7	0.0
8.00	0.0	0.0	0.00	5.00	0.80	90.00	15.80	9.7	0.0
10.00	0.0	0.0	0.00	5.00	0.80	90.00	15.80	11.7	0.0



WATER	PRESSURE	TEST	RECORD
4111 1 1 1 1 1 1	1000000		100010

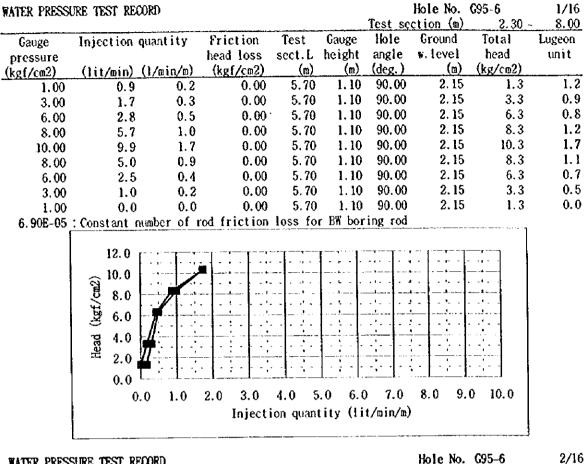
Hole No. 695-5 8/8

<u> </u>						Test se	ction (m)	45.00 -	- 50.00
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
<u>(kgf/cm2)</u>	<u>(lit/min)</u>	<u>(1/min/m)</u>	<u>(kgf/cm2)</u>	<u>(D)</u>	(D)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	0.30	90.00	16.20	2.7	0.0
3.00	0.0	0.0	0.00	5.00	0.30	90.00	16.20	4.7	0.0
6.00	0.0	0.0	0.00	5.00	0.30	90.00	16.20	7.7	0.0
8.00	0.0	0.0	0.00	5.00	0.30	90.00	16.20	9.7	0.0
10.00	0.0	0.0	0.00	5.00	0.30	90.00	16.20	11.7	0.0



C2-97

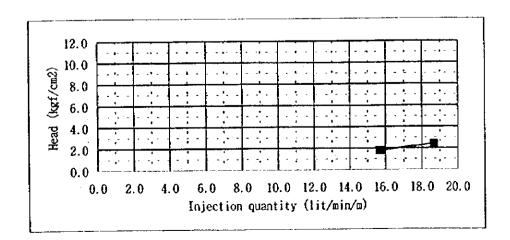
1

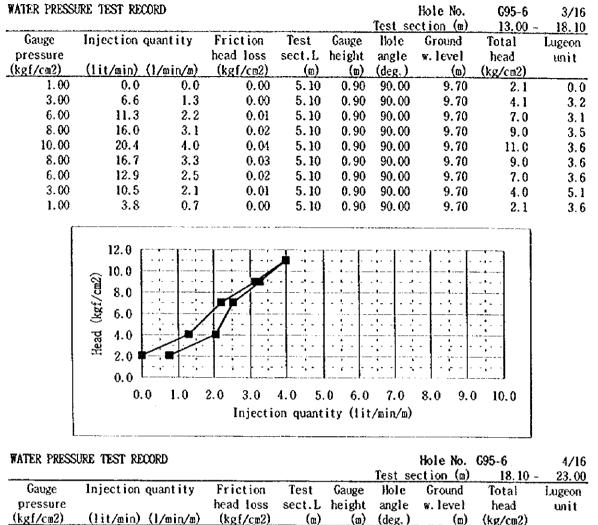


Į

1

TATER PRESS	ure test re	CORD					noie no.	090-0	2/10
						Test se	<u>ction (m)</u>	8.00 -	<u> </u>
Gauge	Injection	quantity	Friction	Test	Gauge	llole	Ground	Total	Lugeon
pressure	-		head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(a)	(deg.)	<u>(n)</u>	<u>(kg/cm2)</u>	
1.00	78.9		0.40	5.00	1.40	90.00	10.50	1.8	88.3
1.80	93.4	18.7	0.57	5.00	1.40	90.00	10.50	2.4	77.1
1.00	78.3		0.40	5.00	1.40	90.00	10.50	1.8	87.4





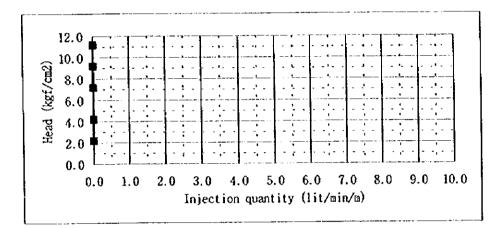
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	<u>(u)</u>	(a)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	4.90	0.30	90.00	10.15	2.0	0.0
3.00	0.4	0.1	0.00	4.90	0.30	90.00	10.15	4.0	0.2
6.00	0.9	0.2	0.00	4.90	0.30	90.00	10.15	7.0	0.3
8.00	1.0	0.2	0.00	4.90	0.30	90.00	10.15	9.0	0.2
10.00	1.8	0.4	0.00	4.90	0.30	90.00	10.15	11.0	0.3
8.00	1.4	0.3	0.00	4.90	0.30	90.00	10.15	9.0	0.3
6.00	0.7	0.1	0.00	4.90	0.30	90.00	10.15	7.0	0.2
3.00	0.5	0.1	0.00	4.90	0.30	90.00	10.15	4.0	0.3
1.00	0.0	0.0	0.00	4.90	0.30	90.00	10.15	2.0	0.0
	12.0 10.0 8.0 6.0 4.0 2.0 0.0 0	.0 1.0	2.0 3.0 Injecti	4.0 5. on quant			8.0 9.0		

C2-99

I

いいます

NATER PRESSI	ire test rei	CORD				Test se	Hole No. ction (m)	695-6 23.00 -	5/16 28.00
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	Hole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(n)	(deg.)	<u>(@)</u>	<u>(kg/cm2)</u>	
1.00	0.0	0.0	0.00	5.00	1.40	90.00	10.50	2.2	0.0
3.00	0.0	0.0	0.00	5.00	1.40	90.00	10.50	4.2	0.0
6.00	0.0	0.0	0.00	5.00	1.40	90.00	10.50	7.2	0.0
8.00	0.0	0.0	0.00	5.00	1.40	90.00	10.50	9.2	0.0
10.00	0.0	0.0	0.00	5.00	1.40	90.00	10.50	11.2	0.0

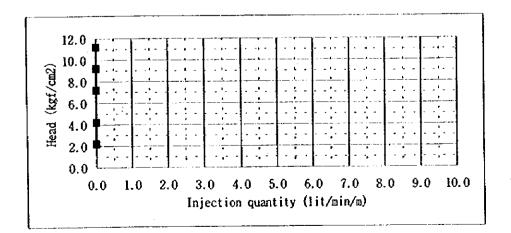


WATER PRESSURE TEST RECORD

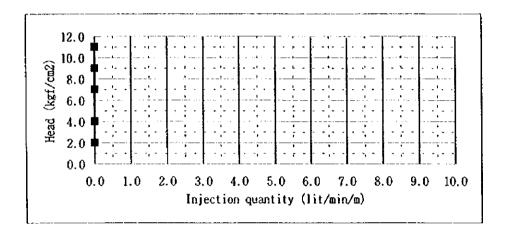
1

Hole	No.	6956		6/16
	()	20	00	22 00

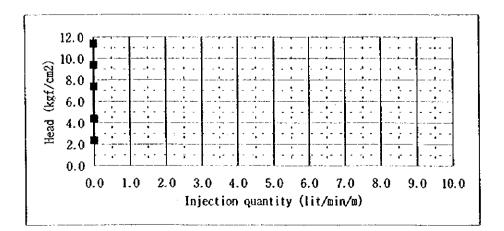
						Test se	<u>ction (m)</u>	28.00 -	<u> </u>
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	Hole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(1)	(deg.)	(ŋ)	(kg/ca2)	<u></u>
1.00	0.0		0.00	5.00	0.80	90.00	11.20	2.2	0.0
3.00	0.0	0.0	0.00	5.00	0.80	90.00	11.20	4.2	0.0
6.00	0.0		0.00	5.00	0.80	90.00	11.20	7.2	0.0
8.00	0.0		0.00	5.00	0.80	90.00	11.20	9.2	0.0
10.00	0.0		0.00	5.00	0.80	90.00	11.20	11.2	0.0



WATER PRESS	jre test re	CORD				Test se	Hole No. ction (m)	G95-6 33.00 -	7/16 38.00
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(B)	(deg.)	(@)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	0.30	90.00	10.00	2.0	0.0
3.00	0.0	0.0	0.00	5.00	0.30	90.00	10.00	4.0	0.0
6.00	0.0	0.0	0.00	5.00	0.30	90.00	10.00	7.0	0.0
8.00	0.0	0.0	0.00	5.00	0.30	90.00	10.00	9.0	0.0
10.00	0.0	0.0	0.00	5.00	0.30	90.00	10.00	11,0	0.0

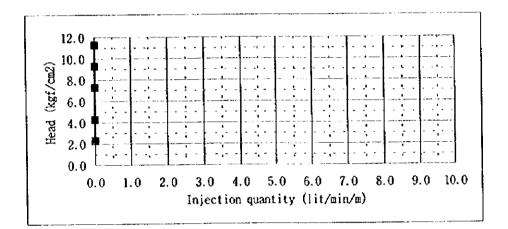


WATER PRESSU	ire test re	CORD					Hole No.	G956	8/16
						Test se	<u>ction (m)</u>	38.00 -	43.00
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	<u>(lit/min)</u>	(<u>]/min/m)</u>	(kgf/cm2)	<u>(a)</u>	(D)	<u>(deg.)</u>	(0)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.30	90.00	12.50	2.4	0.0
3.00	0.0	0.0	0.00	5.00	1.30	90.00	12.50	4.4	0.0
6.00	0.0	0.0	0.00	5.00	1.30	90.00	12.50	7.4	0.0
8.00	0.0	0.0	0.00	5.00	1.30	90.00	12.50	9.4	0.0
10.00	0.0	0.0	0.00	5.00	1.30	90.00	12.50	11.4	0.0



1

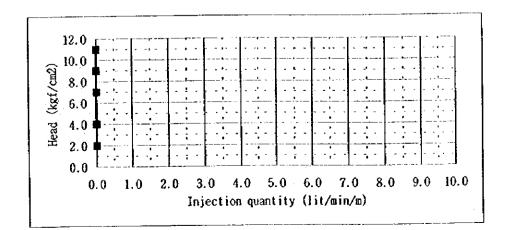
water pressu	ire test rei	CORD				Test se	Hole No. ction (m)	695-6 43.00 -	9/16 - <u>48.00</u>
Gauge pressure	Injection		Friction head loss	Test sect.L	Gauge height	llole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	<u>(lit/min)</u>	<u>(1/min/m)</u>	<u>(kgf/cm2)</u> 0.00	<u>(m.)</u> 5.00	<u>(m)</u> 0.80	<u>(deg.)</u> 90.00	<u>(m)</u> 12.00	(kg/cm2) 2.3	0.0
1.00 3.00	0.0 0.0	0.0 0.0	0.00	5.00	0.80	90.00	12.00	4.3	0.0
6.00	0.0	0.0	0.00	5.00	0.80	90.00	12.00	7.3	0.0
8.00	0.0	0.0	0.00	5.00	0.80	90.00	12.00	9.3	0.0
10.00	0.0	0.0	0.00	5.0 0	0.80	90.00	12.00	11.3	0.0



WATER PRESSURE TEST RECORD

Hole No. 695-6 10/16 section (m) 48.00 - 53.00

						Test se	ction (m)	48.00 -	- 53.00
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure	•		head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(a)	<u>(n)</u>	(deg.)	<u>(n)</u>	(kg/cm2)	
1.00	0.0		0.00	5.00	0.30	90.00	9, 55	2.0	0.0
3.00	0.0	0.0	0.00	5.00	0.30	90.00	9.55	4.0	0.0
6.00	0.0		0.00	5.00	0.30	90.00	9.55	7.0	0.0
8.00	0.0		0.00	5.00	0.30	90.00	9.55	9.0	0.0
10.00	0.0		0.00	5.00	0.30	90.00	9 .55	11.0	0.0

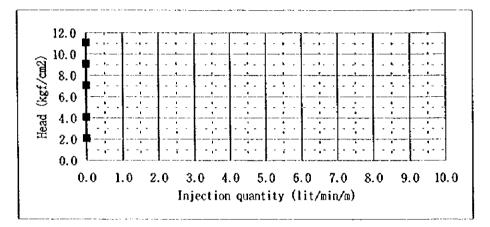


1

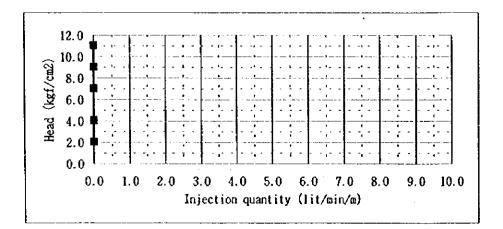
Ţ



WATER PRESS	.re test re	CORD				T	Hole No.	695-6 53.00 -	11/16
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	llole angle	<u>ction (m)</u> Ground w.level	Total head	- <u>58.00</u> Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(n)	(m)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	1.30	90.00	9.40	2.1	0.0
3.00	0.0	0.0	0.00	5.00	1.30	90.00	9.40	4.1	0.0
6.00	0.0	0.0	0.00	5.00	1.30	90.00	9.40	7.1	0.0
8.00	0.0	0.0	0.00	5.00	1.30	90.00	9,40	9.1	0.0
10.00	0.0	0.0	0.00	5.00	1.30	90.00	9.40	11.1	0.0

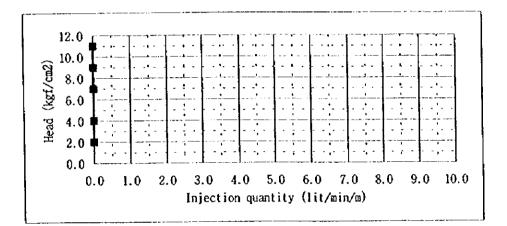


WATER PRESS	ure test re	CORD				Test se	Hole No. ction (m)	G95-6 58.00 -	12/16 62.70
Gauge	Injection	quantity	Friction	Test	Gauge	llole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	wit
(kgf/ca2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	4.70	0.80	90.00	9.60	2.0	0.0
3.00	0.0	0.0	0.00	4.70	0.80	90.00	9.60	4.0	0.0
6.00	0.0	0.0	0.00	4.70	0.80	90.00	9.60	7.0	0.0
8.00	0.0	0.0	0.00	4.70	0.80	90.00	9.60	9.0	0.0
10.00	0.0	0.0	0.00	4.70	0.80	90.00	9.60	11.0	0.0



.

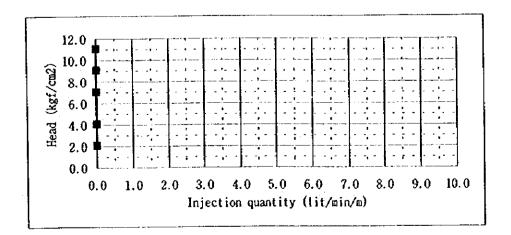
WATER PRESS	ure test rea	CORD				Test se	Hole No. ction (m)	695-6 62.70 -	13/16 67.70
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	llole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	<u>(a)</u>	<u>(a)</u>	(deg,)	(@)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.00	0.20	90.00	9.80	2.0	0.0
3.00	0.0	0.0	0.00	5.00	0.20	90.00	9.80	4.0	0.0
6.00	0.0	0.0	0.00	5.00	0.20	90.00	9.80	7.0	0.0
8.00	0.0	0.0	0.00	5.00	0.20	90.00	9.80	9.0	0.0
10.00	0.0	0.0	0.00	5.00	0.20	90.00	9.80	11.0	0.0



WATER PRESSURE TEST RECORD

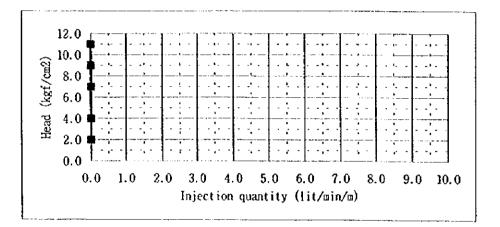
Hole No. C95-6 14/16

						Test se	ction (m)	68.00	- 73.60
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min)	(]/min/m)	(kgf/cm2)	(a)	(m)	(deg.)	(0)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.60	1.30	90.00	9.40	2.1	0.0
3.00	0.0	0.0	0.00	5.60	1.30	90.00	9.40	4.1	0.0
6.00	0.0	0.0	0.00	5.60	1.30	90.00	9.40	7.1	0.0
8.00	0.0	0.0	0.00	5.60	1.30	90.00	9.40	9.1	0.0
10.00	0.0	0.0	0.00	5.60	1.30	90.00	9.40	11.1	0.0

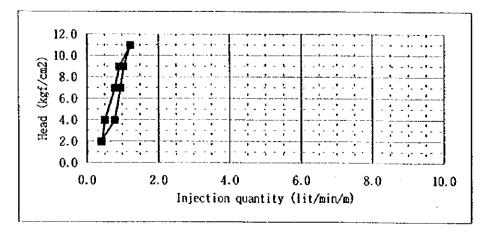


J

WATER PRESS	ure test re	CORD				Test se	Hole No. ection (m)	695-6 73.60 -	15/16
Gauge pressure	Injection	•	Friction head loss	Test sect.L		Hote angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)		<u>(1/min/m)</u>	(kgf/cm2)	<u>(n)</u>	(m)	(deg.)	(n)	(kg/cm2)	
1.00	0.0	0.0	0.00	3.00	0.30	90.00	9.50	2.0	0.0
3.00	0.0	0.0	0.00	3.00	0.30	90.00	9.50	4.0	0.0
6.00	0.0	0.0	0.00	3.00	0.30	90.00	9.50	7.0	0.0
8.00	0.0	0.0	0.00	3.00	0.30	90.00	9.50	9.0	0.0
10.00	0.0	0.0	0.00	3.00	0.30	90.00	9.50	11.0	0.0



WATER PRESS	ure test re	CORD				Test se	Hole No. ction (m)		16/16 80.15
Gauge pressure (kgf/cm2)	Injection (lit/min)		Friction head loss	Test sect.L	Gouge height	Hole angle	Ground w. level	Total head	Lugeon unit
1.00	1.4	<u>(17@11/@)</u> 0.4	<u>(kgf/cm2)</u> 0.00	<u>(m)</u> 3.55	<u>(m)</u> 0.20	<u>(deg.)</u> 90.00	<u>(a)</u> 9.30	<u>(kg/cm2)</u> 1.9	2.0
3.00	2.8	0.8	0.00	3.55	0.20	90.00			2.0
6.00	3.4	1.0	0.01	3.55	0.20	90.00	9.30		1.4
8.00	3.7	1.0	0.01	3.55	0.20	90.00	9.30		1.2
10.00	4.4	1.2	0.01	3.55	0.20	90.00	9.30	10.9	1.1
8.00	3.3	0.9	0.01	3 . 55	0.20	90.00	9.30	8.9	1.0
6.00	2.8	0.8	0.00	3.55	0.20	90.00	9.30	6.9	1.1
3.00	1.8	0.5	0.00	3.55	0.20	90.00	9.30	3.9	1.3
1.00	1.5	0.4	0.00	3.55	0.20	90.00	9.30	1.9	2.2

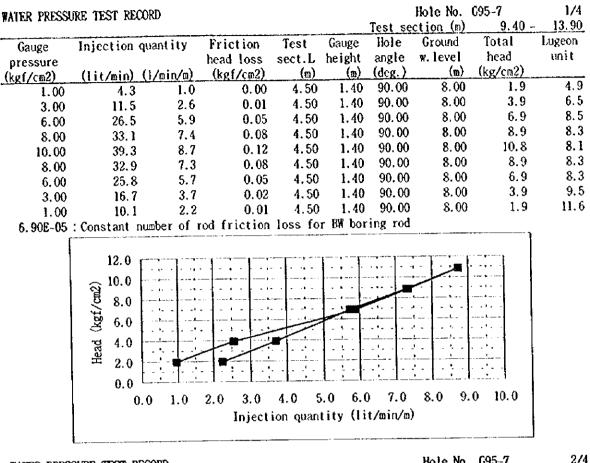


Ĩ

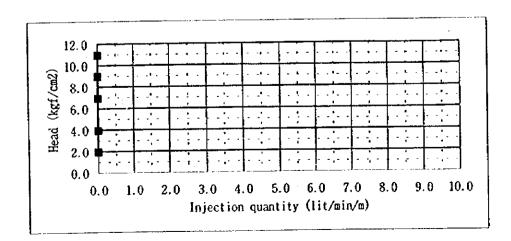
1

C2-105

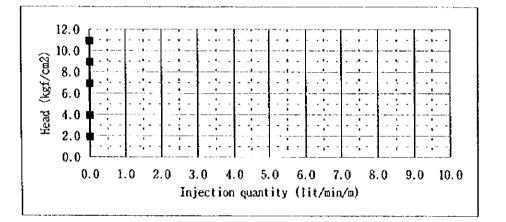
.



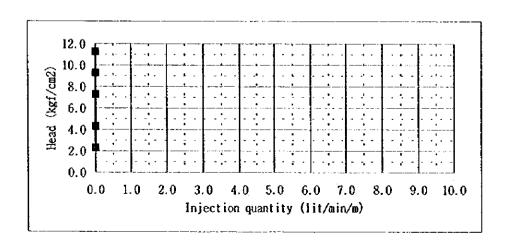
WATER PRESS	ure test rei	CORD					note no.	699-1	2/4
						Test se	<u>ction (m)</u>	<u> 13.90 -</u>	20.20
Gauge pressure	Injection	-	Friction head loss	Test sect.L (m)	Gauge height (m)	Hole angle (deg.)	Ground w. level (m)	Total head (kg/cm2)	Lugeon unit
<u>(kgf/cm2)</u>	<u>(lit/min)</u>		<u>(kgf/св2)</u> 0.00	6.30	1,40		8.00	1.9	0.0
1.00 3.00	0.0	0.0 0.0	0.00	6.30	1.40	90.00	8.00	3.9	0.0
5.00 6.00	0.0	0.0	0.00	6.30	1.40	90.00	8.00	6.9	0.0
8.00	0.0	0.0	0.00	6.30	1.40	90.00	8.00	8.9	0.0
10.00	0.0	0.0	0.00	6.30	1.40	90.00	8.00	10.9	0.0



WATER PRESS	URE TEST RE	CORD					Hole No.	695-7	3/4
.						Test se	ction (m)	20.20	- 24.90
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	<u>(lit/min)</u>	(1/min/m)	(kgf/cm2)	(n)	(m)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	4.70	1.10	90.00	8.00	1.9	0.0
3.00	0.0	0.0	0.00	4.70	1.10	90.00	8.00	3.9	0.0
6.00	0.0	0.0	0.00	4.70	1.10	90.00	8.00	6.9	0.0
8.00	0.0	0.0	0.00	4.70	1.10	90.00	8.00	8.9	0.0
10.00	0.0	0.0	0.00	4.70	1.10	90.00	8.00	10.9	0.0

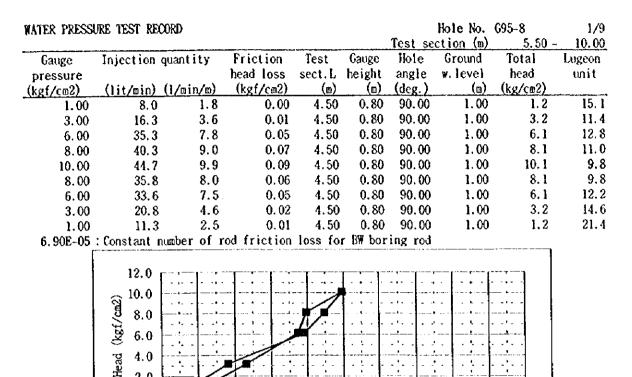


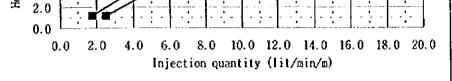
WATER PRESS	ure test re	CORD				Test se	Hote No. ction (m)	695-7 24.90 -	4/4 30.05
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(a)	(a)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.15	0.90	90.00	11.90	2.3	0.0
3.00	0.0	0.0	0.00	5.15	0.90	90.00	11.90	4.3	0.0
6.00	0.0	0.0	0.00	5.15	0.90	90.00	11.90	7.3	0.0
8.00	0.0	0.0	0.00	5.15	0.90	90.00	11.90	9.3	0.0
10.00	0.0	0.0	0.00	5.15	0.90	90.00	11.90	11.3	0.0



C2-107

Ţ

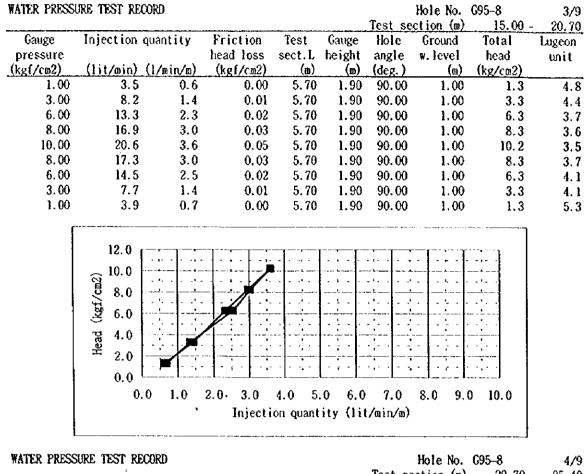




WATER PRESSURE TEST RECORD

Hole No. 695-8 2/9

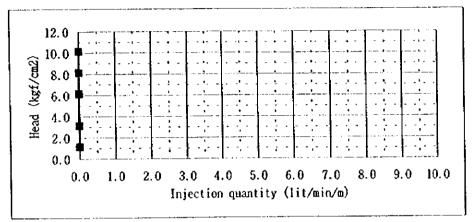
						<u>Test</u> se	<u>ction (m)</u>	<u> </u>	-
Gauge	Injection qua	ntity	Friction	Test	Gauge	Hole	Ground	Total	Ĺ
pressure			head loss	sect.L	height	angle	w.level	head	
(kgf/cm2)	(lit/min) (l/	/win/w)	(kgf/cm2)	(<u>n</u>)	<u>(a)</u>	(deg.)	(0)	(kg/cm2)	
1.00	7.5	1.5	0.00	5.00	0.80	90.00	1.00	1.2	
3.00	14.8	3.0	0.02	5.00	0.80	90.00	1.00	3.2	
6.00	23.5	4.7	0.04	5.00	0.80	90.00	1.00	6.1	
8.00	28.2	5.6	0.06	5.00	0.80	90.00	1.00	8.1	
10.00	35.4	7.1	0.09	5.00	0.80	90.00	1.00	10.1	
8.00	29.9	6.0	0.07	5.00	0.80	90.00	1.00	8.1	
6.00	22.9	4.6	0.04	5.00	0.80	90.00	1.00	6.1	
3.00	14.4	2.9	0.02	5.00	0.80	90.00	1.00	3.2	
1.00	5.6	1.1	0.00	5.00	0.80	90.00	1.00	1.2	
	$\begin{array}{c c} 12.0 \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \end{array} \begin{array}{c} 10.0 \end{array}$, - 							
	Head (kgf/cm2) 0.9 8 0.9 0.9 8 0.9								



					Test see	ction (m)	20.70 -	25.4
Gauge	Injection quant	ity Fricti	on Test	Gauge	Hole	Ground	Total	Lugeo
pressure		head lo			angle	w.level	head.	unit
<u>(kgf/cm2)</u>	<u>(lit/min) (l/mi</u>	in/m) (kgf/c	<u>n2) (n)</u>	(D)	(deg.)	<u>(m)</u>	(kg/cm2)	•
1.00	0.0		0.00 4.70		90.00	1.00	1.2	0.
3.00	0.0		0.00 4.70) 0.60	90.00	1.00	3.2	0.
6.00	4.4		0.00 4.70		90.00	1.00	6.2	1.
8.00	6.4		0.01 4.70		90.00	1.00	8.2	1.
10.00	8.2		0.01 4.70		90.00	1.00	10. 2	1.
8.00	6.5		0.01 4.70			1.00	8.2	1.
6.00	4.4). 00 4. 70			1.00	6.2	1.
3.00	0.0). 00 4. 7			1.00	3.2	0.
1.00	0.0	0.0 (). 00 4. 70	0.60	90.00	1.00	1.2	0.
	12.0 10.0 8.0 6.0 Head 2.0							
	0.0 T 0.0		.0 4.0 section quan	5.0 6.0 tity (li		8.0 9.() 10.0	

1

WATER PRESS	ire test rei	OORD				Test se	Hole No. ction (m)	695-8 25.40	5/9 30.50
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(n)	(m)	(deg.)	<u>(n)</u>	<u>(kg/cm2)</u>	
1.00	0.0	0.0	0.00	5.10	0.40	90.00	1,00	1.1	0.0
3.00	0.0	0.0	0.00	5.10	0.40	90.00	1.00	3.1	0.0
6.00	0.0	0.0	0.00	5.10	0.40	90.00	1.00	6.1	0.0
8.00	0.0	0.0	0.00	5.10	0.40	90.00	1.00	8.1	0.0
10.00	0.0	0.0	0.00	5.10	0.40	90.00	1.09	10.1	0.0



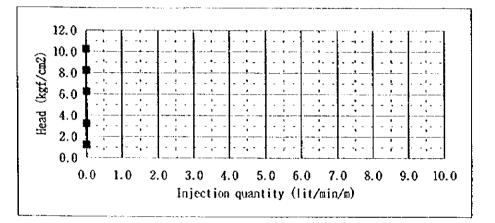
					-		<u>ction (m)</u>	<u> </u>	
Gauge	Injection quantity		Friction	Test	Gauge	Hole	Ground	Total	Lugeo
pressure			head loss	sect.L	height	angle	w.level	head	uni
kgf/cm2)	<u>(lit/min)</u>		(kgf/cm2)	(<u>n</u>)	(m)	(deg.)	<u>(m)</u>	<u>(kg/cm2)</u>	
1.00	9.1	1.8	0.02	5.10	1.80	90.00	1.00	1.3	14
3.00	28.8	5.6	0.18	5.10	1.80	90.00	1.00	3.1	18
6.00	54.4	10.7	0.65	5.10	1.80	90.00	1.00	5.6	18
8.00	72.2	14.2	1.14	5.10	1.80	90.00	1.00	7.1	19
10.00	87.2	17.1	1.67	5.10	1.80	90.00	1.00	8.6	19
8.00	75.4	14.8	1.25	5.10	1.80	90.00	1.00	7.0	2
6.00	60.1	11.8	0.79	5.10	1.80	90.00	1.00	5.5	2
3.00	40.1	7.9	0.35	5.10	1.80	90.00	1.00	2.9	2
1.00	15.0	2.9	0.05	5.10	1.80	90.00	1.00	1.2	2
	12.0 0.01 0.8 0.8 0.4 0.4 0.2 0.2								
	0.0 0	.0 2.0	4.0 6.0 Injecti) 14.0 t/min/m)	16.0 18.	0 20.0	



J

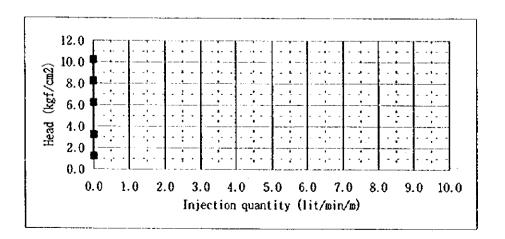
Ţ

WATER PRESS	ure test re	CORD	Hole No. 695-8 Test section (m) 35.10 -			7/9 - 40.15			
Gauge	Injection	quantity	Friction	Test	Cauge	llole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w. level	head	unit
(kgí/cm2)	<u>(lit/min)</u>	(1/min/m)	(kgf/cm2)	(D)	(D)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.05	1,20	90.00	1.00	1.2	0.0
3.00	0.0	0.0	0.00	5.05	1.20	90.00	1.00	3.2	0.0
6.00	0.0	0.0	0.00	5.05	1.20	90.00	1.00	6.2	0.0
8.00	0.0	0.0	0.00	5.05	1.20	90.00	1.00	8.2	0.0
10.00	0.0	0.0	0.00	5.05	1.20	90.00	1.00	10.2	0.0



Hole No. 695-8 8/9

<u></u>						Test se	ction (m)	40.15 -	45.40
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w. level	head	unit
<u>(kgf/cm2)</u>	<u>(lit/min)</u>	<u>(1/min/m)</u>	(kgf/cm2)	(a)	(1)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	5.25	1.20	90.00	1.00	1.2	0.0
3.00	0.0	0.0	0.00	5.25	1.20	90.00	1.00	3.2	0.0
6.00	0.0	0.0	0.00	5.25	1.20	90.00	1.00	6.2	0.0
8.00	0.0	0.0	0.00	5.25	1.20	90.00	1.00	8.2	0.0
10.00	0.0	0.0	0.00	5 <i>.</i> 25	1.20	90.00	1.00	10.2	0.0



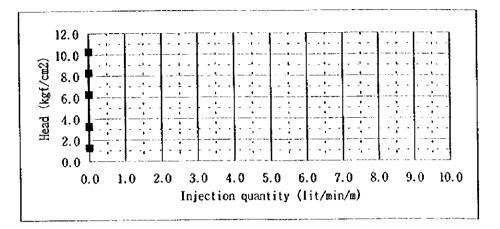
J

C2-111

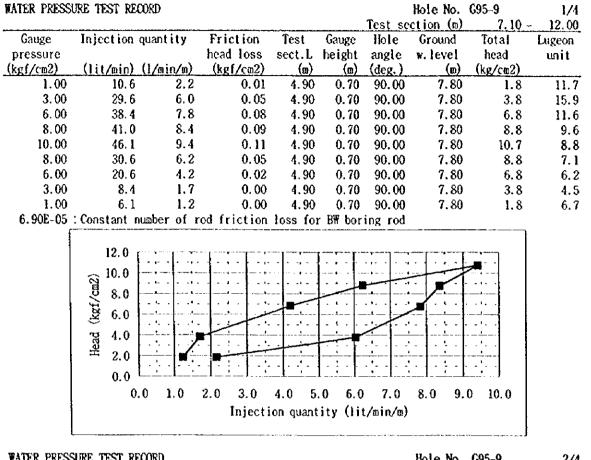
ī.

(3)

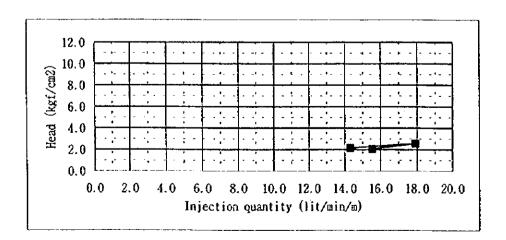
WATER PRESS	ire test rea	CORD				Test se	Hole No. ction (m)	695-8 45.00 -	9/9 - 50.20
Gauge	Injection	quantity	Friction head loss	Test sect.L	Gauge height	liole angle	Ground w.level	Total head	Lugeon unit
pressure (kgf/cm2)	(lit/ain)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	<u>(D)</u>	(kg/cm2)	
1.00	0.0	0.0	0.00	5.20	1.75	90.00	1.00	1.3	0.0
3.00	0.0	0.0	0.00	5.20	1.75	90.00	1.00	3.3	0.0
6.00	0.0	0.0	0.00	5.20	1.75	90.00	1.00	6.3	0.0
8.00	0.0	0.0	0.00	5.20	1.75	90.00	1.00	8.3	0.0
10.00	0.0	0.0	0.00	5.20	1.75	90.00	1.00	10.3	0.0



R

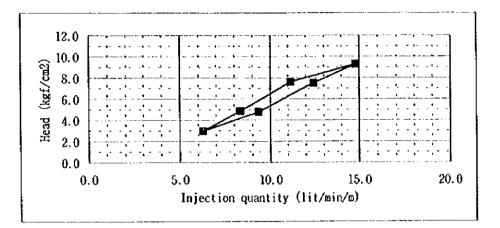


2/4
18.00
Lugeon
unit
75.6
69.8
66.7
1

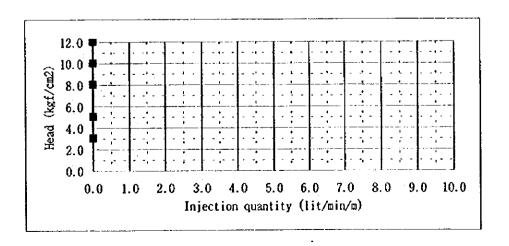




WATER PRESS	ure test re	XORD				Test se	Hole No. ction (m)	695-9 21.10 -	3/4 26.00
Gauge pressure	Injection		Friction head loss	Test sect.L	Gauge height	Hole angle	Ground w. level	Total head	Lugeon unit
<u>(kgf/cm2)</u> 1.00	<u>(lit/min)</u> 30.7		<u>(kgf/cm2)</u> 0.15	<u>(m)</u> 4.90	(m) 1.70	<u>(deg.)</u> 90.00	(n) 19,35	<u>(kg/cm2)</u> 3.0	21.2
3.00 6.00	40.8 54.7		0.26 0.47	4.90 4.90	1.70	90.00 90.00	19.35 19.35	4.8 7.6	17.2 14.6
8.00	72.6	14.8	0.83	4.90	1.70	90.00	19.35	9.3	16.0
6.00 3.00	60.9 45.8		0.58 0.33	4.90 4.90	1.70 1.70	90.00 90.00	19.35 19.35	7.5 4.8	16.5 19.6
1.00	30.7		0.15	4.90	1.70	90.00	19.35	3.0	21.2



WATER PRESS	URE TEST RE	CORD					Hole No.	G95-9	4/4
						Test_se	ction (m)	26.00 -	30.15
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure	(1	1.1.1.1.	head loss	sect.L		angle	w.level (m)	head (kg/cm2)	unit
<u>(kgf/cm2)</u>	(lit/min)	(1/min/m)	(kgf/cm2)	<u>(n)</u>	<u>(a)</u>	(deg.)			
1.00	0.0	0.0	0.00	4.15	1.30	90.00	19.20	3.1	0.0
3.00	0.0	0.0	0.00	4.15	1.30	90.00	19.20	5.1	0.0
6.00	0.0	0.0	0.00	4.15	1.30	90.00	19.20	8.1	0.0
8.00	0.0	0.0	0.00	4.15	1.30	90.00	19.20	10.1	0.0
10.00	0.0	0.0	0.00	4.15	1.30	90.00	19.20	12.1	0.0

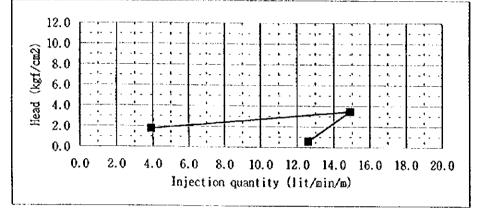




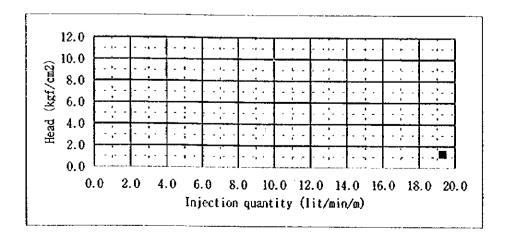
Į

WATER PRESS	ure test re	CORD				Test se	Hole No. ection (m)	695-10 6.00 -	1/4 11.00
Gauge pressure (kgf/cm2)	Injection (lit/min)		Friction head loss (kgf/cm2)	Test sect.L (m)	Gauge height (m)	Hole angle (deg.)	Ground w. level (m)	Total head (kg/cm2)	Lugeon unit
1.00 3.00 0.00	19.5 74.5 63.0	3.9 14.9 12.6	0.02 0.30 0.21	5.00 5.00 5.00	1.80 1.80 1.80	90.00 90.00 90.00	5.95 5.95 5.95	1.8 3.5 0.6	22.2 42.9 224.4

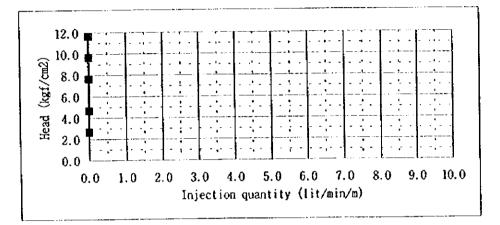
6.90E-05 : Constant number of rod friction loss for BW boring rod



WATER PRESS	ure test rec	ORD		2/4					
						Test se	ction (m)	13.10 -	18.10
Gauge	Injection of	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
<u>(kgf/ca2)</u>	<u>(lit/min)</u>	<u>(1/min/m)</u>	(kgf/cm2)	(m)	(m)	(deg.)	(m)	(kg/cm2)	
0.75	96.6	19.3	0.89	5.00	0.70	90.00	13.40	1.3	152.0

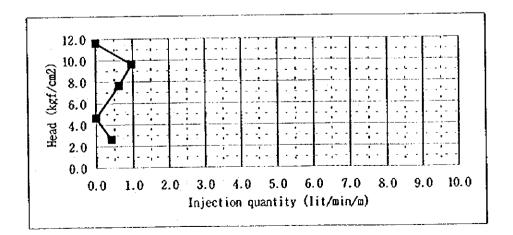


ATER PRESSU	RE TEST REA	CORD					Hole No.	695-10	3/4
						Test se	ction (m)	<u> 18. 10 -</u>	23.00
Gauge	Injection	ouantity	Friction	Test	Gauge	llole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(a)	(deg.)	(1)	(kg/cm2)	
1.00	0.0	0.0	0.00	4.90	1.70	90.00	14.80	2.7	0.0
3.00	0.0	0.0	0.00	4,90	1.70	90.00	14.80	4.7	0.0
6.00	0.0	0.0	0.00	4.90	1.70	90.00	14.80	7.7	0.0
8.00	0.0	0.0	0.00	4.90	1.70	90.00	14.80	9.7	0.0
10.00	0.0	0.0	0.00	4.90	1.70	90.00	14.80	11.7	0.0



Hole No. C95-10 4/4

()////at 1.000		••••				Test se	ction (m)	23.00 -	<u>- 30.20</u>
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L		llole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	()it/rin)	(1/min/m)	(kgf/cm2)	(a)	<u>(B)</u>	(deg.)	(B)	(kg/cm2)	
1.00	3.0		0.00	7.20	1.30	90.00	15.00	2.6	1.6
3.00	0.0		0.00	7.20	1.30	90.00	15.00	4.6	0.0
6.00	4.5		0.00	7.20	1.30	90.00	15.00	7.6	0.8
8.00	7.0		0.01	7.20	1.30	90.00	15.00	9.6	1.0
10.00	0.0		0.00	7.20	1.30	90.00	15.00	11.6	0.0



Ś

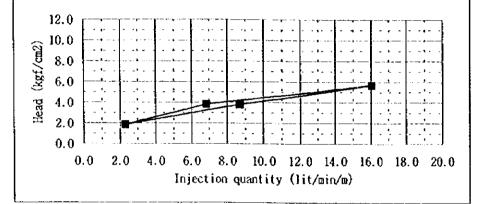
1

Ţ

C2-116

WATER PRESS	URE TEST RE	CORD				Toot on	Hole No. ction (m)		1/5
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	llole	Ground w. level	<u> </u>	- <u>9.00</u> Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	(m)	(kg/cm2)	
1.00	9.2	2.3	0.00	4.00	1.30	90.00	7.25	1.9	12.4
3.00	27.4	6.9	0.03	4.00	1.30	90.00	7.25	3.8	17.9
5.00	64.2	16.1	0.18	4.00	1.30	90.00	7.25	5.7	28.3
3.00	34.8	8.7	0.05	4.00	1.30	90.00	7.25	3.8	22.9
1.00	9.2	2.3	0.00	4.00	1.30	90.00	7.25	1.9	12.4

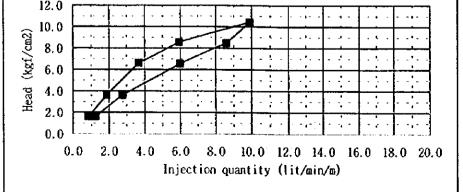
6.90E-05 : Constant number of rod friction loss for BW boring rod



WATER PRESSURE TEST RECORD

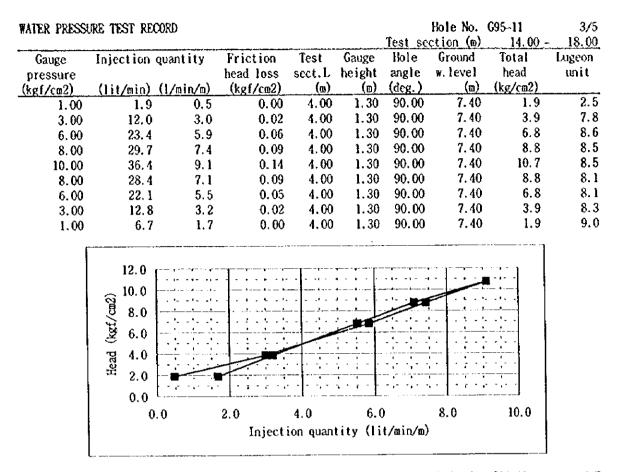
Hole No. 695-11 2/5

						Test se	ction (m)	9.00 -	14.00
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
<u>(kgf/cm2)</u>	<u>(lit/min)</u>	<u>(1/min/m)</u>	(kgf/ca2)	<u>(a)</u>	(a)	(deg.)	(m)	(kg/cm2)	
1.00	6.1	1.2	0.00	5.00	1.80	90.00	4.45	1.6	7.5
3.00	13.8	2.8	0.01	5.00	1.80	90.00	4.45	3.6	7.6
6.00	30.0	6.0	0.07	5.00	1.80	90.00	4.45	6.6	9.1
8.00	43.0	8.6	0.14	5.00	1.80	90.00	4.45	8.5	10.1
10.00	49.5	9.9	0.18	5.00	1.80	90.00	4.45	10.4	9.5
8.00	29.7	5.9	0.07	5.00	1.80	90.00	4.45	8.6	6.9
6.00	18.4	3.7	0.03	5.00	1.80	90.00	4.45	6.6	5.6
3.00	9.3	1.9	0.01	5.00	1.80	90.00	4.45	3.6	5.1
1.00	4.2	0.8	0.00	5.00	1.80	90.00	4.45	1.6	5.2
1	12.0		······································			· · ·	<u> </u>		



J

C2-117



 \bigcirc

I.

Hole No. G95-11 4/5

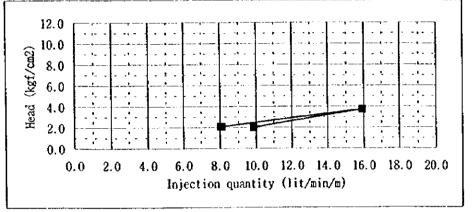
•	head los	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$) (m) 5 0.80 5 0.80	angle (deg.) 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00	Ground w. level (m) 7.50	Total head (kg/cm2) 1.8 3.8 6.8 8.8 10.8 8.8 10.8 8.8 6.8 3.8 1.8	Luge uni
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	n/m) (kg[/cm2 0.0 0.0 0.3 0.0 0.5 0.0 0.7 0.0 0.8 0.0 0.7 0.0 0.4 0.0	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	(m) 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80	(deg.) 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00	(m) 7.50 7.50 7.50 7.50 7.50 7.50 7.50 7.50	(kg/cm2) 1.8 3.8 6.8 8.8 10.8 8.8 6.8 3.8	-
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0.0 0.0 0.3 0.6 0.5 0.6 0.7 0.6 1.0 0.6 0.7 0.6 0.8 0.6 0.7 0.6 0.4 0.6	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80	90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00	7.50 7.50 7.50 7.50 7.50 7.50 7.50 7.50	1.8 3.8 6.8 8.8 10.8 8.8 6.8 3.8	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0.3 0.6 0.5 0.6 0.7 0.6 1.0 0.6 0.8 0.6 0.7 0.6 0.4 0.6	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80	 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 	7.50 7.50 7.50 7.50 7.50 7.50 7.50 7.50	3.8 6.8 8.8 10.8 8.8 6.8 3.8	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0.5 0.6 0.7 0.6 1.0 0.6 0.8 0.6 0.7 0.6 0.4 0.6	00 4.7 00 4.7 00 4.7 00 4.7 00 4.7 00 4.7 00 4.7 00 4.7 00 4.7 00 4.7 00 4.7 00 4.7 00 4.7	5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80	90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00	7.50 7.50 7.50 7.50 7.50 7.50 7.50	6.8 8.8 10.8 8.8 6.8 3.8	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0.7 0.6 1.0 0.6 0.8 0.6 0.7 0.6 0.4 0.6	$\begin{array}{cccc} 00 & 4.7! \\ 00 & 4.7! \\ 00 & 4.7! \\ 00 & 4.7! \\ 00 & 4.7! \\ 00 & 4.7! \end{array}$	5 0.80 5 0.80 5 0.80 5 0.80 5 0.80 5 0.80	90.00 90.00 90.00 90.00 90.00 90.00	7.50 7.50 7.50 7.50 7.50	8.8 10.8 8.8 6.8 3.8	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1.0 0.0 0.8 0.0 0.7 0.0 0.4 0.0	00 4.7 00 4.7 00 4.7 00 4.7 00 4.7 00 4.7	5 0.80 5 0.80 5 0.80 5 0.80 5 0.80	90.00 90.00 90.00 90.00 90.00 90.00	7.50 7.50 7.50 7.50	10.8 8.8 6.8 3.8	- 1
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0.8 0.6 0.7 0.6 0.4 0.6	00 4.7 00 4.7 00 4.7 00 4.7	5 0.80 5 0.80 5 0.80	90.00 90.00 90.00	7.50 7.50 7.50	8.8 6.8 3.8	-
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0.7 0.0 0.4 0.0	00 4.7 00 4.7	5 0.80 5 0.80	90.00 90.00	7.50 7.50	6.8 3.8	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0.4 0.0	00 4.7	5 0.80	90.00	7.50	3.8	
	0.0 0.0	00 4.7	5 0.80) 90.00	7.50	1.8	
10.0	·····					.	
명 4.0 또 2.0							
0.0	_LL	L	. I		L		
0.0 1	1.0 2.0 3.0		5.0 6.0	-	8.0 9.0	0 10.0	
			ntity (li			l	

C2-118

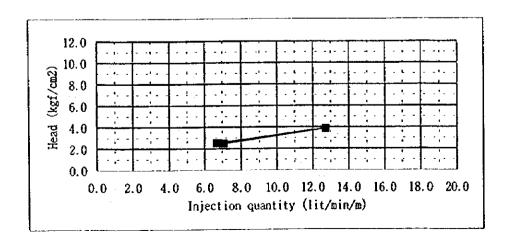
Gauge	Injection	quantity	Friction	Test	Gauge	lble	<u>ction (m)</u> Ground	<u>23.75 -</u> Total	<u>30,23</u> Lugeon
pressure	,	4	head loss	sect.L	height	angle	w. level	head	unit
kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	(m)	(kg/cm2)	Carre
1.00	0.0		0.00	6.50	0.55	90.00	14.95	2.6	0.0
3.00	0.0		0.00	6.50	0.55	90.00	14.95	4.6	0.0
6.00	2.3		0.00	6.50	0.55	90.00	14.95	7.5	0.5
8.00	2.8		0.00	6.50	0.55	90.00	14.95	9.5	0.5
10.00	5.0		0.00	6.50	0.55	90.00	14.95	11.5	0.7
8.00	2.8		0.00	6.50	0.55	90.00	14.95	9.5	0.5
6.00	1.9	0.3	0.00	6.50	0.55	90.00	14.95	7.5	0.4
3.00	0.0		0.00	6.50	0.55	90.00	14.95	4.6	0. C
1.00	0.0	0.0	0.00	6.50	0.55	90.00	14.95	2.6	0.0
	12.0 10.0 0.8 0.0 He aq 0.0 He aq 0.0	/							
		.0 1.0	2.0 3.0 Injecti	4.0 5. on quant	0 6.0 ity (lit		8.0 9.0	0 10.0	

WATER PRESS	ire test re	CORD				Test se	Hole No. ction (m)	695-12 8,50 -	1/4 13.85
Gauge pressure (kgf/cm2)	Injection (lit/min)	quantity (1/min/m)	Friction head loss (kgf/cm2)	Test sect.L (p)	Gauge height (m)	llole angle (deg.)	Ground w. level (m)	Total head (kg/cm2)	Lugeon unit
1.00 3.00 1.00	52.8 85.1 43.2	9.9 15.9 8.1	0.18 0.46 0.12	5.35 5.35 5.35	0.80 0.80 0.80	90.00 90.00 90.00	11.18 11.18 11.18	2.0 3.7 2.1	48.9 42.6 38.9

6.90E-05 : Constant number of rod friction loss for BW boring rod



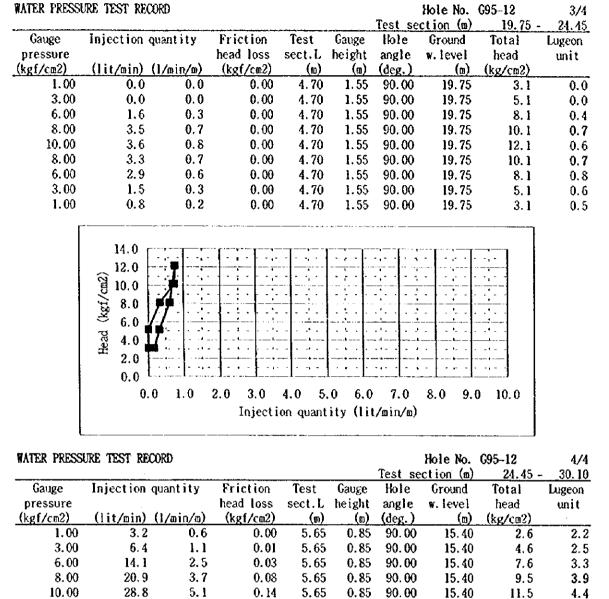
WATER PRESS	ure test re	CORD				Test_se	Hole No. ction (m)	G95-12 13.85 -	2/4 - <u>19.75</u>
Gauge pressure (kgf/cm2)	Injection (lit/min)	quantity (1/min/m)	Friction head loss (kgf/cm2)	Test sect.L (m)	Gauge height (m)	Hole angle (deg.)	Ground w.level (m)	Total head (kg/cm2)	Lugeon unit
1.00 2.80 1.00	41.8 75.1 39.5	7.1 12.7	0.18 0.60 0.16	5.90 5.90 5.90	1.45 1.45 1.45	90.00 90.00 90.00	15.20 15.20 15.20	2.5 3.9 2.5	28.6 32.9 26.8

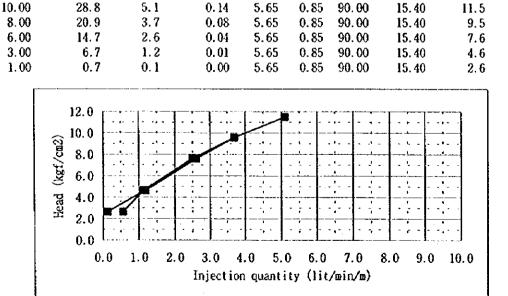


.

C2-120

Ţ





I

3.9

3.4

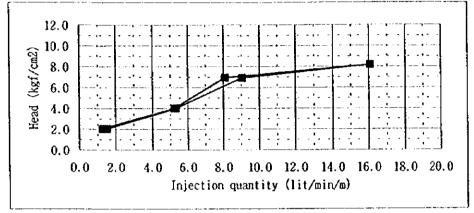
2.6

0.5

C2-121

WATER PRESSU	jre test re	CORD					Hole No.	695-13	1/4
						Test se	<u>ction (m)</u>	7.20 -	12.20
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(y)	(deg.)	(p)	(kg/cm2)	
1.00	7.6	1.5	0.00	5.00	0.60	90.00	9.70	2.0	7.5
3.00	26.6	5.3	0.04	5.00	0.60	90.00	9.70	4.0	13.3
6.00	45.2	9.0	0.11	5.00	0.60	90.00	9.70	6.9	13.1
7.50	80.4	16.1	0.35	5.00	0.60	90.00	9.70	8.2	19.7
6.00	40.5	8.1	0.09	5.00	0.60	90.00	9.70	6.9	11.7
3.00	26.1	5.2	0.04	5.00	0.60	90.00	9.70	4.0	13.1
1.00	6.3	1.3	0.00	5.00	0.60	90.00	9.70	2.0	6.2

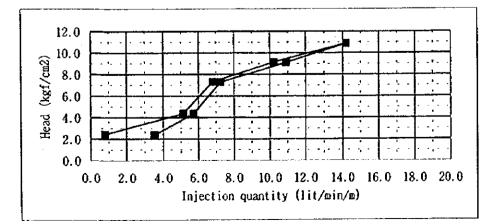
6.90E-05 : Constant number of rod friction loss for BW boring rod



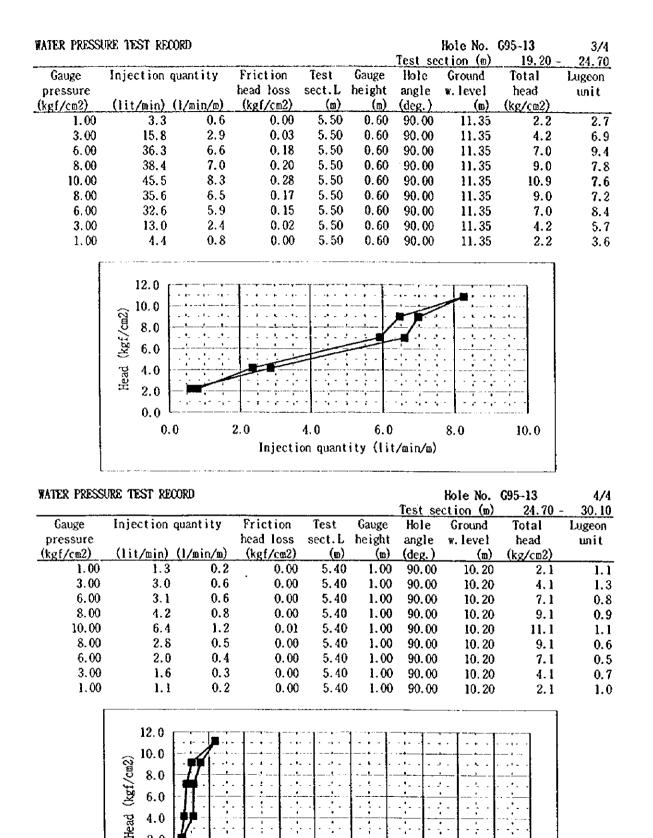
WATER PRESSURE TEST RECORD

Hole No. 695-13 2/4

						Test se	ction (m)	12.20 -	17.50
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	<u>(m)</u>	(m)	(deg.)	<u>(m)</u>	(kg/cm2)	<u> </u>
1.00	4.2	0.8	0.00	5.30	1.65	90.00	12.60	2.4	3.3
3.00	27.2	5.1	0.07	5.30	1.65	90.00	12.60	4.4	11.8
6.00	36.1	6.8	0.12	5.30	1.65	90.00	12.60	7.3	9.3
8.00	54.2	10.2	0.28	5.30	1.65	90.00	12.60	9.1	11.2
10.00	75.3	14.2	0.54	5.30	1.65	90.00	12.60	10.9	13.1
8.00	57.9	10.9	0.32	5.30	1.65	90.00	12.60	9.1	12.0
6.00	38.5	7.3	0.14	5.30	1.65	90.00	12.60	7.3	10.0
3.00	30.3	5.7	0.09	5.30	1.65	90.00	12.60	4.3	13.2
1.00	18.7	3.5	0.03	5.30	1.65	90.00	12.60	2.4	14.8



ે



T

I

C2-123

4.0

5.0

Injection quantity (lit/min/m)

6.0

2.0

0.00.0

1.0

2.0

3.0

-

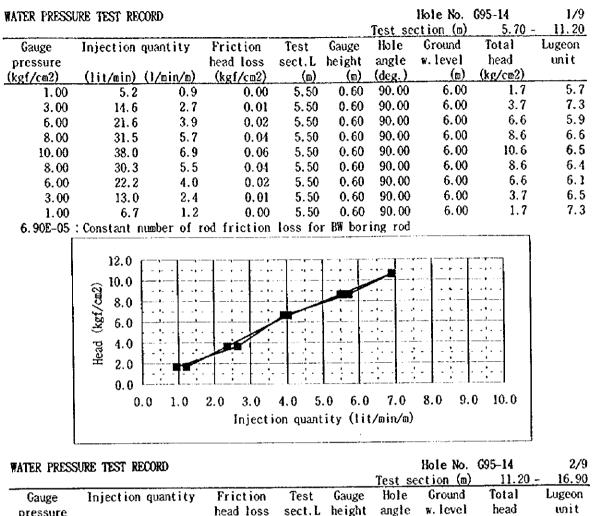
-, ·

8.0

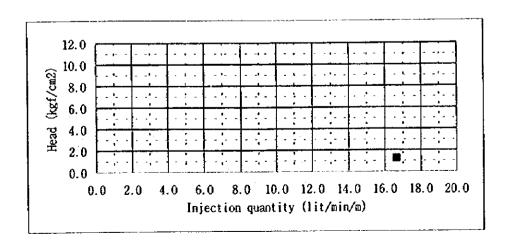
9.0

10.0

7.0



pressure			head loss					neau	LOILL
(kgf/cm2)	(lit/min)	(]/min/m)	(kgf/cm2)	(m)	(m)	(deg.)	(m)	(kg/cm2)	
0.50	94.9				1.10			1.3	133.1

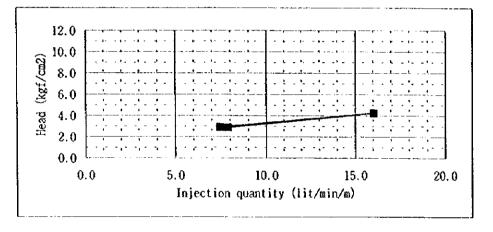


C2-124

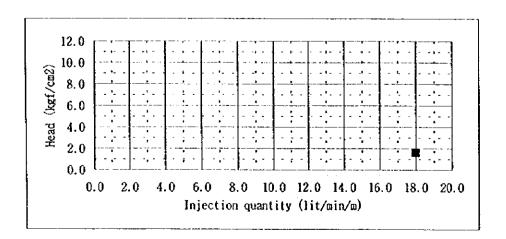
Į,

Î

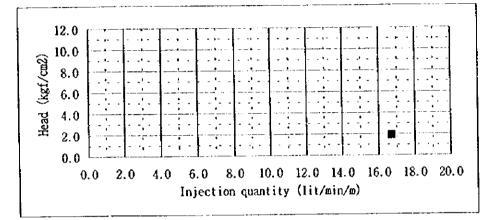
WATER PRESS	ure test re	CORD				Test se	Hole No. ction (m)	G95-14 16,90 -	3/9 - 22.00
Gauge pressure (kgf/cm2)	Injection (lit/min)	quantity (1/min/m)	Friction head loss (kgf/cm2)	Test sect.L (m)	Gauge height (m)	liote angle (deg.)	Ground w.level (m)	Total head (kg/cm2)	Lugeon unit
1.00 3.00 1.00	38.0 81.8 40.2	16.0	0.18 0.84 0.20	5. 10 5. 10 5. 10		90.00 90.00 90.00	19.45 19.45 19.45	2.9 4.2 2.9	25.7 37.8 27.4



WATER PRESS	ure test re	CORD					Hole No.	C95-14	4/9
						Test se	ction (m)	22.00 -	- 27.00
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Ligeon
pressure			head loss	sect.L	height	angle	w. level	head	unit
(kgf/cm2)	(lit/min)	<u>(1/min/m)</u>	(kgf/cm2)	(m)	(m)	(deg.)	(m)	(kg/cm2)	
0.50	89.9	18.0	1.27	5.00	0.80	90.00	23.00	1.6	111.8

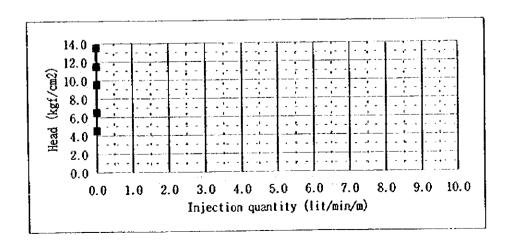


WATER PRESS	ure test re	CORD				Test s	Hole No. section (m)		5/9 - <u>32.30</u>
Gauge pressure	Injection	quantity	Friction head loss	Test sect.L	Gauge height	llole angle		Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	<u>(n)</u>	<u>(m)</u>	<u>(deg.)</u>)()	(kg/cm2)	
0.40	88.6	16.7	1.48	5,30	0.30	90.00) 29.55	1.9	87.7

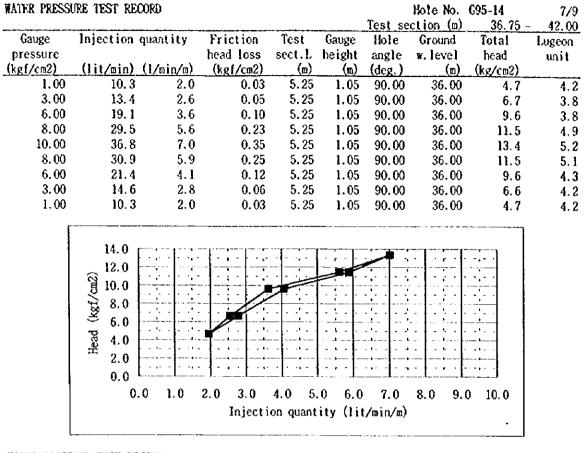


Hole No. 695-14 6/9

						Test se	cti <u>on (m)</u>	<u>32.00 -</u>	- <u>36.75</u>
Gauge	Injection	quantity	Friction head loss	Test sect.L	Gauge height	Hole angle	Ground w. level	Total head	Lugeon unit
(kgf/cm2)	(lit/min)	(1/min/m)_	(kgf/cm2)	(m)	(a)	(deg.)	<u>(n)</u>	(kg/cm2)	·
1.00	0.0		0.00	4.75	1.30	90.00	33.75	4.5	0.0
3.00	0.0		0.00	4.75	1.30	90.00	33.75	6.5	0.0
6.00	0.0	••••	0.00	4.75	1.30	90.00	33.75	9.5	0.0
8.00	0.0		0.00	4.75	1.30	90.00	33.75	11.5	0.0
10.00	0.0	0.0	0.00	4.75	1.30	90.00	33.75	13.5	0.0

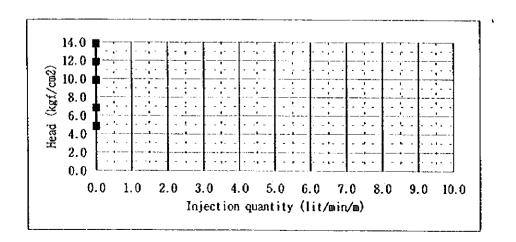


C2-126



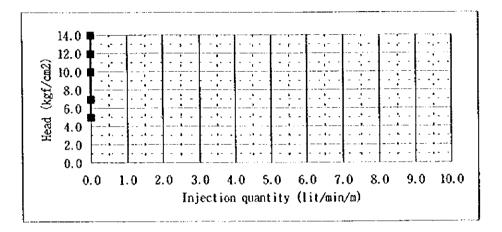
Hole No. 695-14 8/9

						Test se	<u>ction (m)</u>	42.00 -	45.75
Gauge	Injection	quantity	Friction	Test	Gauge	Hole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
<u>(kgf/cm2)</u>	<u>(lit/min)</u>	<u>(!/min/m)</u>	(kgf/cm2)	<u>(D)</u>	(<u>n</u>)	(deg.)	(m)	(kg/cm2)	
1.00	0.0	0.0	0.00	3.75	0.30	90.00	37.85	4.8	0.0
3.00	0.0	0.0	0.00	3.75	0.30	90.00	37.85	6.8	0.0
6.00	0.0	0.0	0.00	3.75	0.30	90.00	37.85	9.8	0.0
8.00	0.0	0.0	0.00	3.75	0.30	90.00	37.85	11.8	0.0
10.00	0.0	0.0	0.00	3.75	0.30	90.00	37. 8 5	13.8	0.0



1

WATER PRESSURE TEST RECORD						Hole No. 695-14 9/9 Test section (m) 45.75 - 50.20			
Gauge	Injection quantity		Friction	Test	Gauge	llole	Ground	Total	Lugeon
pressure			head loss	sect.L	height	angle	w.level	head	unit
(kgf/cm2)	(lit/min)	(1/min/m)	(kgf/cm2)	(m)	(<u>n</u>)	(deg.)	<u>(B)</u>	(kg/cm2)	
1.00	0.0	0.0	0.00	4.45	0.95	90.00	38.50	4.9	0.0
3.00	0.0	0.0	0.00	4.45	0.95	90.00	38.50	6.9	0.0
6.00	0.0	0.0	0.00	4.45	0.95	90.00	38.50	9.9	0.0
8.00	0.0	0.0	0.00	4.45	0.95	90.00	38.50	11.9	0.0
10.00	0.0	0.0	0.00	4.45	0.95	90.00	38.50	13.9	0.0



Ţ

I