ภาคผนวก

ภาคผนวก ก

ข้อมูลหลุมเจาะ

ตามแนวภาพตัดขวางธรณีวิทยาหลุมเจาะ แนว c-c′ (รูปที่ 4.11)

ภาคผนวก ก

Well Log : ก1

Well No. C31KK11

Location : Ban Nong Bua Di Mi Community Development, E of Km. 64.5 Ban Phai - Khon Kaen Highway, Khon Kaen

Elevation : 165 m.

Depth : 1289 feet (392.89 m.)

Depth Intervals (feet)	Thickness (feet)	Description
0-25	25	Clay, silty, reddish brown, mottled white
25-40	15	Shale, silty, reddish brown, mottled white, very soft
40-300	260	Sandstone, fine grained, reddish brown, soft, some traces of evaporite 200′-285′
300-385	85	Shale, reddish brown, hard, with layer of sandstone, fine grained, reddish brown
385-525	140	Shale, reddish brown , hard
525-625	100	Siltstone, reddish brown, hard
625-755	130	Shale, reddish brown, mottled green, soft
755-925	170	Siltstone, reddish brown, hard
925-945	20	Shale, reddish brown, mottled green soft
945-1289	344	Shale, reddish brown, hard, mottled gray soft at 1060′ to 1070′

Well Log : ก2

Well No. GKK10/94

Location : บ้านหมอชนินทร์ หมู่บ้านเกษมทรัพย์ อ. เมือง จ. ขอนแก่น N 1812232 E 268398

Date : 17/09/94

Elevation : 153 m.

Depth : 39.00 m.

Well Diameter : 4 inches; 0-15.80 m. casing ; 15.80-39.00 m. Open

Depth Intervals (m)	Thickness (m)	Description
0-2	2	Sand, reddish brown, very fine grained
2-3	1	Laterite, thin latertic soil
3-5	2	Siltstone, clayey, dark reddish brown clayey siltstone
5-9	4	Siltstone, dark reddish brown, with white fragment of gypsum, feldspar and clay
9-39	30	Siltstone, dark reddish brown siltstone
		Yield : > 10 gpm
		EC : 1300 µs/cm

Well Log : ก3

Well No. GEKKU06/90

Location : บ้านคุณวีระศักดิ์ 385/16 ถ. เหล่านาดี ต. ในเมือง อ. เมือง จ. ขอนแก่น

N 1815850 E 267200

Date : 20-28/11/90

Elevation : 160.00 m.

Depth : 40.00 m.

Well Diameter : 4 inches; 0-34.00 m. casing ; 34.00-40.00 m. Slot

Depth Intervals (m)	Thickness (m)	Description
0-3	3	Laterite, lateritic soil, light brown, fine sand with traces of pea laterite nodules
3-8	5	Shale, weathered mottled, fractured, purple to reddish, traces of calcite crystal
8-22	17	Shale, purple to brick reddish brown, fractured, silty, hard
22-24	2	Shale, purplish brown, friable soft
24-28	4	Shale, purplish brown, fractured, silty, hard
28-30	2	Shale, purplish brown, friable soft
30-38	8	Shale, purplish brown, friable silty, traces of white feldspar
38-40	2	Sandstone, reddish brown to brick red, fine grained

Well log : ก4

Well No. K-47

Location : Wat Pa Chaiwan, Amphoe Muang, Khon Kaen

Start drilling : December 28, 1976

Stop drilling : January 6, 1977

Start coring : 380 ft (115.82 m)

Core recovery : 97 percent

Elevation : 160.00 m.

Depth : 953 ft (290.5 m)

Thickness of potash : 9.5 m

Logged by : Parkorn Suwanich

Thawat Japakasetr

Depth Intervals (m)	Thickness (m)	Description
0-7.62	7.62	Sand-Medium grained sand of mainly quarts, subangular to subrounded well sorting.
7.62-15.24	7.62	Gravel - White to colorless of angular quart grains, some rock fragments.
15.24-80.77	65.53	Mudstone- Reddish brown , semi-consididated.
80.77-103.63	22.86	Clay - Reddish brown, unconsididated.
103.63-106.68	3.05	Anhydrite - As shown on gamma-ray log.
106.68-125.88	19.2	Clay - Reddish brown, unconsolidated some greyish green mottling , locally show small faulting in anhydrite and also in clay of about 60 dipping of the fault plane, fracturing is abundant.
125.88-126.49	0.61	Clay - Greyish green , unconsolidated, with thin layers of anhydrite.
126.49-126.59	0.10	Anhydrite - Grey, decomposed with some greenish gray clay, shows bedding of about 20°-35° dip.
126.59-131.6	5.08	Rock salt - Mostly halite of colorless, coase grains and crystals of about 2.5 cm small amount of gypsum stringers.
131.67-141.20	9.53	Sylvite & Blue halite - About 30% sylvite of cloudy white to pale brown color occuring as groundmass. About 70% halite of mostly blue color, partly colorless, occuring as cryatals and grains in sylvite groundmass. White gypsum as pods and stringers. Five intervals, up to 40 cm. thick of colorless halite interbedded.

Well log : ก4 (ต่อ)

Well No. K-47

Location : Wat Pa Chaiwan, Amphoe Muang, Khon Kaen

Start drilling : December 28, 1976 Elevation : 160.00 m.

Stop drilling : January 6, 1977 Depth : 953 ft (290.5 m)

Start coring : 380 ft (115.82 m) Thickness of potash : 9.5 m

Core recovery : 97 percent Logged by : Parkorn Suwanich

Thawat Japakasetr

Depth Intervals (m)	Thickness (m)	Description
141.20-143.79	2.59	Halite & Sylvite - Mostly halite of colorless, partly blue halite as thin layers with sylvite (about 10%) associated.
143.79-151.28	7.49	Halite & Carnallite - About 85% halite of colorless, and about 15% carnallite of orange-red and colorless occuring as thin (2-5 cm thick) interlayers with halite of about 30 cm to 1 m thick.
151.28-194.58	43.30	Rock salt - Mostly halite of colorless from 151.28 to 154 m, and some gypsum stringers associated from 154 to 162 m. The rest , from 162-194.6 halite is mainly colorless, with partly milky white and also smoky halite associated.
194.58-195.19	0.61	Anhydrite - White - grey, with some halite grains associated.
195.19-284.61	89.42	Rock salt - Mostly halite of smoky color, with abundant anhydrite stringers, partly colorless halite.
284.61-285.66	1.05	Anhydrite - Grey, showing boundinage structure with alternation of thin layering of cabonaaceous films.
285.66-286.10	0.44	Siltstone - Greyish green, massive.
286.10-290.47	4.37	Sandstone - Reddish brown, massive.

Well Log : ก5

Well No. AE02/91

Location : ระหว่างตึกวิศวเกษตร และห้องปฏิบัติการวิศวเกษตร มหาวิทยาลัยขอนแก่น อ. เมือง จ. ขอนแก่น N 1822250 E 268150

Date : 20/06/91

Elevation : 200 m.

Depth : 42 m.

Well Diameter : 4 inches; 0-32.00 m. casing ; 32.00-40.00 m. Slot

Depth Intervals (m)	Thickness (m)	Description
0-2	2	Sand, red yellow sandy soil, fine grained
2-8	6	Sand and Gravel
8-22	14	Sand, Pale brown, fine to medium grined
22-38	6	Shale, dark red, mixed with white feldspar mottled
28-38	10	Siltstone, dark red
38-42	4	Sandstone, red, fine grained

Well Log : ก6

Well No. GEOKK10/93

Location : 394 บ้าน อ. ลัดดา-อ. พันศักดิ์ บ้านโนนม่วง ต. ศิลา อ. เมือง จ. ขอนแก่น

N 1823200 E 267000

Date : 18-25 Nov. 1993

Elevation : 200 m.

Depth : 56.00 m.

Well Diameter : 4 inches; 0-44.00 m. casing ; 44.00-48.00 m. Slot

Depth Intervals (m)	Thickness (m)	Description
0-6	6	Sand, Brown to brownish red, very fine to fine grained, well sorted, clayey
6-9	3	Sand, white, coarse to very coarse grained, poorly sorted with pisolitic laterite
9-14	5	Siltstone, reddish maroon, higly weathered to form white clay on top bed
14-56	42	Claystone, reddish maroon, with intercalated sorf (weathered or fractured) at depth 22-25, 34-37, 41-43 m. And at depth 50-51 m is very hard.

Well Log : ก7

Well No. SMO03

Location : หมู่บ้านสวนมอ อ.เมือง จ.ขอนแก่น N 1823550 E 265990

Date : 20/02/94 - 24/03/94

Elevation : 195 m.

Depth : 94.80 m.

Well Diameter : Abondoned Dry Hole

Depth Intervals (m)	Thickness (m)	Description
0-3	3	Sand, yellowish, fine grained
3-8	5	Laterite, gravel, sandy gravel
8-12	4	Clay
12-52	40	Claystone, red
52-53	1	Gypsum
53-65	12	Claystone, red
65-71	6	Sandstone, dark red with small gray fragment of clay, very fine grained, dense.
71-94.8	23.8	Sandstone, dark red, fine grained, very dense.

Well Log : ก8

Well No. TD02

Location : หมู่บ้านทอรุ้ง ต. ศิลา อ. เมือง จ. ขอนแก่น N 1824267 E 266359

Date : 14/08/94

Elevation : 185 m.

Depth : 43.50 m.

Well Diameter : 0-11.00 m. casing ; 11.00-43.50 m. open

Depth Intervals (m)	Thickness (m)	Description
0-2	2	Sand, pale brow, very fine to fine grained, quart, well sorted
2-8	6	Sandstone, conglomeratic, with thin layer of laterite, some fragment of quartz (gravel) fine grained, medium hard
8-10	2	Siltstone, purple, sandy, medium grained
10-43.50	33.50	Sandstone, purple, interbeded with fine to medium grained sandstone, rather soft to rather hard, Gypsum at the depth 35-37 m.

Well Log : ก9

Well No. S253KK103

Location : Wat Ban Khok Si, Mu Thi 7, Tambon Ban Kho, 5 Km. W of Km 455, Bangkok - Khon Kaen - Udon Highway, Muang, Khon Kaen

Elevation : 165 m.

Depth : 65 feet. (19.81 m.)

Depth Intervals (feet)	Thickness (feet)	Description
0-15	15	Sand, moderate brow, very fine to fine sand, subangular, moderately to well sorted, loose, composed of quartz and felspar.
15-65	50	Siltstone, brown, shaly slightly micaceous, brittle, massive, compacted, indurated, sandstone fine grained of the same color alternated from 15′-30′

ภาคผนวก ข

ข้อมูลบ่อน้ำบาดาล คุณภาพน้ำ และการใช้น้ำ

******* DATA AFTER READ ********

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GROUNDWATER WELL ELEVATION AND PIEZOMETRIC SURFACE DEPTH TABLE

no.	well no	well id	elevation (m)	SWL. (feet)	drill. dept. (feet)
1	ISO 01	F 589 KK 485	190.00	.00	.00
2	ISO 02	RURAL DEVELOP DEPART. WELL	200.00	11.61	30.00
3	ISO 03	S 509	170.00	12.00	235.00
4	ISO 04	F 777	175.00	20.00	60.00
5	ISO 05	S 1240	192.00	36.00	155.00
6	ISO 06	J 66 KK1	165.00	.00	250.00
7	ISO 07	UNIDENTIFIED (A. mancha)	189.00	11.25	60.00
8	ISO 08	UNIDENTIFIED	190.00	25.00	40.00
9	ISO 09	04/02/104/ KK 139	215.00	.00	135.00
10	ISO 10	MM 172	191.00	20.00	165.00
11	ISO 11	F 426 KK 322 (1976)	194.00	.00	270.00
12	ISO 12	S 637	161.00	20.00	75.00
13	ISO 13	F 756 (03/08/1974)	165.00	12.00	80.00
14	ISO 14	F 502 KK 398	193.00	.00	100.00
15	ISO 15	F 410 KK 306	188.00	22.95	80.00
16	ISO 16	F 469 KK 365 (1977)	210.00	15.57	50.00
17	ISO 17	F 568	200.00	17.25	130.00
18	ISO 18	S 743 KK 553.	180.00	4.00	50.00
19	ISO 19	F 671	190.00	.00	120.00
20	ISO 20	U 836	181.00	21.00	70.00
21	ISO 21	F 472 KK 368 (08/18/1977)	170.00	18.00	155.00
22	ISO 22		162.00	.00	.00
23	ISO 23	B 1055	171.00	53.00	140.00
24	ISO 24		160.00	.00	.00
25	ISO 25	U 817 KK 5	165.00	24.00	120.00
26	ISO 26	U 813 KK1	161.00	15.00	90.00
27	ISO 27	F 596 KK 492 (07/23/1980)	160.00	58.00	210.00
28	ISO 28		161.00	.00	.00
29	ISO 29	U 816 KK4	155.00	23.00	70.00
30	ISO 30	F 298 (11/12/1975)	160.00	32.82	100.00
31	ISO 31		160.00	.00	.00
32	ISO 32	F 1090	200.00	10.00	150.00
33	ISO 33	L 942 (04/22/1989)	180.00	21.56	80.00

no.	well no	well id	elevation (m)	SWL. (feet)	drill. dept. (feet)
34	ISO 34	Y 498	180.00	15.20	160.00
35	ISO 35	F 398	180.00	29.74	100.00
36	ISO 36	F 1002 (06/27/1988)	180.00	10.63	100.00
37	ISO 37		151.00	.00	.00
38	ISO 38		153.00	.00	.00
39	ISO 39	S 830 KK 581 (1988)	165.00	19.00	90.00
40	ISO 40	F 171 KK 68 (1966).	212.00	14.40	145.00
41	ISO 41	F 461 KK 357 (1977).	170.00	12.38	60.00
42	ISO 42		156.00	.00	.00
43	ISO 43	F 401 KK 297 (11/24/1975)	155.00	10.14	80.00
44	ISO 44		157.00	.00	29.00
45	ISO 45		151.00	.00	.00
46	ISO 46	D 657 (06/01/1982)	155.00	14.80	80.00
47	ISO 47	X 319 (01/08/1972)	145.00	14.00	100.00
48	ISO 48	F 462	215.00	22.25	75.00
49	ISO 49	F 146 KK 49.	160.00	10.85	110.00
50	ISO 50	S 294 KK 144.(1979)	159.00	14.20	80.00
51	ISO 51	S 893	152.00	24.48	215.00
52	ISO 52	S 712 (03/14/1966)	181.00	20.00	70.00
53	ISO 53		165.00	15.61	335.00
54	ISO 54		155.00	.00	24.00
55	ISO 55	B 1128 KK 24.	160.00	3.00	160.00
56	ISO 56	F 234 KK 131 (09/27/1968).	169.00	7.76	115.00
57	ISO 57	F 557 KK 453.	160.00	30.00	90.00
58	ISO 58	F 1014	155.00	10.00	60.00
59	ISO 59	F 249	152.00	5.00	100.00
60	ISO 60		150.00	.00	.00
61	ISO 61	S 1302	219.00	15.00	145.00
62	ISO 62	F 624 (05/19/1981)	210.00	9.62	130.00
63	ISO 63	F 530 KK 426 (03/10/1979)	181.00	8.00	60.00
64	ISO 64	S 949	175.00	30.00	310.00
65	ISO 65	F 1000	168.00	23.00	120.00
66	ISO 66	S 894	169.00	29.44	215.00
67	ISO 67	D 1548	170.00	24.00	110.00
68	ISO 68	L 105 (06/03/1969)	155.00	31.60	140.00
69	ISO 69	D 69 (12/28/1960)	151.00	9.90	205.00
70	ISO 70	F 407 KK 303	210.00	11.25	60.00

no.	well no	well id	elevation (m)	SWL. (feet)	drill. dept. (feet)
71	ISO 71	F 147 KK 49 (TEMPLE).	170.00	15.12	255.00
72	ISO 72	C 59 (school)	160.00	30.00	376.00
73	ISO 73	S 258 (07/02/1978) P.22	175.00	.00	260.00
74	ISO 74	L 224 (01/14/1974)	168.00	15.00	200.00
75	ISO 75	F 404 KK 300 (01/03/1976)	200.00	20.96	50.00
76	ISO 76	S 244	170.00	15.00	170.00
77	ISO 77	S 918 KK/669 (03/15/1989)	161.00	20.80	65.00
78	ISO 78	F 366 KK 262 (TEMPLE)	175.00	36.50	210.00
79	ISO 79	L 228	205.00	3.91	100.00
80	ISO 80	L 108	175.00	20.00	205.00
81	ISO 81	F 962	180.00	15.00	125.00
82	ISO 82	D 660 (09/06/1982)****	178.00	51.00	100.00

RESULT TABLE OF PIEZOMETRIC SURFACE LEVEL CALCULATION

Multiply by Conversion Factor 0.3048 (FEET TO METER)

No.	well no.	Well Id. (Sampling Site)	Topo. Elevation (m) (Above M.S.L.)	Static Water Depth (Feet)	Static Water Depth (m)	Piezo.Level (m)	Drilling Depth (Feet)	Drilling Depth (m)	Remarks
1	ISO 01	F 589 KK 485	190.00	.00	.00	190.00	.00	.00	VOL. XII,1978-
2	ISO 02	RURAL DEVELOP DEPART. WELL	200.00	11.61	3.54	196.46	30.00	9.14	(meter).(08/23
3	ISO 03	S 509	170.00	12.00	3.66	166.34	235.00	71.63	14/11/1966
4	ISO 04	F 777	175.00	20.00	6.10	168.90	60.00	18.29	
5	ISO 05	S 1240	192.00	36.00	10.97	181.03	155.00	47.24	
6	ISO 06	J 66 KK1	165.00	.00	.00	165.00	250.00	76.20	GREEN ESARN WE
7	ISO 07	UNIDENTIFIED (A. mancha)	189.00	11.25	3.43	185.57	60.00	18.29	
8	ISO 08	UNIDENTIFIED	190.00	25.00	7.62	182.38	40.00	12.19	
9	ISO 09	04/02/104/ KK 139	215.00	.00	.00	215.00	135.00	41.15	HEALTH DEPARTM
10	ISO 10	MM 172	191.00	20.00	6.10	184.90	165.00	50.29	
11	ISO 11	F 426 KK 322 (1976)	194.00	.00	.00	194.00	270.00	82.30	(dry)
12	ISO 12	S 637	161.00	20.00	6.10	154.90	75.00	22.86	
13	ISO 13	F 756 (03/08/1974)	165.00	12.00	3.66	161.34	80.00	24.38	PAGE 02
14	ISO 14	F 502 KK 398	193.00	.00	.00	193.00	100.00	30.48	
15	ISO 15	F 410 KK 306	188.00	22.95	7.00	181.00	80.00	24.38	VOL. XVI 1975-
16	ISO 16	F 469 KK 365 (1977)	210.00	15.57	4.75	205.25	50.00	15.24	WELL CREATED 1
17	ISO 17	F 568	200.00	17.25	5.26	194.74	130.00	39.62	
18	ISO 18	S 743 KK 553.	180.00	4.00	1.22	178.78	50.00	15.24	
19	ISO 19	F 671	190.00	.00	.00	190.00	120.00	36.58	
20	ISO 20	U 836	181.00	21.00	6.40	174.60	70.00	21.34	CREATED 07/28/
21	ISO 21	F 472 KK 368 (08/18/1977)	170.00	18.00	5.49	164.51	155.00	47.24	TEMPLE SITE.
22	ISO 22		162.00	.00	.00	162.00	.00	.00	
23	ISO 23	B 1055	171.00	53.00	16.15	154.85	140.00	42.67	CREATED 07/26/
24	ISO 24		160.00	.00	.00	160.00	.00	.00	
25	ISO 25	U 817 KK 5	165.00	24.00	7.32	157.68	120.00	36.58	04/24/1987
26	ISO 26	U 813 KK1	161.00	15.00	4.57	156.43	90.00	27.43	
27	ISO 27	F 596 KK 492 (07/23/1980)	160.00	58.00	17.68	142.32	210.00	64.01	
28	ISO 28		161.00	.00	.00	161.00	.00	.00	
29	ISO 29	U 816 KK4	155.00	23.00	7.01	147.99	70.00	21.34	
30	ISO 30	F 298 (11/12/1975)	160.00	32.82	10.00	150.00	100.00	30.48	
31	ISO 31		160.00	.00	.00	160.00	.00	.00	
32	ISO 32	F 1090	200.00	10.00	3.05	196.95	150.00	45.72	

No.	well no.	Well Id. (Sampling Site)	Topo. Elevation (m) (Above M.S.L.)	Static Water Depth (Feet)	Static Water Depth (m)	Piezo.Level (m)	Drilling Depth (Feet)	Drilling Depth (m)	Remarks
33	ISO 33	L 942 (04/22/1989)	180.00	21.56	6.57	173.43	80.00	24.38	
34	ISO 34	Y 498	180.00	15.20	4.63	175.37	160.00	48.77	
35	ISO 35	F 398	180.00	29.74	9.06	170.94	100.00	30.48	
36	ISO 36	F 1002 (06/27/1988)	180.00	10.63	3.24	176.76	100.00	30.48	
37	ISO 37		151.00	.00	.00	151.00	.00	.00	
38	ISO 38		153.00	.00	.00	153.00	.00	.00	
39	ISO 39	S 830 KK 581 (1988)	165.00	19.00	5.79	159.21	90.00	27.43	WELL CREATED 1
40	ISO 40	F 171 KK 68 (1966).	212.00	14.40	4.39	207.61	145.00	44.20	
41	ISO 41	F 461 KK 357 (1977).	170.00	12.38	3.77	166.23	60.00	18.29	WELL CREATED 1
42	ISO 42		156.00	.00	.00	156.00	.00	.00	Small Well. PA
43	ISO 43	F 401 KK 297 (11/24/1975)	155.00	10.14	3.09	151.91	80.00	24.38	SCHOOL SITE,19
44	ISO 44		157.00	.00	.00	157.00	29.00	8.84	(METRE).GREEN
45	ISO 45		151.00	.00	.00	151.00	.00	.00	
46	ISO 46	D 657 (06/01/1982)	155.00	14.80	4.51	150.49	80.00	24.38	SCHOOL SITE.PA
47	ISO 47	X 319 (01/08/1972)	145.00	14.00	4.27	140.73	100.00	30.48	
48	ISO 48	F 462	215.00	22.25	6.78	208.22	75.00	22.86	
49	ISO 49	F 146 KK 49.	160.00	10.85	3.31	156.69	110.00	33.53	SCHOOL.
50	ISO 50	S 294 KK 144.(1979)	159.00	14.20	4.33	154.67	80.00	24.38	
51	ISO 51	S 893	152.00	24.48	7.46	144.54	215.00	65.53	
52	ISO 52	S 712 (03/14/1966)	181.00	20.00	6.10	174.90	70.00	21.34	RURAL DEVL. WE
53	ISO 53		165.00	15.61	4.76	160.24	335.00	102.11	TEMPLE SITE.
54	ISO 54		155.00	.00	.00	155.00	24.00	7.32	(H) HEALTH DEP
55	ISO 55	B 1128 KK 24.	160.00	3.00	.91	159.09	160.00	48.77	HEALTH DEPRT.
56	ISO 56	F 234 KK 131 (09/27/1968).	169.00	7.76	2.37	166.63	115.00	35.05	SCHOOL SITE.
57	ISO 57	F 557 KK 453.	160.00	30.00	9.14	150.86	90.00	27.43	
58	ISO 58	F 1014	155.00	10.00	3.05	151.95	60.00	18.29	
59	ISO 59	F 249	152.00	5.00	1.52	150.48	100.00	30.48	
60	ISO 60		150.00	.00	.00	150.00	.00	.00	
61	ISO 61	S 1302	219.00	15.00	4.57	214.43	145.00	44.20	
62	ISO 62	F 624 (05/19/1981)	210.00	9.62	2.93	207.07	130.00	39.62	HEALTH DEPRT.
63	ISO 63	F 530 KK 426 (03/10/1979)	181.00	8.00	2.44	178.56	60.00	18.29	PAGE 02
64	ISO 64	S 949	175.00	30.00	9.14	165.86	310.00	94.49	
65	ISO 65	F 1000	168.00	23.00	7.01	160.99	120.00	36.58	
66	ISO 66	S 894	169.00	29.44	8.97	160.03	215.00	65.53	
67	ISO 67	D 1548	170.00	24.00	7.32	162.68	110.00	33.53	
68	ISO 68	L 105 (06/03/1969)	155.00	31.60	9.63	145.37	140.00	42.67	
69	ISO 69	D 69 (12/28/1960)	151.00	9.90	3.02	147.98	205.00	62.48	
70	ISO 70	F 407 KK 303	210.00	11.25	3.43	206.57	60.00	18.29	VOL. XVI,Oct.7

No.	well no.	Well Id. (Sampling Site)	Topo. Elevation (m) (Above M.S.L.)	Static Water Depth (Feet)	Static Water Depth (m)	Piezo.Level (m)	Drilling Depth (Feet)	Drilling Depth (m)	Remarks
71	ISO 71	F 147 KK 49 (TEMPLE).	170.00	15.12	4.61	165.39	255.00	77.72	TEMPLE SITE;
72	ISO 72	C 59 (school)	160.00	30.00	9.14	150.86	376.00	114.60	Maranatha SCHO
73	ISO 73	S 258 (07/02/1978) P.22	175.00	.00	.00	175.00	260.00	79.25	ABANDONED.
74	ISO 74	L 224 (01/14/1974)	168.00	15.00	4.57	163.43	200.00	60.96	30 YEAR OLD WE
75	ISO 75	F 404 KK 300 (01/03/1976)	200.00	20.96	6.39	193.61	50.00	15.24	TEMPLE SITE.
76	ISO 76	S 244	170.00	15.00	4.57	165.43	170.00	51.82	
77	ISO 77	S 918 KK/669 (03/15/1989)	161.00	20.80	6.34	154.66	65.00	19.81	DRILLED 1989.
78	ISO 78	F 366 KK 262 (TEMPLE)	175.00	36.50	11.13	163.87	210.00	64.01	TEMPLE SITE.
79	ISO 79	L 228	205.00	3.91	1.19	203.81	100.00	30.48	
80	ISO 80	L 108	175.00	20.00	6.10	168.90	205.00	62.48	
81	ISO 81	F 962	180.00	15.00	4.57	175.43	125.00	38.10	
82	ISO 82	D 660 (09/06/1982)****	178.00	51.00	15.54	162.46	100.00	30.48	PAGE 14.

RUN PIEZO2.EXE/ BY : KRIENGKRI. T.
LASTEST UPDATE: 02/ Tue. 07/1995/: 20.30 PM ;OUTPUT REVISION: [04]
NUMBER OF AVAILABLE PIEZOMETRIC LEVEL DATA WELL = 64
OUTPUT FILE: PIEZOMET.OUT
*PROGRAM STOP RUN

TOTAL: 6 PAGE(S)

GROUNDWATER WELL DESCRIPTION DATA LIST
KHON KAEN PROVINCE AND ADJECENT AREA
IGKK PROJECT: 1994

CREATED ON: 06/MON. 13/1994.

Seq. NO.	WELL NO.	WELL ID.	GRID LOCATION W-E	S-N	WELL SITE	BUILDER	INFORM. SOURCE	SAMPLING DATE	SAMPLING LOT. NO.	ST.-WT. (feet)	D.-WT. (feet)	Dril.-D. (feet)	REMARKS
1	ISO 01	F 589 KK 485	237,400	1,840,100	BAN NONG KUNG. (Nong No)	DMR.	RECORD OF WELLS. DMR.	01/19/1994	2				VOL. XII,1978-1979.
2	ISO 02	RURAL DEVELOP DEPART. WELL	253,200	1,841,250	BAN SOK TAE.	DMR.	RECORD OF WELLS. DMR.		3	11.61		30.00	
3	ISO 03	S 509	266,400	1,843,900	BAN KHAM KAEN KHUN (W. Liap)	DMR.	RECORD OF WELLS. DMR.		3	12.00		235.00	14/11/1966
4	ISO 04	F 777	277,000	1,842,400	BAN KACHAEO. (Kud Dug)	DMR.	RECORD OF WELLS. DMR.	01/02/1994	4	20.00		60.00	
5	ISO 05	S 1240	284,300	1,838,000	BAN KHAM HUAM. (W. Uthumphon)	DMR.	RECORD OF WELLS. DMR.	02/01/1994	4	36.00		155.00	
6	ISO 06	J 66 KK1	268,000	1,840,800	BAN NON PHAYOM.	DMR.	RECORD OF WELLS. DMR.	03/14/1994	4			250.00	GREEN ESARN WELL.
7	ISO 07	UNIDENTIFIED (A. Mancha)	233,700	1,833,650	BAN KUT KHON KAEN	DMR.	RECORD OF WELLS. DMR.		2	11.25		60.00	GREEN ESARN WELL. (M.)
8	ISO 08	UNIDENTIFIED	241,000	1,833,300	BAN NONG PHU	DMR.	RECORD OF WELLS. DMR.	02/09/1994	2	25.00		40.00	
9	ISO 09	04/02/104/ KK 139	245,500	1,834,700	BAN KHAM YA DAENG	-	-		2			135.00	HEALTH DEPARTMENT WELL.
10	ISO 10	MM 172	258,700	1,833,850	BAN WANG TO (W. Wicharanaram)	DMR.	RECORD OF WELLS. DMR.		3	20.00		165.00	
11	ISO 11	F 426 KK 322 (1976)	264,800	1,836,700	BAN SAM CHAN	DMR.	RECORD OF WELLS. DMR.		3			270.00	ABANDONED (dry)
12	ISO 12	S 637	271,500	1,837,900	BAN THA KRASOEM	DMR.	RECORD OF WELLS. DMR.		4	20.00		75.00	CREATED 23/03/1989
13	ISO 13	F 756 (03/08/1974)	281,600	1,831,100	BAN KHAM	-	-		4	12.00		80.00	PAGE 02
14	ISO 14	F 502 KK 398	233,500	1,824,400	BAN SA-AT (W. Somchitnaram)	DMR.	RECORD OF WELLS. DMR.	01/19/1994.	2			100.00	
15	ISO 15	F 410 KK 306	240,200	1,827,400	BAN NONG SAENG.	DMR.	RECORD OF WELLS. DMR.		2	22.95		80.00	VOL. XVI 1975-1976
16	ISO 16	F 469 KK 365 (1977)	243,200	1,828,400	BAN BA YAO	DMR.	RECORD OF WELLS. DMR.	02/09/1994	2	15.57		50.00	WELL CREATED 1977.
17	ISO 17	F 568	247,800	1,826,700	BAN KAEN THAO	DMR.	RECORD OF WELLS. DMR.		3	17.25		130.00	05/27/1981
18	ISO 18	S 743 KK 553	251,550	1,824,200	BAN HUANG PO (Nongtakai)	DMR.	RECORD OF WELLS. DMR.		3	4.00		50.00	
19	ISO 19	F 671	253,650	1,830,000	BAN NON RANG	DMR.	RECORD OF WELLS. DMR.		3			120.00	CREATED 21/07/1978
20	ISO 20	U 836	253,550	1,826,700	BAN SAWATHI	DMR.	RECORD OF WELLS. DMR.		3	21.00		70.00	CREATED 07/28/1987
21	ISO 21	F 472 KK 368 (08/18/1977)	262,700	1,829,150	BAN NON RUANG	DMR.	RECORD OF WELLS. DMR.		3	18.00		155.00	TEMPLE SITE.
22	ISO 22		266,700	1,829,700	BAN TOK PAEN	DMR.	RECORD OF WELLS. DMR.		3				
23	ISO 23	B 1055	265,300	1,828,300	BAN KHOK PIA	DMR.	RECORD OF WELLS. DMR.		3	53.00		140.00	CREATED 07/26/1987
24	ISO 24		267,500	1,829,900	BAN NONG KUNG NOI	DMR.	RECORD OF WELLS. DMR.		3				
25	ISO 25	U 817 KK 5	267,200	1,828,700	BAN NON TAE	DMR.	RECORD OF WELLS. DMR.		3	24.00		120.00	04/24/1987
26	ISO 26	U 813 KK1	269,900	1,830,390	BAN KAI NA	DMR.	RECORD OF WELLS. DMR.		4	15.00		90.00	
27	ISO 27	F 596 KK 492 (07/23/1980)	271,900	1,829,100	BAN KHOK	DMR.	RECORD OF WELLS. DMR.		4	58.00		210.00	
28	ISO 28		272,200	1,831,500	BAN NONG KLANG HUNG	DMR.	RECORD OF WELLS. DMR.		4				
29	ISO 29	U 816 KK4	275,600	1,828,700	BAN NA PHIANG	DMR.	RECORD OF WELLS. DMR.		4	23.00		70.00	
30	ISO 30	F 298 (11/12/1975)	280,550	1,827,750	BAN NONG NGU LUAM	DMR.	RECORD OF WELLS. DMR.		4	32.82		100.00	
31	ISO 31		284,800	1,828,200	BAN KUT THING	DMR.	RECORD OF WELLS. DMR.		4				
32	ISO 32	F 1090	245,200	1,822,300	BAN NON SILA	DMR.	RECORD OF WELLS. DMR.		3	10.00		150.00	
33	ISO 33	L 492 (04/22/1989)	251,750	1,821,550	BAN NONG KUNG	DMR.	RECORD OF WELLS. DMR.		3	21.56		80.00	

GROUNDWATER WELL DESCRIPTION DATA LIST
KHON KAEN PROVINCE AND ADJECENT AREA
IGKK PROJECT: 1994

CREATED ON: 06/MON. 13/1994.

Seq. NO.	WELL NO.	WELL ID.	GRID LOCATION W-E	S-N	WELL SITE	BUILDER	INFORM. SOURCE	SAMPLING DATE	SAMPLING LOT. NO.	ST.-WT. (feet)	D.-WT. (feet)	Dril.-D. (feet)	REMARKS
34	ISO 34	Y 498	254,700	1,821,700	BAN HUANG	DMR.	RECORD OF WELLS. DMR.		3	15.20		160.00	
35	ISO 35	F 398	261,300	1,823,100	BAN NON SAWAN	-	-		3	29.74		100.00	
36	ISO 36	F 1002 (06/27/1988)	267,000	1,824,100	BAN NON HUANG	DMR.	RECORD OF WELLS. DMR.			10.63		100.00	
37	ISO 37		273,300	1,820,780	BAN DON YANG	DMR.	RECORD OF WELLS. DMR.		4				
38	ISO 38		277,400	1,824,800	BAN DON THAT	DMR.	RECORD OF WELLS. DMR.		4				
39	ISO 39	S 830 KK 581 (1988)	249,300	1,789,400	BAN NONG PAEN (w. Pathum wan)	DMR.	RECORD OF WELLS. DMR.	01/18/1994.	2	19.00		90.00	WELL CREATED 1989.
40	ISO 40	F 171 KK 68 (1966).	237,400	1,816,000	BAN YANG KHAM (Temple)	DMR.	RECORD OF WELLS. DMR.	01/19/1994	2	14.40		145.00	
41	ISO 41	F 461 KK 357 (1977).	248,500	1,813,950	BAN KHUAN	DMR.	RECORD OF WELLS. DMR.	02/28/1994.	3	12.38		60.00	WELL CREATED 1977.
42	ISO 42		262,450	1,817,900	BAN KHOK PHAN PONG	DMR.	RECORD OF WELLS. DMR.	02/28/1994.	3				Small Well. PAGE 15
43	ISO 43	F 401 KK 297 (11/24/1975)	263,400	1,814,800	BAN NON SA-AT	DMR.	RECORD OF WELLS. DMR.		4	10.14		80.00	SCHOOL SITE,1975
44	ISO 44		265,990	1,816,700	BAN KOK	DMR.	-		4			29.00	(M.).GREEN ESARN.WELL.
45	ISO 45		274,000	1,812,990	BAN PHU	DMR.	RECORD OF WELLS. DMR.		4				
46	ISO 46	D 657 (06/01/1982)	283,000	1,819,000	BAN KU THONG	DMR.	RECORD OF WELLS. DMR.		4	14.80		80.00	SCHOOL SITE.PAGE 07
47	ISO 47	X 319 (01/08/1972)	286,300	1,812,500	BAN DON PHO	DMR.	RECORD OF WELLS. DMR.		4	14.00		100.00	
48	ISO 48	F 462	238,300	1,809,800	BAN KHAEN THAO	DMR.	RECORD OF WELLS. DMR.	01/19/1994.	2	12.25		75.00	GREEN ESARN WELL.PAGE 06
49	ISO 49	F 146 KK 49	255,350	1,812,800	BAN LAO NA DI	DMR.	RECORD OF WELLS. DMR.		2	10.85		110.00	SCHOOL.
50	ISO 50	S 294 KK 144 (1979)	260,500	1,811,100	BAN DON CHANG	DMR.	RECORD OF WELLS. DMR.		4	14.20		80.00	
51	ISO 51	S 893	265,200	1,809,000	BAN THA PHRA	DMR.	RECORD OF WELLS. DMR.	15/1/1994.	1	24.48		215.00	
52	ISO 52	S 712 (03/14/1966)	233,450	1,788,500	BAN NA KHA	DMR.	RECORD OF WELLS. DMR.	01/15/1994.	2	20.00		70.00	RURAL DEVL. WELL.PAGE 06
53	ISO 53		265,800	1,807,900	WAT THA PRA Hong thet Pradit.	-	-	01/15/1994.	1	15.61		335.00	TEMPLE SITE.
54	ISO 54		268,100	1,809,300	BAN WANG HIN (w. Thawarn)	-	-	01/15/1994.	1			24.00	(M) HEALTH DEPT.WELL.
55	ISO 55	B 1128 KK 24	269,200	1,808,600	BAN NONG KHAI NUN	-	-	01/15/1994.	1	3.00		160.00	HEALTH DEPT. WELL.
56	ISO 56	F 234 KK 131 (09/27/1968)	269,600	1,807,900	BAN NONG KHOI	DMR.	RECORD OF WELLS. DMR.	01/15/1994.	1	7.76		115.00	SCHOOL SITE.
57	ISO 57	F 557 KK 453	270,900	1,806,900	BAN DON HAN	DMR.	RECORD OF WELLS. DMR.	01/15/1994.	1	30.00		90.00	
58	ISO 58	F 1014	271,600	1,807,800	BAN DON DAENG	DMR.	RECORD OF WELLS. DMR.	01/15/1994.	1	10.00		60.00	
59	ISO 59	F 249	274,400	1,808,300	BAN NON KHWAO	DMR.	RECORD OF WELLS. DMR.		1	5.00		100.00	
60	ISO 60		278,700	1,808,700	BAN DON CHAMPA	DMR.	RECORD OF WELLS. DMR.		1				
61	ISO 61	S 1302	233,200	1,803,450	BAN KHAM KHAEN TAI	-	-	01/18/1994.	2	15.00		145.00	
62	ISO 62	F 624 (05/19/1981)	243,700	1,803,100	BAN PRADU (school)	-	-	01/18/1994.	2	9.62		130.00	HEALTH DEPT. WELL.
63	ISO 63	F 530 KK 426 (03/10/1979)	249,800	1,806,650	BAN PRA YUN	DMR.	RECORD OF WELLS. DMR.	01/19/1994.	2	8.00		60.00	PAGE 02
64	ISO 64	S 949	256,550	1,805,300	BAN NONG WAENG HI	-	-	02/08/1994	2	30.00		310.00	
65	ISO 65	F 1000	265,050	1,805,700	BAN NONG BUA DI MI	DMR.	RECORD OF WELLS. DMR.	01/18/1994.	1	23.00		120.00	
66	ISO 66	S 894	266,300	1,806,600	WAT PA SAMAKKHI Thapra	-	-	01/15/1994.	1	29.44		215.00	

GROUNDWATER WELL DESCRIPTION DATA LIST
KHON KAEN PROVINCE AND ADJECENT AREA
IGKK PROJECT: 1994

CREATED ON: 06/MON. 13/1994.

Seq. NO.	WELL NO.	WELL ID.	GRID LOCATION W-E	S-N	WELL SITE	BUILDER	INFORM. SOURCE	SAMPLING DATE	SAMPLING LOT. NO.	ST.-WT. (feet)	D.-WT. (feet)	Dril.-D. (feet)	REMARKS
67	ISO 67	D 1548	275,700	1,803,300	BAN NONG SAPHANG	-	-	01/16/1994.	1	24.00		110.00	
68	ISO 68	L 105 (06/03/1969)	282,600	1,804,300	BAN PHON NGAM	DMR.	RECORD OF WELLS. DMR.	01/16/1994.	1	31.60		140.00	
69	ISO 69	D 69 (12/28/1960)	284,350	1,800,000	BAN PHAENG (w. Chai Prasit)	DMR.	RECORD OF WELLS. DMR.	01/15/1994.	1	9.90		205.00	
70	ISO 70	F 407 KK 303	233,950	1,799,500	BAN KUT KHON KAEN	DMR.	RECORD OF WELLS. DMR.		2	11.25		60.00	VOL. XVI,Oct.75-Sep.76.
71	ISO 71	F 147 KK 49 (TEMPLE).	252,600	1,802,700	BAN KHAM POM	DMR.	RECORD OF WELLS. DMR.		2	15.12		255.00	TEMPLE SITE.
72	ISO 72	C 59 (school)	262,100	1,800,600	BAN NONG KHAM	DMR.	RECORD OF WELLS. DMR.	01/16/1994.	2	30.00		376.00	Maranatha SCHOOL.
73	ISO 73	S 258 (07/02/1978)	267,800	1,799,500	BAN HUAI TOEI (w. Non Sung)	DMR.	RECORD OF WELLS. DMR.	01/16/1994.	1			260.00	ABANDONED.
74	ISO 74	L 224 (01/14/1974)	278,400	1,795,700	BAN KHON KHWANG(w. sawang.)	DMR.	RECORD OF WELLS. DMR.	01/16/1994.	1	15.00		200.00	30 YEAR OLD WELL.
75	ISO 75	F 404 KK 300 (01/03/1976)	238,350	1,797,600	BAN NON KHRUT	DMR.	RECORD OF WELLS. DMR.	01/18/1994.	2	20.96		50.00	TEMPLE SITE.
76	ISO 76	S 244	249,900	1,795,900	BAN THA SAWAN	DMR.	RECORD OF WELLS. DMR.	01/18/1994.	2	15.00		170.00	
77	ISO 77	S 918 KK/669 (03/15/1989)	254,600	1,792,900	BAN LEP NGUAK	DMR.	RECORD OF WELLS. DMR.		1	20.80		65.00	DRILLED 1989.
78	ISO 78	F 366 KK 262 (TEMPLE)	261,600	1,793,300	BAN NON SAWAN	DMR.	RECORD OF WELLS. DMR.	01/16/1994.	1	36.50		210.00	TEMPLE SITE.
79	ISO 79	L 228	270,800	1,793,900	BAN WANG KUNG	DMR.	RECORD OF WELLS. DMR.	01/16/1994.	1	3.91		100.00	
80	ISO 80	L 108	282,800	1,791,500	BAN NONG KUNG	DMR.	RECORD OF WELLS. DMR.	01/16/1994.	1	20.00		205.00	
81	ISO 81	F 962	264,100	1,788,800	BAN NONG SAENG	DMR.	RECORD OF WELLS. DMR.	01/16/1994.	1	15.00		125.00	
82	ISO 82	D 660 (09/06/1982)	275,950	1,789,600	BAN DON KLANG.	-	-	01/16/1994.	1	51.00		100.00	PAGE 14.

NUMBER OF WELL(S) = 082 WELL(S)
NOTICE From Field Book:
WELL # 16 SAMPLING WELL ID: 643 KK 539 (Created SEPTEMBER 1981.) /DEPTH 90 FEET.
WELL # 41 SAMPLING GREEN ESARN WELL.
WELL # 48 SAMPLING RURAL DEVELOPED DEPART. WELL.
WELL # 70 SAMPLING HEALTH DEPT. WELL.
WELL # 78 SAMPLING CIVIL ENG. DEPT. WELL.
WELL # 81 SAMPLING RURAL DEVELOPED DEPART. WELL.
ALL WELL SITE SPELLED AS IN MAP.
OUTPUT REVISION #05/update 02/Tue.07/95
LASTEST UPDATE 02/Tue.07/1995.
CORRECTED GRID WELL NO. ISO 43, WELL SITE NAMES
FILE: WELLDESC.OUT/ RUN EDITWELL.INT
TOTAL: 003 PAGE(S)

FACULTY OF TECHNOLOGY KHONKAEN UNIVERSITY
DEPARTMENT OF GEOTECHNOLOGY.
LABORATORY RESULT REPORT : ISOTOPE PROJECT: 1994
LIST OF GROUNDWATER WELL AND PHYSICAL,CHEMICAL TEST IN THE YEAR 1994.

NO.	WELL-NO. (ISO)	GRID REFERRENC W-E (2)	S-N (17)-(18)	Datum M.s.l. ELEVA. (m)	CALCIUM (ppm)	MAGNESIUM (ppm)	SODIUM (ppm)	CHLORIDE (ppm)	HARDNESS (ppm)	TDS. (ppm)	K (ppm)	Fe (ppm)	SULFER (ppm)	SULFATE (ppm)	NITRATE (ppm)	EC. (uS/cm)	PH.	HCO3-. (ppm)	ST.W.T. (m)	W.Tab. (m)	REMARKS
1	ISO 01	237,400	1,840,100	190.00	207.13	107.09	47.61	295.84	956.91	1,554.66	2.526	0.057	23.509	70.430	24.450	1,945.00	6.50	728.56			BAN NONG KUNG.
2	ISO 02	253,200	1,841,250	200.00	256.19	39.30	37.34	237.52	801.60	1,702.67	1.100	1.010	5.950	17.826	7.490	1,768.00	5.80	216.17			BAN SOK TAE.
3	ISO 03	266,400	1,843,900	170.00	63.49	8.14	3.32	0.00	207.08	196.72	3.500	0.065	0.000	0.000	4.260	364.00	6.40	376.29			BAN KHAM KAEN
4	ISO 04	277,000	1,842,400	175.00	0.00	3.26	3.80	12.66	13.36	112.00	1.500	1.445	0.000	0.000	0.038	61.40	5.90	24.01			BAN KACHAEO.
5	ISO 05	284,300	1,838,000	192.00	0.00	3.26	3.00	19.00	13.36	185.33	1.200	1.600	0.000	0.000	0.000	191.60	6.40	136.10			BAN KHAM MUAM.
6	ISO 06	268,000	1,840,800	165.00	190.37	63.95	102.00	297.69	738.14	1,338.66	6.500	1.600	18.390	55.094	0.000	1,870.00	6.75	728.56			BAN NON PHAYOM
7	ISO 07	233,700	1,833,650	189.00	137.63	51.72	40.20	92.33	556.11	737.33	1.115	0.005	4.043	12.112	28.362	1,188.00	6.70	792.61		1.52	BAN KUT KHON K
8	ISO 08	241,000	1,833,300	190.00	38.15	65.94	179.38	95.01	365.73	857.33	3.739	0.033	50.694	151.873	27.384	1,497.00	7.15	1,032.81			BAN NONG PHU.
9	ISO 09	245,500	1,834,700	215.00	241.19	156.36	101.35	418.03	1,244.15	2,430.66	5.051	0.043	61.088	183.013	29.340	2,870.00	6.30	424.33			BAN KHAM YA DA
10	ISO 10	258,700	1,833,850	191.00	121.28	36.84	73.77	107.68	454.24	651.98	2.400	0.220	0.000	0.000	3.190	1,075.00	6.60	888.69	9.15		BAN WANG TO.(w
11	ISO 11	264,800	1,836,700	194.00	66.77	19.57	25.19	66.51	247.16	391.99	5.000	2.905	0.000	0.000	5.580	604.00	6.20	280.22			BAN SAM CHAN.
12	ISO 12	271,500	1,837,900	161.00	80.82	29.74	612.00	1,440.92	323.98	2,944.00	9.900	4.495	17.130	51.319	0.530	4,700.00	6.80	584.45			BAN THA KRASOE
13	ISO 13	281,600	1,831,100	165.00	576.48	107.13	192.00	1,528.01	1,880.42	3,062.66	9.000	0.600	9.920	29.719	0.000	4,680.00	6.90	376.28	9.23		BAN KHAM.
14	ISO 14	233,500	1,824,400	193.00	64.04	117.77	88.38	133.01	642.95	1,088.00	2.124	0.019	24.148	72.345	23.472	1,589.00	6.70	856.66			BAN SA-AT.(w.
15	ISO 15	240,200	1,827,400	188.00	111.74	109.05	157.76	243.85	726.45	1,744.00	13.955	0.033	101.065	302.779	24.450	2,340.00	6.80	808.62			BAN NONG SAENG
16	ISO 16	243,200	1,828,400	210.00	121.28	81.24	27.22	91.84	636.27	944.00	1.316	0.100	10.027	30.043	26.732	1,305.00	6.60	728.56			BAN BA YAO.
17	ISO 17	247,800	1,825,700	200.00	129.46	20.45	177.01	218.52	407.48	956.01	4.000	0.400	5.160	15.459	7.050	1,522.00	6.80	840.65		5.35	BAN KAEN THAO.
18	ISO 18	251,550	1,824,200	180.00	95.39	66.47	769.00	2,338.86	511.02	6,097.33	10.500	2.990	0.000	22.349	3.510	8,950.00	6.70	1,865.46			BAN MUANG (non
19	ISO 19	253,650	1,830,000	190.00	124.70	117.03	432.95	750.55	791.58	2,304.00	48.400	0.290	5.280	14.743	3.550	3,440.00	6.90	1,144.89			BAN NON RANG.
20	ISO 20	253,550	1,825,700	181.00	208.50	57.79	225.60	509.87	758.18	2,187.98	5.400	0.215	7.460	22.349	3.350	2,690.00	6.70	648.51			BAN SAWATHI.
21	ISO 21	262,700	1,829,150	170.00	466.05	25.38	945.11	2,216.81	1,269.20	4,553.35	8.200	5.080	4.920	14.743	3.510	6,110.00	7.20	24.01	4.43		BAN NON RUANG.
22	ISO 22	266,700	1,829,700	162.00	1,677.51	102.95	947.14	6,569.43	4,615.88	2,786.69	15.000	0.720	0.000	0.000	3.710	15,550.00	7.00	120.09			BAN TOK PAEN.
23	ISO 23	265,300	1,828,300	171.00	42.24	10.90	146.65	193.16	150.30	628.00	1.800	1.165	6.110	18.305	5.140	974.00	7.30	264.26			BAN KHOK PIA.
24	ISO 24	267,500	1,829,900	160.00	472.86	277.84	455.22	2,199.39	2,321.30	5,146.68	27.300	5.130	0.160	0.479	3.510	6,250.00	6.60	504.39			BAN NONG KUNG
25	ISO 25	267,200	1,826,700	165.00	580.51	225.24	722.43	2,374.74	2,381.42	6,332.01	8.100	1.935	9.450	28.311	2.710	7,700.00	7.00	376.29		7.56	BAN NON TEA.
26	ISO 26	259,900	1,830,390	191.00	221.10	43.59	81.00	395.86	731.46	1,148.00	53.900	1.025	37.400	112.046	0.000	2,000.00	6.80	472.36			BAN KHAO NA.
27	ISO 27	271,900	1,829,100	160.00	35.39	3.67	12.00	9.50	103.54	6.66	0.600	0.400	10.550	31.607	0.000	315.00	7.70	248.18			BAN KHOK.
28	ISO 28	272,200	1,831,500	161.00	47.42	9.37	26.40	44.33	156.98	105.66	0.900	0.030	5.530	16.567	0.000	485.00	7.40	280.21			BAN NONG KLANG
29	ISO 29	275,600	1,828,700	155.00	55.43	30.56	20.40	1,433.00	263.85	2,488.00	10.600	4.540	0.000	0.000	0.000	4,500.00	6.85	558.43			BAN NAPIANG
30	ISO 30	280,550	1,827,750	160.00	69.80	20.78	30.00	126.67	257.18	500.00	3.900	0.810	0.000	0.000	0.000	379.00	6.65	392.30	3.70		BAN NONG NGU L
31	ISO 31	284,800	1,828,200	160.00	64.79	25.66	59.00	91.83	267.20	726.66	37.000	1.810	6.160	18.455	0.000	960.00	7.15	2,760.59			BAN KUT THING.
32	ISO 32	245,200	1,822,300	200.00	59.95	44.09	116.28	47.51	330.66	642.67	2.500	2.145	0.000	0.000	2.350	998.00	7.40	1,016.79			BAN NON SILA.

LABORATORY RESULT REPORT : ISOTOPE PROJECT: 1994
LIST OF GROUNDWATER WELL AND PHYSICAL-CHEMICAL TEST IN THE YEAR 1994.

NO.	WELL-NO. (ISO)	GRID REFERRENCE Datum M.s.L. W-E (2)	S-N (17)-(18)	ELEVA. (m)	CALCIUM (ppm)	MAGNESIUM (ppm)	SODIUM (ppm)	CHLORIDE (ppm)	HARDNESS (ppm)	TDS. (ppm)	K (ppm)	Fe (ppm)	SULFER (ppm)	SULFATE (ppm)	NITRATE (ppm)	EC. (uS/cm)	PH.	HCO3-. (ppm)	ST.W.T. (m)	W.Tab. (m)	REMARKS
33	ISO 33	251,750	1,821,550	180.00	144.44	219.86	192.11	538.38	1,262.52	2,655.99	6.600	2.080	4.130	12.373	6.450	2,930.00	6.80	696.54	6.15		**********
34	ISO 34	254,700	1,821,700	180.00	10.90	2.31	314.67	364.37	36.74	1,034.67	1.800	0.065	6.710	20.102	8.570	1,740.00	8.10	568.44			BAN MUANG.
35	ISO 35	261,300	1,823,100	180.00	22.16	12.76	63.66	72.85	110.22	337.32	2.700	0.245	0.980	0.240	3.630	500.00	6.80	312.24			BAN NON SAWAN.
36	ISO 36	267,000	1,824,100	180.00	102.20	33.00	94.02	15.84	390.78	643.99	3.400	4.045	12.940	38.767	2.710	923.00	7.10	856.67	3.38		BAN NON MUANG.
37	ISO 37	273,300	1,820,780	151.00	108.21	32.59	369.00	798.06	404.14	2,041.33	110.000	0.320	20.270	60.727	1.470	2,990.00	7.25	408.31			BAN DON YANG.
38	ISO 38	277,400	1,824,800	153.00	58.11	19.15	21.00	50.65	223.78	514.66	1.200	0.040	12.740	38.168	0.000	573.00	6.80	392.30			BAN DON THAT.
39	ISO 39	249,300	1,793,400	185.00	196.22	60.80	612.02	823.38	739.81	3,195.00	10.300	2.029	123.453	369.851	27.710	4,410.00	6.60	776.60			BAN NONG PAEN
40	ISO 40	237,400	1,816,000	212.00	133.54	136.49	241.15	300.65	893.45	1,906.00	3.234	0.024	177.822	532.734	26.362	2,560.00	7.10	856.66			BAN YANG KHAM
41	ISO 41	248,500	1,813,950	170.00	102.20	74.54	481.56	8,170.52	561.12	14,825.34	125.400	0.475	11.790	35.321	8.650	7,000.00	7.30	312.24			BAN KHUAN.
42	ISO 42	262,450	1,817,900	156.00	218.03	107.37	10.07	525.71	985.30	2,503.96	1.700	0.080	10.760	32.236	3.940	2,820.00	6.90	632.49			BAN KHOK PHAN
43	ISO 43	268,400	1,848,000	155.00	22.04	2.85	52.39	50.66	66.80	520.90	1.400	0.020	0.000	0.000	0.000	656.00	7.80	552.43			BAN NON SA-AT.
44	ISO 44	265,990	1,815,700	157.00	52.76	34.63	93.00	728.38	273.88	2,601.33	190.000	0.040	33.640	100.782	0.670	3,460.00	7.50	1,481.15			BAN KOK.
45	ISO 45	274,000	1,812,990	151.00	55.43	18.34	519.00	1,060.90	213.77	2,373.33	15.000	4.890	20.270	60.727	0.420	3,590.00	6.60	328.25			BAN PHU.
46	ISO 46	283,000	1,819,090	155.00	128.92	25.66	141.00	319.85	427.50	1,268.00	4.400	0.090	2.390	7.160	0.140	1,520.00	7.25	600.46			BAN KU THONG.
47	ISO 47	286,300	1,812,500	145.00	428.85	91.24	510.00	2,137.63	1,446.22	4,474.66	6.500	1.540	3.330	9.976	0.140	2,650.00	5.85	104.07			BAN DON PHO.
48	ISO 48	238,300	1,809,300	215.00	125.36	86.90	87.14	158.34	669.67	1,186.33	4.042	1.552	24.309	72.827	28.362	1,648.00	6.80	824.64			BAN BAN KHAEN
49	ISO 49	255,350	1,812,800	160.00	19.07	11.59	426.71	433.86	95.19	1,926.66	6.666	0.129	33.104	99.176	25.428	2,290.00	7.70	632.49			BAN LAO NADI.
50	ISO 50	260,500	1,811,100	159.00	130.25	92.47	285.00	656.71	704.74	2,084.00	5.100	4.615	20.270	60.727	1.930	2,670.00	7.20	792.51			BAN DON CHANG.
51	ISO 51	265,200	1,809,000	152.00	94.02	53.20	134.41	497.69	440.88	1,516.00	25.450	0.702	0.000	0.000	24.680	1,910.00	7.80	504.39			BAN THAPRA.
52	ISO 52	233,450	1,788,500	161.00	38.15	18.69	666.14	655.54	172.01	2,420.00	13.429	0.048	43.498	130.315	22.820	3,670.00	7.40	1,561.22			BAN NA KHA.
53	ISO 53	265,800	1,807,900	165.00	92.66	26.59	54.95	167.84	340.68	730.66	5.140	0.039	104.240	312.291	24.680	1,014.00	7.50	552.43			WAT THAPRA Hor
54	ISO 54	268,100	1,809,300	155.00	100.84	30.57	33.53	107.66	377.42	821.33	2.680	0.044	0.000	0.000	22.080	905.00	7.10	744.58			BAN WANG HIN (
55	ISO 55	269,200	1,806,600	160.00	104.92	15.86	105.69	272.34	327.32	841.33	2.990	0.039	105.760	316.845	21.750	1,336.00	7.80	664.51			BAN NONG KHAI
56	ISO 56	269,600	1,807,900	160.00	98.11	27.34	43.68	98.16	357.38	642.66	2.680	0.073	0.000	0.000	20.130	923.00	7.60	776.60			BAN NONG KHOT.
57	ISO 57	270,900	1,806,900	150.00	140.36	41.50	370.29	976.66	521.04	2,341.33	2.780	0.000	8.190	24.536	24.680	3,520.00	7.10	552.42			BAN DON HUN.
58	ISO 58	271,600	1,807,800	155.00	61.32	193.97	859.24	3,429.71	948.56	9,089.33	2.990	1.615	307.630	921.524	19.810	12,280.00	7.70	1,449.12	2.75		BAN DON DAENG.
59	ISO 59	274,400	1,808,300	152.00	196.23	82.38	154.70	446.52	823.32	2,110.66	3.810	0.015	11.870	35.561	25.000	2,580.00	7.80	568.44			BAN NON KHWAO.
60	ISO 60	278,700	1,808,700	150.00	253.46	54.00	228.22	829.71	955.04	2,626.67	6.060	0.049	0.000	0.000	23.050	3,330.00	7.60	288.22		20.91	BAN DON CHAMPA
61	ISO 61	233,200	1,803,450	219.00	73.58	23.97	70.46	0.00	282.23	396.66	3.032	0.452	0.000	0.000	28.036	796.00	6.90	888.69			BAN KHAM KAEN
62	ISO 62	243,700	1,803,100	210.00	100.29	38.64	45.14	0.00	409.15	453.33	3.133	2.329	0.000	0.000	25.429	855.00	7.00	1,000.78			BAN PRADU. (So
63	ISO 63	249,800	1,805,650	191.00	99.47	56.25	176.29	247.02	479.29	1,657.33	22.434	0.114	58.689	175.825	25.428	2,300.00	6.80	696.54		1.52	BAN PRA YUN.
64	ISO 64	256,550	1,805,300	175.00	119.92	102.43	100.73	212.17	719.77	1,705.67	13.955	0.038	29.905	99.592	27.058	2,180.00	6.90	824.64			BAN NONG WAENG

LABORATORY RESULT REPORT : ISOTOPE PROJECT: 1994
LIST OF GROUNDWATER WELL AND PHYSICAL,CHEMICAL TEST IN THE YEAR 1994.

NO.	WELL-NO. (ISO)	GRID REFERRENC W-E (2)	S-N (17)-(18)	Datum M.s.l. ELEVA. (m)	CALCIUM (ppm)	MAGNESIUM (ppm)	SODIUM (ppm)	CHLORIDE (ppm)	HARDNESS (ppm)	TDS. (ppm)	K (ppm)	Fe (ppm)	SULFER (ppm)	SULFATE (ppm)	NITRATE (ppm)	EC. (uS/cm)	PH.	HCO3-. (ppm)	ST.W.T. (m)	W.Tab. (m)	REMARKS
65	ISO 65	265,050	1,805,700	168.00	347.49	157.15	465.00	1,896.95	1,513.02	4,674.66	2.480	2.893	0.380	1.138	25.970	5,900.00	7.20	712.55			BAN NONG BUA D
66	ISO 66	266,300	1,806,600	169.00	47.69	22.06	22.25	29.50	213.75	360.00	3.810	0.112	0.000	0.000	28.900	532.00	7.50	552.43		42.00	**********
67	ISO 67	275,700	1,803,300	170.00	159.43	86.89	445.60	310.34	754.64	2,032.00	2.470	0.039	0.000	0.000	25.970	2,430.00	7.60	616.47			BAN NONG SAPHA
68	ISO 68	282,600	1,804,300	155.00	550.54	180.78	113.58	1,741.77	2,117.56	4,185.33	10.270	3.624	0.000	0.000	22.730	6,140.00	6.50	312.24	4.67		BAN PHON NGAM.
69	ISO 69	284,350	1,800,000	151.00	133.55	61.94	366.80	896.21	587.84	3,336.00	13.650	0.102	0.000	0.000	24.030	4,600.00	7.70	280.21			BAN PHAENG. (W
70	ISO 70	233,950	1,799,500	210.00	59.95	12.73	71.08	0.00	202.07	410.66	1.115	0.224	1.405	4.209	24.776	675.00	7.10	728.57			BAN BAN KUT KH
71	ISO 71	252,600	1,802,700	170.00	185.32	89.44	167.02	424.36	829.99	2,162.66	4.849	0.090	1.005	3.011	24.450	2,610.00	7.00	584.46			BAN KHAM POM.
72	ISO 72	262,100	1,800,600	160.00	58.59	21.30	13.23	19.00	233.80	329.33	2.370	0.151	20.670	61.925	26.300	506.00	7.50	552.43			BAN NONG KHAM.
73	ISO 73	267,800	1,799,500	175.00	98.12	46.89	23.38	53.83	437.54	581.33	6.160	1.078	0.020	0.060	23.700	907.00	6.95	952.74		7.37	BAN HUI TOEI (
74	ISO 74	276,400	1,795,700	168.00	64.49	0.00	78.63	29.50	116.90	393.33	2.880	0.034	0.000	0.000	24.350	668.00	7.85	712.55			BAN KHON KHWAN
75	ISO 75	236,350	1,797,600	200.00	119.91	45.41	392.49	107.67	485.97	773.33	1.720	0.014	0.000	0.000	24.124	1,257.00	7.20	888.69			BAN NON KRUT.
76	ISO 76	249,900	1,795,900	170.00	65.40	18.37	55.02	259.68	238.81	1,090.67	14.337	0.019	0.000	0.000	25.428	1,773.00	7.10	1,064.83			BAN THA SAWAN.
77	ISO 77	254,600	1,792,900	161.00	67.45	0.00	181.76	281.84	76.82	846.66	3.290	0.244	0.000	0.000	21.430	1,474.00	7.90	536.41			BAN LEP NGUAK.
78	ISO 78	261,600	1,793,300	175.00	0.00	10.59	98.92	31.66	43.42	373.33	2.160	0.166	0.000	0.000	24.350	666.00	8.30	680.52		6.07	BAN NON SAWAN.
79	ISO 79	270,800	1,793,900	205.00	95.39	30.63	18.67	110.83	364.06	630.66	6.370	0.098	11.780	35.292	24.030	843.00	7.10	536.41			BAN WANG KUNG.
80	ISO 80	282,800	1,791,500	175.00	62.68	28.58	25.00	28.50	273.88	398.66	4.830	0.176	0.000	0.000	25.320	639.00	7.65	712.55			BAN NONG KUNG.
81	ISO 81	264,100	1,788,800	180.00	64.05	74.99	23.38	117.16	467.60	628.00	5.650	2.849	33.060	99.044	27.270	984.00	7.20	872.67			BAN NONG SAENG
82	ISO 82	275,950	1,789,600	176.00	74.95	69.98	104.56	266.01	474.28	1,022.66	6.160	0.063	33.060	99.044	24.030	1,580.00	7.60	840.65			BAN DON KLANG.

NUMBER OF WELL(S) = 0082 WELL(S) TOTAL: 003 PAGE.
NOTE: SOME WELL-ID HAS TWO SAMPLING LOCATION.
ENTER DATA: 04/18/1994.
LASTEST UPDATED: 08/10/1994. 100% ERROR FREE

INPUT FILE: WELL3.OUT / OUTPUT FILE: A:\REPORT3.OUT OUTPUT REVISION: 01

Project : GROUNDWATER INVESTIGATION OF KHONKAEN
Organization : FACULTY OF TECHNOLOGY KHONKAEN UNIV.

CHEMICAL COMPOSITION FOR PIPER DIAGRAM(ISO)

Seq. No	Sample Identification	Ca [ppm]	Ca [epm]	Mg [ppm]	Mg [epm]	Na [ppm]	Na [epm]	K [ppm]	K [epm]	HCO3 [ppm]	HCO3 [epm]	SO4 [ppm]	SO4 [epm]	Cl [ppm]	Cl [epm]	Cations [epm]	Anions [epm]	SAR
1	ISO 01	207	10.33	107	8.81	48	2.09	3	0.08	729	11.95	70	1.47	206	5.81	21.31	19.22	0.67
2	ISO 02	256	12.78	39	3.23	37	1.61	1	0.03	216	3.54	18	0.37	238	6.71	17.65	10.62	0.57
3	ISO 03	69	3.47	8	0.67	3	0.13	4	0.10	376	6.16	...	...	...	...	4.37	6.16	0.09
4	ISO 04	...	...	3	0.27	4	0.17	1	0.03	24	0.39	...	...	13	0.37	0.47	0.76	...
5	ISO 05	...	...	3	0.27	3	0.13	1	0.03	136	2.23	...	...	19	0.54	0.42	2.76	...
6	ISO 06	190	9.50	64	5.26	102	4.44	6	0.15	729	11.95	55	1.15	298	8.40	19.35	21.50	1.63
7	ISO 07	138	6.87	52	4.25	40	1.74	1	0.03	793	13.00	12	0.25	82	2.31	12.88	15.56	0.74
8	ISO 08	38	1.91	66	5.42	179	7.79	4	0.10	1033	16.93	152	3.16	95	2.68	15.21	22.77	4.07
9	ISO 09	241	12.04	156	12.86	101	4.39	5	0.13	424	6.95	183	3.81	418	11.79	29.42	22.55	1.25
10	ISO 10	121	6.05	37	3.03	74	3.22	2	0.05	889	14.57	...	...	108	3.05	12.35	17.62	1.51
11	ISO 11	67	3.33	20	1.61	25	1.09	5	0.13	280	4.59	...	...	67	1.89	6.16	6.48	0.69
12	ISO 12	81	4.03	30	2.44	612	26.62	10	0.26	584	9.57	51	1.07	1441	40.64	33.35	51.28	14.80
13	ISO 13	576	28.77	107	8.81	192	8.35	9	0.23	376	6.16	30	0.62	1528	43.09	46.16	49.87	1.93
14	ISO 14	64	3.19	118	9.69	88	3.83	2	0.05	857	14.05	72	1.51	133	3.75	16.76	19.30	1.51
15	ISO 15	112	5.57	109	8.97	158	6.87	14	0.36	809	13.26	303	6.30	244	6.88	21.78	26.44	2.55
16	ISO 16	121	6.05	81	6.68	27	1.17	1	0.03	729	11.95	30	0.63	92	2.59	13.93	15.17	0.47
17	ISO 17	129	6.46	20	1.69	177	7.70	4	0.10	841	13.78	15	0.32	219	6.18	15.95	20.28	3.81
18	ISO 18	95	4.76	66	5.47	1769	76.95	11	0.28	1865	30.57	...	...	2939	82.88	87.46	113.45	34.03
19	ISO 19	125	6.22	117	9.62	433	18.84	48	1.23	1145	18.77	16	0.33	751	21.18	35.91	40.27	6.69
20	ISO 20	208	10.40	58	4.75	226	9.83	5	0.13	649	10.64	22	0.47	510	14.38	25.12	25.48	3.57
21	ISO 21	466	23.25	25	2.09	945	41.11	8	0.20	24	0.39	15	0.31	2217	62.52	66.65	63.22	11.55
22	ISO 22	1677	83.71	103	8.46	1947	84.69	15	0.38	120	1.97	...	...	669	18.87	177.25	20.83	12.48
23	ISO 23	42	2.11	11	0.90	147	6.39	2	0.05	264	4.33	18	0.38	193	5.44	9.45	10.15	5.22
24	ISO 24	473	23.60	278	22.85	455	19.79	27	0.69	504	8.26	0	0.01	2199	62.01	86.93	70.28	4.11
25	ISO 25	580	28.97	225	18.52	722	31.41	8	0.20	376	6.16	28	0.59	2831	79.83	79.10	86.59	6.45
26	ISO 26	221	11.03	44	3.59	81	3.52	54	1.38	472	7.74	112	2.33	396	11.17	19.52	21.24	1.30
27	ISO 27	35	1.77	4	0.30	12	0.52	1	0.03	248	4.06	32	0.66	9	0.25	2.62	4.98	0.51
28	ISO 28	47	2.37	9	0.77	26	1.13	1	0.03	280	4.59	17	0.34	44	1.24	4.29	6.17	0.90
29	ISO 29	55	2.76	31	2.52	20	0.87	11	0.28	563	9.31	...	...	1433	40.41	6.43	49.72	0.54
30	ISO 30	69	3.43	21	1.71	30	1.30	4	0.10	392	6.42	...	...	127	3.58	6.55	10.01	0.81
31	ISO 31	65	3.23	26	2.11	69	3.00	37	0.95	761	12.47	18	0.38	92	2.59	9.30	15.45	1.84
32	ISO 32	60	2.99	44	3.63	116	5.05	2	0.05	1017	16.67	...	...	47	1.33	11.72	17.99	2.77
33	ISO 33	144	7.21	220	18.08	102	4.44	7	0.18	697	11.42	12	0.26	538	15.17	29.91	26.85	1.25
34	ISO 34	11	0.54	2	0.19	315	13.70	2	0.05	568	9.31	20	0.42	364	10.26	14.49	19.99	22.63
35	ISO 35	23	1.16	13	1.05	64	2.78	3	0.08	312	5.11	0	0.00	73	2.06	5.07	7.18	2.65

Project : GROUNDWATER INVESTIGATION OF KHONKAEN
Organization : FACULTY OF TECHNOLOGY KHONKAEN UNIV.

CHEMICAL COMPOSITION FOR PIPER DIAGRAM(ISO)

Seq. No	Sample Identification	Ca [ppm]	Ca [epm]	Mg [ppm]	Mg [epm]	Na [ppm]	Na [epm]	K [ppm]	K [epm]	HCO3 [ppm]	HCO3 [epm]	SO4 [ppm]	SO4 [epm]	Cl [ppm]	Cl [epm]	Cations [epm]	Anions [epm]	SAR
36	ISO 36	102	5.10	33	2.71	94	4.09	3	0.08	857	14.05	39	0.81	16	0.45	11.98	15.30	2.07
37	ISO 37	108	5.40	33	2.68	369	16.05	110	2.81	408	6.69	61	1.26	798	22.50	26.95	30.46	7.99
38	ISO 38	58	2.90	19	1.57	21	0.91	1	0.03	392	6.42	38	0.79	51	1.44	5.41	8.66	0.61
39	ISO 39	196	9.79	61	5.00	612	26.62	10	0.26	777	12.74	370	7.70	823	23.21	41.67	43.64	9.79
40	ISO 40	133	6.66	136	11.23	241	10.48	3	0.08	857	14.05	533	11.09	301	8.49	28.45	33.63	3.51
41	ISO 41	102	5.10	74	6.13	2842	123.63	125	3.20	312	5.11	35	0.74	8171	230.42	138.05	236.27	52.18
42	ISO 42	218	10.88	107	8.83	10	0.44	2	0.05	632	10.36	32	0.67	526	14.83	20.20	25.86	0.14
43	ISO 43	22	1.10	3	0.23	52	2.26	1	0.03	552	9.05	...	...	51	1.44	3.62	10.49	2.78
44	ISO 44	53	2.63	35	2.85	93	4.05	190	4.86	1481	24.27	101	2.10	728	20.53	14.39	46.90	2.44
45	ISO 45	55	2.76	18	1.50	519	22.58	15	0.38	328	5.38	61	1.26	1061	29.92	27.23	36.56	15.45
46	ISO 46	129	6.43	26	2.11	141	6.13	4	0.10	600	9.83	7	0.15	320	9.02	14.78	19.01	2.97
47	ISO 47	429	21.40	91	7.50	510	22.18	6	0.15	104	1.70	10	0.21	2138	60.29	51.24	62.20	5.84
48	ISO 48	125	6.26	87	7.15	87	3.78	4	0.10	825	13.52	73	1.52	158	4.46	17.29	19.49	1.46
49	ISO 49	19	0.95	12	0.95	427	18.57	7	0.18	632	10.36	99	2.06	434	12.24	20.66	24.66	19.02
50	ISO 50	130	6.50	92	7.61	285	12.40	5	0.13	793	13.00	61	1.26	659	18.58	26.63	32.85	4.67
51	ISO 51	94	4.69	50	4.13	134	5.83	25	0.64	504	8.26	...	...	488	13.76	15.29	22.02	2.78
52	ISO 52	38	1.91	19	1.54	686	29.84	13	0.33	1561	25.58	130	2.71	656	18.50	33.62	46.80	22.74
53	ISO 53	93	4.63	27	2.19	55	2.39	5	0.13	552	9.05	312	6.50	168	4.74	9.33	20.29	1.30
54	ISO 54	101	5.03	31	2.52	34	1.48	3	0.08	745	12.21	...	...	108	3.05	9.10	15.26	0.76
55	ISO 55	105	5.23	16	1.31	106	4.61	3	0.08	665	10.90	317	6.60	272	7.67	11.23	25.17	2.55
56	ISO 56	98	4.90	27	2.25	44	1.91	3	0.08	777	12.74	...	...	98	2.76	9.13	15.50	1.01
57	ISO 57	140	7.01	41	3.41	370	16.09	3	0.08	552	9.05	25	0.51	979	27.61	26.59	37.17	7.05
58	ISO 58	61	3.06	194	15.95	1059	46.07	3	0.08	1449	23.75	922	19.19	3430	96.73	65.16	139.66	14.94
59	ISO 59	196	9.79	82	6.78	155	6.74	4	0.10	447	7.33	36	0.74	3430	96.73	23.41	104.79	2.34
60	ISO 60	253	12.65	54	4.44	228	9.92	6	0.15	288	4.72	...	...	830	23.41	27.16	28.13	3.39
61	ISO 61	74	3.67	24	1.97	70	3.04	3	0.08	889	14.57	...	...	...	...	8.77	14.57	1.81
62	ISO 62	100	5.00	39	3.18	45	1.96	3	0.08	1001	16.41	...	...	...	...	10.22	16.41	0.97
63	ISO 63	99	4.97	56	4.62	176	7.66	22	0.56	697	11.42	176	3.66	247	6.97	17.81	22.05	3.50
64	ISO 64	120	5.98	102	8.42	101	4.39	14	0.36	825	13.52	90	1.87	212	5.98	19.16	21.37	1.64
65	ISO 65	347	17.34	157	12.92	465	20.23	2	0.05	713	11.69	1	0.02	1897	53.50	50.54	65.21	5.20
66	ISO 66	48	2.38	23	1.90	22	0.96	4	0.10	552	9.05	...	...	28	0.79	5.34	9.84	0.65
67	ISO 67	159	7.96	87	7.15	446	19.38	2	0.05	616	10.10	...	...	310	8.75	34.54	18.86	7.05
68	ISO 68	550	27.47	181	14.87	114	4.96	10	0.26	312	5.11	...	...	1742	49.12	47.55	54.24	1.08
69	ISO 69	134	6.67	62	5.09	369	16.05	14	0.36	280	4.59	...	...	896	25.27	28.17	29.86	6.62
70	ISO 70	60	2.99	13	1.04	71	3.09	1	0.03	729	11.95	4	0.09	...	...	7.15	12.04	2.17

Project : GROUNDWATER INVESTIGATION OF KHONKAEN

Organization : FACULTY OF TECHNOLOGY KHONKAEN UNIV.

CHEMICAL COMPOSITION FOR PIPER DIAGRAM(ISO)

Seq. No	Sample Identification	Ca [ppm]	Ca [epm]	Mg [ppm]	Mg [epm]	Na [ppm]	Na [epm]	K [ppm]	K [epm]	HCO3 [ppm]	HCO3 [epm]	SO4 [ppm]	SO4 [epm]	Cl [ppm]	Cl [epm]	Cations [epm]	Anions [epm]	SAR
71	ISO 71	185	9.25	89	7.35	167	7.26	5	0.13	584	9.57	3	0.06	424	11.96	23.99	21.59	2.52
72	ISO 72	59	2.92	21	1.75	13	0.57	2	0.05	552	9.05	62	1.29	19	0.54	5.29	10.87	0.37
73	ISO 73	98	4.90	47	3.86	23	1.00	6	0.15	953	15.62	0	0.00	54	1.52	9.91	17.14	0.48
74	ISO 74	69	3.47	...	...	79	3.44	3	0.08	713	11.69	...	...	28	0.79	6.98	12.48	...
75	ISO 75	120	5.98	45	3.73	392	17.05	2	0.05	889	14.57	...	...	108	3.05	26.82	17.62	7.74
76	ISO 76	65	3.26	18	1.51	55	2.39	14	0.36	1065	17.46	...	...	260	7.33	7.52	24.79	1.55
77	ISO 77	67	3.36	...	...	182	7.92	3	0.08	536	8.79	...	...	282	7.95	11.36	16.74	...
78	ISO 78	...	...	11	0.87	99	4.31	2	0.05	681	11.16	...	...	32	0.90	5.23	12.06	...
79	ISO 79	95	4.76	31	2.52	19	0.83	6	0.15	636	10.42	35	0.73	111	3.13	8.26	14.29	0.43
80	ISO 80	63	3.13	29	2.35	26	1.13	5	0.13	713	11.69	...	...	28	0.79	6.74	12.48	0.68
81	ISO 81	64	3.20	75	6.17	23	1.00	6	0.15	873	14.31	99	2.06	117	3.30	10.52	19.67	0.46
82	ISO 82	75	3.74	70	5.76	105	4.57	6	0.15	841	13.78	99	2.06	266	7.50	14.22	23.35	2.10

DEPARTMENT OF GEOTECHNOLOGY
RESULT OF REPORT : HEAVY METALS IN GROUNDWATER OF KHON KAEN
TEST BY : Mr. THANUCHAI SILARATANA
DATE OF TEST : 1,2/11/1994 AND 21/11/1994

No.	WELL-No.	W-E	S-N	ELEV. (m)	Cd (ppm)	Pb (ppm)	Hg (ppb)	As (ppb)
1	ISO 1	237,400	1,840,100	190.00	0.00	0.13	0.30	0.10
2	ISO 2	253,200	1,841,250	200.00	0.00	0.00	0.40	0.10
3	ISO 3	266,400	1,843,900	170.00	0.00	0.00	0.70	0.20
4	ISO 4	277,000	1,842,400	175.00	0.00	0.00	0.10	0.30
5	ISO 5	284,300	1,838,000	192.00	0.00	0.05	0.10	0.10
6	ISO 6	268,000	1,840,800	165.00	0.00	0.02	0.50	0.20
7	ISO 7	233,700	1,833,650	189.00	0.00	0.00	0.40	1.00
8	ISO 8	241,000	1,833,300	190.00	0.00	0.00	0.00	0.50
9	ISO 9	245,000	1,834,700	215.00	0.00	0.00	0.10	1.20
10	ISO10	258,700	1,833,850	191.00	0.01	0.00	0.10	0.50
11	ISO11	264,800	1,836,700	194.00	0.00	0.07	0.30	0.90
12	ISO12	271,500	1,837,900	161.00	0.00	0.07	1.00	1.80
13	ISO13	281,600	1,831,100	165.00	0.00	0.05	0.10	0.40
14	ISO14	233,500	1,824,400	193.00	0.00	0.00	0.10	0.80
15	ISO15	240,200	1,827,400	188.00	0.00	0.00	0.10	0.10
16	ISO16	243,200	1,828,400	210.00	0.00	0.02	0.00	1.30
17	ISO17	247,800	1,826,700	200.00	0.00	0.11	0.10	0.10
18	ISO18	251,550	1,824,200	180.00	0.00	0.13	0.90	0.20
19	ISO19	253,650	1,830,000	190.00	0.00	0.00	0.50	0.30
20	ISO20	253,550	1,826,700	181.00	0.00	0.01	0.20	0.30
21	ISO21	262,700	1,829,150	170.00	0.00	0.00	1.20	0.40
22	ISO22	266,700	1,829,700	162.00	0.00	0.00	0.60	0.10
23	ISO23	265,300	1,828,300	171.00	0.00	0.02	0.20	0.20
24	ISO24	267,500	1,829,900	160.00	0.00	0.22	0.90	0.10
25	ISO25	267,200	1,828,700	165.00	0.00	0.13	0.40	0.10
26	ISO26	269,900	1,830,390	161.00	0.00	0.00	0.40	0.30
27	ISO27	271,900	1,829,100	160.00	0.00	0.00	0.20	0.10
28	ISO28	272,200	1,831,500	161.00	0.00	0.00	0.50	0.40
29	ISO29	275,600	1,828,700	155.00	0.00	0.38	1.00	0.40
30	ISO30	280,550	1,827,750	160.00	0.00	0.00	0.30	1.20
31	ISO31	284,800	1,828,200	160.00	0.00	0.35	0.30	0.30
32	ISO32	245,200	1,822,300	200.00	0.00	0.35	0.80	0.10
33	ISO33	251,750	1,821,550	180.00	0.00	0.01	0.40	0.10
34	ISO34	254,700	1,821,700	180.00	0.00	0.04	0.00	0.50
35	ISO35	261,300	1,823,100	180.00	0.00	0.06	0.70	0.20
36	ISO36	267,000	1,824,100	180.00	0.00	0.17	0.40	0.30
37	ISO37	273,300	1,820,780	151.00	0.00	0.05	0.10	0.10
38	ISO38	277,400	1,824,800	153.00	0.00	0.00	0.50	0.40
39	ISO39	249,300	1,789,400	165.00	0.00	0.01	0.40	0.80
40	ISO40	237,400	1,816,000	212.00	0.00	0.00	0.60	0.50

No.	WELL No.	W-E	S-N	ELEV. (m)	Cd (ppm)	Pb (ppm)	Hg (ppb)	As (ppb)
41	ISO41	248,500	1,813,950	170.00	0.00	0.00	0.20	0.10
42	ISO42	262,450	1,817,900	156.00	0.01	0.00	0.20	0.20
43	ISO43	263,400	1,814,800	155.00	0.00	0.15	0.30	0.10
44	ISO44	265,990	1,816,700	157.00	0.00	0.26	0.50	0.30
45	ISO45	274,000	1,812,990	151.00	0.00	0.00	0.50	0.00
46	ISO46	283,000	1,819,000	155.00	0.00	0.00	0.20	0.20
47	ISO47	286,300	1,812,500	145.00	0.00	0.00	1.20	0.20
48	ISO48	238,300	1,809,800	215.00	0.00	0.00	0.30	0.30
49	ISO49	255,350	1,812,800	160.00	0.01	0.00	0.00	0.30
50	ISO50	260,500	1,811,100	159.00	0.00	0.04	0.30	0.10
51	ISO51	265,200	1,809,000	152.00	0.00	0.12	54.70	0.10
52	ISO52	233,450	1,788,500	181.00	0.00	0.09	0.70	0.60
53	ISO53	265,800	1,807,900	165.00	0.00	0.00	0.50	0.00
54	ISO54	268,100	1,809,300	155.00	0.00	0.00	0.70	0.00
55	ISO55	269,200	1,808,600	160.00	0.00	0.12	0.90	0.30
56	ISO56	269,600	1,807,900	169.00	0.00	0.13	0.30	0.10
57	ISO57	270,900	1,806,900	160.00	0.00	0.10	1.50	0.10
58	ISO58	271,600	1,807,800	155.00	0.00	0.00	1.10	0.00
59	ISO59	274,400	1,808,300	152.00	0.00	0.00	50.90	0.00
60	ISO60	278,700	1,808,700	150.00	0.00	0.00	0.30	0.10
61	ISO61	233,200	1,803,450	219.00	0.00	0.00	0.30	0.30
62	ISO62	243,700	1,803,100	210.00	0.00	0.00	1.30	0.10
63	ISO63	249,800	1,806,650	181.00	0.00	0.03	0.20	0.60
64	ISO64	256,550	1,805,300	175.00	0.00	0.10	0.40	0.20
65	ISO65	265,050	1,805,700	168.00	0.00	0.00	1.20	0.10
66	ISO66	266,300	1,806,600	169.00	0.00	0.00	0.30	0.10
67	ISO67	275,700	1,803,300	170.00	0.00	0.00	0.90	0.00
68	ISO68	282,600	1,804,300	155.00	0.00	0.22	3.20	0.20
69	ISO69	284,350	1,800,000	151.00	0.00	0.13	2.20	0.10
70	ISO70	233,950	1,799,500	210.00	0.00	0.12	0.80	0.10
71	ISO71	252,600	1,802,700	170.00	0.00	0.11	0.40	0.40
72	ISO72	262,100	1,800,600	160.00	0.00	0.00	0.20	0.40
73	ISO73	267,800	1,799,500	175.00	0.00	0.00	1.30	0.20
74	ISO74	278,400	1,795,700	168.00	0.00	0.00	0.40	0.10
75	ISO75	238,350	1,797,600	200.00	0.00	0.12	0.20	0.20
76	ISO76	249,900	1,795,900	170.00	0.00	0.00	0.40	0.10
77	ISO77	254,600	1,792,900	161.00	0.00	0.00	0.80	0.10
78	ISO78	261,600	1,793,300	175.00	0.00	0.00	0.20	0.70
79	ISO79	270,800	1,793,900	205.00	0.00	0.00	0.90	0.50
80	ISO80	282,800	1,791,500	175.00	0.00	0.00	133.00	0.40
81	ISO81	264,100	1,788,800	180.00	0.00	0.00	1.20	0.30
82	ISO82	275,950	1,789,600	178.00	0.00	0.01	328.00	0.30

LOWER CONCENTRATION OF CADMIUM = 0.028 ppm.
LOWER CONCENTRATION OF LEAD = 0.45 ppm.
LOWER CONCENTRATION OF ARSENIC = 0.1333 ppb.
LOWER CONCENTRATION OF MERCURY = 0.571 ppb.

RE_05. PAGE: 001

GROUNDWATER USED IN VILLAGES OF IGKK. PROJECT
KHON KAEN PROVINCE AND ADJECENT AREA
IGKK PROJECT: 1994 CREATED ON: 10/Fr.21/1994

Seq. NO.	GRID LOCATION W-E	S-N	VILLAGE NAME		Q. PER DAY (M^3)	Q. PER YEAR (M^3)	TUMBOL SEQ. NO.	REMARKS.
1	262,250	1,831,350	BAN KHO	B	28.80	10,512.00	1	T. BAN KHO KK.
2	265,300	1,828,300	KHOK PIA		10.00	3,650.00	2	
3	265,150	1,829,500	KHOK SI		25.00	9,125.00	3	
4	263,990	1,831,150	NON LAN		10.00	3,650.00	4	
5	260,400	1,830,820	NONG PO		30.00	10,950.00	5	
6	258,700	1,833,850	WANG TO		27.00	9,855.00	6	
7	257,700	1,834,500	HIN LAT		60.00	21,900.00	7	
8	267,500	1,829,900	NONG KUNG NOI		6.00	2,190.00	8	
9	257,000	1,819,500	BAN TUM		265.20	96,798.00	1	T. BAN TUM
10	257,200	1,816,500	LAO KWIEN HAK		15.00	5,475.00	2	
11	253,500	1,818,100	DAENG NOI [2 GROUP]		92.24	33,667.60	3	
12	251,750	1,821,550	NONG KUNG		35.88	13,096.20	4	
13	253,000	1,821,150	KUD NANG TUI		20.12	7,343.80	5	
14	254,700	1,821,700	BAN HUANG [2 GROUP]		130.32	47,566.80	6	
15	255,400	1,812,700	BAN LAO NADI		79.72	29,097.80	1	T. BAN WA.
16	256,500	1,812,500	BAN WA		18.00	6,570.00	2	
17	255,400	1,809,800	NONG TUM		13.24	4,832.60	3	
18	257,500	1,814,500	KHOK SUNG		29.84	10,891.60	4	
19			THON LANG [2 GROUP]		39.00	14,235.00	5	
20			LAO THONG		21.20	7,738.00	6	
21	254,500	1,813,000	NONG KU		18.80	6,862.00	7	
22	256,400	1,811,100	TAO		12.00	4,380.00	8	
23	254,500	1,814,000	LAO NA NGAM		19.44	7,095.60	9	
24	258,200	1,812,750	LAO PON THONG		20.64	7,533.60	10	
25			DON NGOEN		11.10	4,051.50	11	
26	258,300	1,822,500	BAN DAENG YAI				1	T. DAENG YAI
27	258,500	1,825,100	NONG KOI		47.92	17,490.80	2	
28	260,700	1,822,200	NONG LUP		76.16	27,798.40	3	
29	259,500	1,820,500	PA CHAD		27.92	10,190.80	4	
30	261,300	1,823,100	NON SAWAN		4.68	1,708.20	5	
31	260,500	1,811,100	BAN DON CHANG		32.16	11,738.40	1	T. DON CHANG
32	261,700	1,810,900	PA LUEM				2	
33	262,500	1,809,800	PA SUNGK		9.00	3,285.00	3	
34	262,090	1,808,000	NONG HI		21.52	7,854.80	4	
35	258,600	1,811,000	HUA BUNG				5	
36	258,390	1,811,300	HUA SA				6	
37	258,400	1,809,700	DON YA NANG		18.88	6,891.20	7	
38	258,200	1,807,900	NI KHOM		9.00	3,285.00	1	T. DON HAN.
39			DON HAN		36.66	13,380.90	2	
40			DON DAENG		33.87	12,362.55	3	
41			NON KHWAO		36.12	13,183.80	4	
42	274,200	1,810,500	LAO NOK CHUM		15.00	5,475.00	5	
43	272,500	1,804,600	NONG YA PREAK		30.00	10,950.00	6	
44	271,500	1,808,100	DON NOI		15.81	5,770.65	7	
45	275,300	1,805,500	NON TUN		21.00	7,665.00	8	
46	270,500	1,805,900	SAWANG MAKKHA		18.96	6,920.40	9	
47	271,750	1,802,000	LUP YA KHA		10.08	3,679.20	10	
48	272,900	1,806,500	THA RAE		9.93	3,624.45	11	
49	281,000	1,822,900	BAN KHOK SI		75.24	27,462.60	1	T. KHOK SI
50	276,200	1,823,000	YAN YONG !??		6.96	2,540.40	2	
51	280,000	1,826,600	PROM NIMITR				3	
52	277,500	1,821,900	NONG TAO		5.00	1,825.00	4	

GROUNDWATER USED IN VILLAGES OF IGKK. PROJECT
KHON KAEN PROVINCE AND ADJECENT AREA
IGKK PROJECT: 1994

CREATED ON: 10/Fr.21/1994

Seq. NO.	GRID LOCATION W-E	S-N	VILLAGE NAME	Q. PER DAY (M^3)	Q. PER YEAR (M^3)	TUMBOL SEQ. NO.	REMARKS.
53	278,650	1,823,650	NONG HUA WUA			5	
54	284,000	1,822,100	NONG LAI	32.92	12,015.80	6	
55	282,000	1,821,400	LOENG	10.00	3,650.00	7	
56			NONG BUA THONG	10.98	4,007.70	8	
57	278,000	1,820,400	BUNG RUA YAI	8.55	3,120.75	9	
58	277,200	1,823,900	THA PRA SAI	7.80	2,847.00	10	
59			KHOK PAE	36.32	13,256.80	11	
60	274,000	1,812,800	PHUE	10.00	3,650.00	1	T. PRA LAP
61	275,450	1,816,350	PHRA KHOE		25.00	2	
62	276,200	1,814,400	KHOK NOI			3	
63	273,100	1,819,100	HUA THA NON			4	
64	274,000	1,817,400	NON SAWAN			5	
65	273,500	1,815,800	PO CHAI			6	
66	273,500	1,815,350	NONG HAI			7	
67	275,050	1,817,800	LOENG POEI	5.00	5.00	8	
68	275,850	1,815,900	NONG PO			9	
69	276,200	1,814,900	NONG SAENG			10	
70	268,500	1,829,100	BAN SAMRAN	5.00	1,825.00	1	T. SAMRAN
71	271,400	1,830,000	NA NGAM	10.00	3,650.00	2	
72	267,950	1,831,400	NONG WAH KLIANG	15.00	82,125.00	3	
73	275,410	1,828,690	NA PHIENG	5.00	1,825.00	4	
74	269,400	1,829,000	PIA PHAN	18.30	6,679.50	5	
75	269,900	1,830,390	KAI NA	26.36	9,621.40	6	
76	270,700	1,829,500	PRA SIAM	21.76	7,942.40	7	
77	272,400	1,828,500	UMPAWAN	32.96	11,665.40	8	
78	271,900	1,829,100	KHOK	69.92	24,790.80	9	
79			NON TAE	13.65	4,982.25	10	
80			NON SAWANG	4.26	1,554.90	11	
81			NONG PING	20.00	7,300.00	1	T. SAWATHI
82	253,650	1,830,000	NON RANG	5.00	1,825.00	2	
83	254,050	1,831,450	NON TUN	6.72	2,452.80	3	
84	253,200	1,832,300	PIA PHAN	23.28	8,497.20	4	
85	254,950	1,833,600	LAO NA PHIENG	20.00	7,300.00	5	
86	250,450	1,829,350	HIN KAO	20.96	7,650.40	6	
87	251,300	1,826,600	NON KHU	40.00	14,600.00	7	
88	250,450	1,825,510	HUANG PO			8	
89	253,550	1,826,700	SAWATHI	56.00	20,440.00	9	
90	250,500	1,824,850	NONG HEK			10	
91	251,210	1,824,700	NONG TAKAI	5.00	1,825.00	11	
92	252,500	1,824,600	KHOK LAM	23.20	8,468.00	12	
93	272,500	1,824,750	SILA	76.65	27,977.25	1	T. SILA.
94	276,000	1,826,990	HUI SUN			2	
95	276,000	1,825,000	BUNG E TAO			3	
96	277,500	1,824,850	THA KAE			4	
97	272,100	1,826,000	TAO NOR	10.00	3,650.00	5	
98	273,250	1,822,750	NONG HIN			6	
99	272,400	1,822,200	KO THA			7	
100	276,210	1,822,100	DONG PONG			8	
101	273,300	1,820,780	DON YANG	71.96	26,265.40	9	
102	270,100	1,820,200	DON YA NANG	5.00	1,825.00	10	
103			KE SORN			11	
104	269,850	1,825,100	NONG KHUNG	10.00	3,650.00	12	

GROUNDWATER USED IN VILLAGES OF IGKK. PROJECT
KHON KAEN PROVINCE AND ADJECENT AREA
IGKK PROJECT: 1994

CREATED ON: 10/Fr.21/1994

Seq. NO.	GRID LOCATION W-E	S-N	VILLAGE NAME	Q. PER DAY (M^3)	Q. PER YEAR (M^3)	TUMBOL SEQ. NO.	REMARKS.
105	267,000	1,824,100	NON HUANG	125.48	45,800.20	13	
106	270,800	1,823,450	NONG PHAI	30.00	10,950.00	14	
107			NONG PLA KHENG.	66.48	24,265.20	1	T. THA PRA.
108			NONG KHOI	56.32	20,556.80	2	
109	268,900	1,808,490	SUAN NORN	20.68	7,548.20	3	
110	269,200	1,808,600	NONG KRI NUN	33.64	12,278.60	4	
111	268,100	1,809,300	WANG HIN	35.00	12,775.00	5	
112	265,450	1,808,950	THA PRANAO	80.08	29,229.20	6	
113	265,400	1,808,300	TALAD THAPRA	31.92	11,650.80	7	
114			SAMAKKHI	23.32	8,511.80	8	
115			BAN RACHAKARN	24.20	8,833.00	9	
116	265,050	1,805,700	NONG BUA DIMI	123.72	45,157.80	10	
117	265,600	1,802,750	NONG WAENG	66.80	24,382.00	11	
118	267,800	1,799,500	HUI TOEI	35.68	13,023.20	12	
119	266,300	1,806,600	NONG NIYOM	19.56	7,139.40	13	
120	260,500	1,817,950	BAN PED	55.00	20,075.00	1	T. BAN PED
121	262,450	1,817,900	KHOK PHAN PONG	15.00	5,475.00	2	
122	264,700	1,818,400	HUA TUNG	35.00	12,775.00	3	
123	265,000	1,818,400	KHAM HAI	10.00	3,650.00	4	
124	265,990	1,816,700	KOK	20.00	7,300.00	5	
125	264,100	1,816,200	NONG JOD	10.00	3,650.00	6	
126	265,100	1,815,100	NONG KHAM	10.00	3,650.00	7	
127	280,500	1,827,700	NONG TOOM	72.80	26,572.00	1	T. NONG TOOM.
128	280,550	1,827,750	NONG NGU LUEM	40.12	14,643.80	2	
129	277,500	1,828,500	KHOK THA	34.59	12,625.35	3	
130	281,500	1,825,000	NONG BUA NOI	47.84	17,461.60	4	
131	277,700	1,826,800	MUAD AEA	10.00	3,650.00	5	
132	278,000	1,824,500	DON THAT	5.00	1,825.00	6	
133	277,600	1,825,500	THA CHANG	5.00	1,825.00	7	
134	270,400	1,834,700	NON THON	60.20	21,973.00	8	
135	270,700	1,834,100	THON	46.92	17,125.80	1	T. NON THON.
136	269,350	1,838,500	NONG BEN	57.00	20,805.00	2	
137	270,400	1,836,000	BUNG KAE	45.56	16,629.40	3	
138	271,800	1,831,000	NONG KHLA	39.36	14,366.40	4	
139	272,200	1,831,500	KHLANG HUNG	11.16	4,073.40	5	
140	267,300	1,835,200	KHAM BON	25.00	9,125.00	6	
141	280,650	1,818,500	BUNG NIUM	15.00	5,475.00	7	
142	280,900	1,817,600	BUNG KRI NUN			8	
143	277,500	1,818,600	DON DU			1	T. BUNG NIUM
144	279,580	1,819,210	BUNG CHIM			2	
145	281,850	1,816,210	BUNG SAWANG!??	1.00	365.00	3	
146			KHUI PO			4	
147	281,000	1,813,000	PAK PUAI			5	
148	276,300	1,819,900	SONG POEI			6	
149	277,300	1,820,100	HONG DOEI!!?			7	
150	254,500	1,789,700	KHOK SAMRAN	60.93	22,239.45	1	T. KHOK SAMRAN.
151	256,300	1,791,700	NONG MAKHUER	22.00	8,030.00	2	
152	254,600	1,792,900	LEP NGUAK	20.43	7,456.95	3	
153	257,450	1,789,400	DONG	10.00	3,650.00	4	
154	251,800	1,793,000	PA DEANG	12.51	4,566.15	5	
155	253,400	1,796,100	PA HUANG	11.55	4,215.75	6	
156	256,090	1,794,500	NON PAN CHAT	16.47	6,011.55	7	

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IGKK PROJECT: 1994

CREATED ON: 10/Fr.21/1994

Seq. NO.	GRID LOCATION W-E	S-N	VILLAGE NAME	Q. PER DAY (M^3)	Q. PER YEAR (M^3)	TUMBOL SEQ. NO.	REMARKS.
157	251,500	1,794,000	CHANG KRA NUAN	3.21	1,171.65	8	
158	264,100	1,788,800	NONG SAENG	25.44	9,285.60	1	T. NONG SAENG.
159	262,500	1,789,500	NONG TAO	33.64	12,278.60	2	
160			SAWANG PATANA	7.80	2,847.00	3	
161	267,800	1,790,600	HUI HUANG	16.83	6,142.95	4	
162	270,600	1,788,000	KHON SAK	25.00	9,125.00	5	
163	263,100	1,799,900	NON SOMBOON	59.92	21,870.80	1	T. NON SOM BUN.
164	262,100	1,800,600	NONG KHAN	36.92	13,475.80	2	
165	264,500	1,800,000	NONG MEK	15.33	5,595.45	3	
166	266,400	1,799,500	NON KRA NUAN	16.02	5,847.30	4	
167	259,400	1,796,100	NONG PAK TOP	12.54	4,577.10	5	
168			SRI SAM RAN	3.63	1,324.95	6	
169			NON THAN	24.12	8,803.80	7	
170	261,500	1,797,900	SATHAN PAYABAN NONSOMBOON	76.24	27,827.60	8	
171	259,800	1,791,300	BAN HAO	68.28	24,922.20	1	T. BAN HAO
172	260,850	1,790,500	NONG NGONG	13.83	5,047.95	2	
173	265,400	1,794,000	WANG WA	28.92	10,555.80	3	
174	260,500	1,793,300	NONG HAI	35.76	13,052.40	4	
175	260,300	1,794,400	KHAM PIA	70.56	25,754.40	5	
176	260,700	1,794,000	NON KLUAI HOM	20.24	7,387.60	6	
177	261,600	1,793,300	NON SAWAN	10.00	3,650.00	7	
178	248,500	1,820,200	BAN FANG	5.00	1,825.00	1	T. BAN FANG.
179	250,700	1,818,100	SRA KAEO	29.52	10,774.80	2	
180	246,800	1,817,300	KHOK SI	15.44	5,635.60	3	
181	246,000	1,819,800	DON HAN	43.84	16,001.60	4	
182	247,800	1,826,700	KHAM THAO	15.81	5,540.70	5	
183	248,500	1,822,500	KHOK YAI	29.76	10,862.40	6	
184			KHOK YAI (II)	20.07	7,325.55	7	
185	245,400	1,821,900	NONG BUA			1	T. BAN LAO
186	250,000	1,815,000	NONG CHAT			2	
187	250,420	1,814,000	LAO	10.00	3,650.00	3	
188	248,500	1,813,950	KHOEN	25.00	9,125.00	4	
189			NONG SAWAN	10.00	3,650.00	5	
190	248,000	1,812,100	DAENG			6	
191	246,600	1,815,200	NONG WAENG	5.00	1,825.00	7	
192	248,300	1,814,700	KRA PEE	15.00	5,475.00	8	
193	252,500	1,815,100	KHO	21.06	7,686.90	9	
194	250,900	1,812,090	NON KHWAO			10	
195	251,400	1,812,300	BUNG SAWANG	6.00	2,190.00	11	
196			BAN NA DOK MAI	7.50	2,737.50	1	T. NONG BUA.
197	244,400	1,826,000	NAPO	14.60	5,329.00	2	
198	241,500	1,823,300	SOKE NUANG	26.00	9,490.00	3	
199	241,900	1,823,600	DON DU	22.60	8,249.00	4	
200	242,300	1,826,100	NA PHAI	23.60	8,614.00	5	
201	243,200	1,828,400	BA YAO	80.00	29,200.00	6	
202	245,500	1,821,900	NONG BUA	64.77	23,641.05	7	
203	244,800	1,815,500	SRANG KEOW	24.00	8,760.00	1	T. NON KHONG.
204	242,900	1,815,000	NON KHONG	30.54	11,147.10	2	
205	245,300	1,814,500	NON KHUN	10.74	3,920.10	3	
206	245,300	1,814,500	HIN HAO	12.93	4,719.45	4	
207	239,900	1,815,200	SAM RONG	12.03	4,390.95	5	
208	245,300	1,813,500	HUI WAH	30.00	10,950.00	6	

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GROUNDWATER USED IN VILLAGES OF IGKK. PROJECT
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IGKK PROJECT: 1994

CREATED ON: 10/Fr.21/1994

Seq. NO.	GRID LOCATION W-E	S-N	VILLAGE NAME	Q. PER DAY (M^3)	Q. PER YEAR (M^3)	TUMBOL SEQ. NO.	REMARKS.
209	242,700	1,817,000	HIN TANG	15.00	5,475.00	7	
210	241,450	1,820,000	NONG E LOENG	5.00	1,825.00	8	
211	248,200	1,833,200	BAN PA WAI NANG.	45.00	16,425.00	1	T. PA WAI NANG.
212	248,100	1,834,000	SWANG	34.00	12,410.00	2	
213	250,500	1,836,900	NONG SIANG SUI	80.00	29,200.00	3	
214	250,400	1,837,650	NON SA AT	20.00	7,300.00	4	
215	253,200	1,841,250	SOK TAE	50.00	18,250.00	5	
216	243,900	1,812,000	BAN PA NANAO	4.98	1,817.70	1	T. PANANAO
217	243,100	1,812,100	NON TUN	20.32	7,416.80	2	
218	242,450	1,812,500	KHAM HUA CHANG	16.52	6,029.80	3	
219	239,750	1,812,400	HIN KONG	17.73	6,471.45	4	
220	238,300	1,809,800	KAEN THAO	37.08	13,534.20	5	
221	240,700	1,810,100	WANG PON	12.06	4,401.90	6	
222	244,000	1,809,900	NONG KLONG YAI			7	
223	245,200	1,810,200	NONG KLONG NOI	28.76	10,497.40	8	
224	245,320	1,812,000	KRA DOENG			9	
225	247,490	1,829,000	KHOK KWANG	39.00	14,235.00	1	T. KHOK NGAM.
226	246,500	1,830,700	NON KHO	38.20	13,943.00	2	
227	243,600	1,830,700	SOK DANG	16.88	6,161.20	3	
228	245,800	1,832,100	KHOK NGAM			4	228-230 no data.
229	243,600	1,834,000	PAK CHONG	12.00	43.80	5	FILLED 10/W. 27/94.
230	245,600	1,834,800	KHAM YA DAENG	24.00	8,760.00	6	FILLED 10/Thu. 28/94. ADDED.
231			DONG YEN	5.00	1,825.00	7	
232			NON HUANG	5.00	1,825.00	8	
233	233,200	1,803,450	BAN KHAM KAEN TAI	41.92	15,300.80	1	T. KHAM KAEN
234	233,100	1,804,800	BAN KHAM KAEN NUA	26.04	9,504.60	2	
235			NOI KLANG	15.00	5,475.00	3	
236	234,800	1,805,800	KHAM NOI	21.60	7,884.00	4	
237			KHAM PAK DAO	22.41	8,179.65	5	
238			KHAM KAN IO	27.20	9,928.00	6	
239			HUI LAENG	36.76	13,417.40	7	
240	235,100	1,790,100	NONG TO	18.12	6,613.80	1	T. NA KHA.
241			NONG JOT	13.50	4,927.50	2	
242	233,900	1,790,700	NA KHA	20.00	7,300.00	3	
243	233,450	1,788,500	NONG HAI	34.44	12,570.60	4	
244	250,600	1,792,900	NONG BUA			1	T. NONG PAEN.
245	247,600	1,788,000	CHAENG	5.00	1,825.00	2	
246	250,900	1,790,700	NONG PAEN	54.09	19,742.85	3	
247	249,300	1,789,400	PON PEK	37.56	13,709.40	1	T. PON PEK.
248	237,500	1,791,500	HUI HUAK	12.36	4,511.40	2	
249	235,510	1,795,510	BURANA	8.70	3,175.50	3	
250	235,200	1,796,500	CHAENG	12.93	4,719.45	4	
251	236,610	1,794,850	NONG HAI	14.00	5,110.00	5	
252	236,800	1,796,250	NA HE	10.00	3,650.00	6	
253	238,250	1,794,850	NON SAWANG	27.48	10,030.20	7	
254	238,900	1,796,450	NON KRUT	5.00	1,825.00	8	
255	238,350	1,797,600	NONG YA PLONG	21.04	7,679.60	9	
256	237,500	1,800,150	KHAM POM	20.00	7,300.00	10	
257	238,900	1,799,500	HUI HIN KOENG	9.32	3,401.80	11	
258			PO THONG	14.70	5,365.50	12	
259			SUAN NON			1	T. SUAN NON.
260	237,900	1,786,500	NOON TUN			12	

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IGKK PROJECT: 1994

CREATED ON: 10/Fr.21/1994

Seq. NO.	GRID LOCATION W-E	S-N	VILLAGE NAME	Q. PER DAY (M^3)	Q. PER YEAR (M^3)	TUMBOL SEQ. NO.	REMARKS.
261	239,700	1,785,900	KOK			3	
262	239,000	1,787,500	PA PHU			4	
263	239,110	1,789,500	BAN KHAM	14.52	5,299.80	5	
264	237,000	1,788,990	NON KWAO			6	
265	238,900	1,791,000	SAWANG			7	
266	238,600	1,792,500	LAO KOK HUNG			8	
267	238,600	1,792,500	HUI SAI KAI	15.00	5,475.00	1	T. THA SALA.
268	244,600	1,801,500	THA SA LA	36.00	13,140.00	2	
269			NON TUN	10.00	3,650.00	3	
270	241,900	1,803,500	NON KHUN	10.00	3,650.00	4	
271	240,300	1,804,400	DONG KHENG	8.00	2,920.00	5	
272	250,900	1,799,100	HUA NA NUA	5.00	1,825.00	6	
273	247,200	1,800,650	THA SAWAN	17.00	6,205.00	7	
274	249,900	1,795,900	NON NGIW	5.00	1,825.00	8	
275	249,710	1,799,501	HUA NA KHLANG			9	
276	248,350	1,800,250	BAN KHAM	35.00	12,775.00	1	T. BAN KHAM
277	282,000	1,832,500	NON TUN			2	
278	282,100	1,832,800	JUMP MOEN	10.00	3,650.00	3	
279	282,100	1,833,100	NON DAENG	10.00	3,650.00	4	
280	282,200	1,833,400	SONG DON	10.00	3,650.00	5	
281	277,800	1,832,600	NON CHERK	3.00	1,095.00	6	
282	286,500	1,833,500	LAO NAI	10.00	3,650.00	7	
283	282,350	1,833,600	DON SAWAN	10.00	3,650.00	8	
284	281,500	1,830,400	HUA DONG	10.00	3,650.00	9	
285	284,600	1,831,100	SAM RONG			10	no data.
286	279,300	1,837,150	NAKHAM NOI	30.00	10,950.00	1	T. BUA YAI
287	280,300	1,838,000	UBOL RAK CHAT !!?	41.96	15,315.40	2	
288	281,000	1,837,500	BUA YAI	52.56	19,184.40	3	
289	281,300	1,837,300	KHOK KHOI	10.00	3,650.00	4	
290	281,300	1,837,000	SAEN TO	11.00	4,015.00	5	
291	282,210	1,837,100	KOK KE	37.96	13,855.40	6	
292	284,300	1,838,000	KHAM HUAM	16.71	6,099.15	7	
293	285,400	1,837,100	DONG YEN	12.84	4,686.60	8	
294	278,900	1,835,600	NON HUA CHANG	20.00	7,300.00	9	
295	278,490	1,837,500	NONG BUA NOI	13.00	4,745.00	10	
296	262,500	1,839,900	BAN HUANG WAN	10.00	3,650.00	1	T. HUANG WAN
297	260,890	1,841,100	SRA KUT	10.00	3,650.00	2	
298			NON SRI SAWAT	15.00	5,475.00	3	
299	265,700	1,839,500	HUI HIN LAD	10.00	3,650.00	4	
300			KHAM YAI	10.00	3,650.00	5	
301	268,000	1,840,800	NON PAYOM	15.00	5,475.00	6	
302	268,500	1,842,300	THA NAO	5.00	1,825.00	7	
303	266,400	1,843,900	KHAM KAEN KHUN	35.00	12,775.00	8	
304			BAN PAN NAM JAI	5.00	1,825.00	9	
305	276,300	1,840,900	BAN SAI MOON	46.74	17,060.10	1	T. SAI MUN.
306	277,000	1,842,400	KUD DUG	22.12	8,073.80	2	
307	278,000	1,846,600	NA NGAM	9.33	3,405.45	3	
308	278,450	1,844,600	NONG BUA BAN			4	
309	279,500	1,846,500	KHOK SAWANG			5	
310	278,000	1,839,100	CHAM PA	10.00	3,650.00	6	
311	275,750	1,841,090	DOK KRA CHAEO	10.12	3,693.80	7	
312	278,300	1,739,850	HUA BUNG	15.39	35.00	8	

GROUNDWATER USED IN VILLAGES OF IGKK. PROJECT
KHON KAEN PROVINCE AND ADJECENT AREA
IGKK PROJECT: 1994

CREATED ON: 10/Fr.21/1994

Seq. NO.	GRID LOCATION W-E	S-N	VILLAGE NAME	Q. PER DAY (M^3)	Q. PER YEAR (M^3)	TUMBOL SEQ. NO.	REMARKS.
313	277,500	1,845,850	NONG WAH	39.96	14,585.40	9	
314	275,850	1,841,900	KOK WUA	4.92	1,795.80	10	
315			SOOK JAI	3.63	1,324.95	11	
316	273,420	1,842,500	NONG SAENG			1	T. THA KRASOEM.
317	273,200	1,841,900	THA MA DOER NOI			2	
318	272,600	1,841,120	THA PO	20.76	7,577.40	3	
319	271,500	1,837,900	THA KRA SOEM	38.85	14,180.25	4	
320	273,600	1,835,600	KUT PANG KRUAR			5	
321	275,000	1,834,300	THA MA DOER			6	
322	274,500	1,832,100	BUNG PENG			7	
323	258,200	1,800,500	BAN TON	114.72	41,872.80	1	T. BAN TON.
324	254,250	1,802,510	CHOT YAI	22.80	8,322.00	2	
325	259,850	1,801,850	DONG KAO	15.48	5,650.20	3	
326	258,900	1,801,500	DONG KLANG			4	
327	259,200	1,797,500	HIN KONG	7.00	2,555.00	5	
328	253,450	1,800,100	BAN PRA BU	36.00	13,140.00	1	T. PRA BU
329			PRA NAO	38.40	14,016.00	2	
330	252,800	1,799,700	HAN	46.00	16,790.00	3	
331	256,100	1,798,000	CHOT NOI	20.00	7,300.00	4	
332	253,900	1,801,500	PO KHUN DIN	16.00	5,840.00	5	
333	256,450	1,797,300	THA NGAM	1.80	657.00	6	
334	249,800	1,806,650	BAN PRA YUN	5.00	1,825.00	1	T. PRA YUN
335	249,850	1,807,460	HUA BUNG			2	
336	252,450	1,809,450	NA LOM	24.40	8,906.00	3	
337	248,500	1,810,500	NON BORE	5.00	1,825.00	4	
338	244,600	1,807,500	NONG KHU	25.60	9,344.00	5	
339	244,500	1,806,000	PA MORE	53.44	19,505.60	6	
340	241,650	1,807,800	HIN HOEP	36.72	13,402.80	7	
341	243,700	1,803,100	KHAEN PRA OU	25.44	9,285.60	8	
342	245,610	1,803,000	PA SARN	36.80	13,432.00	9	
343			SI LA THIP	20.32	7,416.80	10	
344	256,550	1,805,300	NONG WAENG	28.50	10,402.50	1	T. NONG WAENG.
345	261,500	1,806,500	NONG PO	36.56	13,344.40	2	
346	256,050	1,804,600	NONG YA KHAO NOK	20.00	7,300.00	3	
347	257,500	1,804,900	NON TUN	15.12	5,518.80	4	
348	256,450	1,805,800	NONG JIK	26.68	9,738.20	5	
349	252,600	1,802,700	KHAM POM	54.80	20,002.00	1	T. KHAM POM.
350	252,100	1,803,100	NOI CHAN BUNG	18.16	6,628.40	2	
351	251,300	1,803,850	BAN CHAT	31.40	11,475.60	3	
352	248,450	1,804,300	BORE KAE			4	
353			NONG THUNG MON	5.00	1,825.00	5	
354			BORE THONG			6	
355	254,000	1,801,500	PO THONG	40.08	14,629.20	7	
356	255,500	1,845,000	BAN KHOK SUNG	19.29	7,040.89	1	T. KHOK SOONG
357	255,700	1,844,000	KHOK SAWANG	30.00	10,950.00	2	
358	284,800	1,828,110	BAN NON	25.00	9,125.00	1	T. BAN NON.
359	284,600	1,828,700	PO SRI	5.00	1,825.00	2	
360	284,900	1,828,900	KUT THING	10.00	3,650.00	3	
361			NA YOM?	5.00	1,825.00	4	
362	286,200	1,830,500	KHOK MAI	16.56	6,044.40	5	
363			DONG ??	7.77	2,836.05	6	
364			HAEO KHAM	15.00	5,475.00	7	

GROUNDWATER USED IN VILLAGES OF IGKK. PROJECT
KHON KAEN PROVINCE AND ADJECENT AREA
IGKK PROJECT: 1994 CREATED ON: 10/Fr.21/1994

Seq. NO.	GRID LOCATION W-E	S-N	VILLAGE NAME	Q. PER DAY (M^3)	Q. PER YEAR (M^3)	TUMBOL SEQ. NO.	REMARKS.
365	237,500	1,840,450	NONG KUNG SERN	9.56	3,489.40	1	T. NONG KUNG SERN
366	237,400	1,840,100	NONG NO	8.16	2,978.40	2	
367			NON PATANA	20.64	7,533.60	3	
368	234,500	1,838,750	NON SILA	5.00	1,825.00	4	
369	233,700	1,833,650	BAN KUT KHON KAEN	37.32	13,621.80	5	
370	238,100	1,827,200	KONG KAO	17.44	6,365.60	1	T. KONG KLANG.
371	237,400	1,827,310	KONG KLANG	27.72	10,117.80	2	
372	236,800	1,827,300	POEI	17.85	6,515.25	3	
373	235,400	1,825,000	NONG SRA	24.92	9,095.80	4	
374	235,500	1,828,000	NONG MEK	26.92	9,825.80	5	
375	235,450	1,828,850	NONG TUM	12.96	4,730.40	6	
376	236,900	1,826,100	THA LEE	8.40	3,066.00	7	
377	238,400	1,825,000	DON NONG	20.44	7,460.60	8	
378	238,100	1,823,900	TALAO DON NONG.	43.12	15,738.80	9	
379			NON SILA	7.44	2,715.60	10	
380			BAN PHUE	13.44	4,905.60	1	T. BAN PHU.
381	240,200	1,827,400	NONG SAENG	60.20	21,973.00	2	
382	238,600	1,828,700	PO TAK	49.88	18,206.20	3	
383	238,800	1,829,300	NON KHONG	1.56	569.40	4	
384	241,000	1,833,300	NONG PHUE	63.44	23,155.60	5	
385	240,500	1,835,700	DON KOK	8.00	2,920.00	6	
386	233,500	1,824,400	SA-AT	19.08	6,964.20	1	T. NONG RUA
387	237,400	1,816,000	BAN YANG KHAM	95.92	35,010.80	1	T. YANG KHAM
388			NONG WAH	14.10	5,146.50	2	
389	236,250	1,812,900	DON KHAEM	26.40	9,636.00	3	
390	235,500	1,814,500	NA NGIEW	25.20	9,198.00	4	
391	236,990	1,814,980	DON KHOM	12.32	4,496.80	5	
392	234,500	1,816,760	NONG WAENG	20.00	7,300.00	6	
393	234,200	1,816,500	DON HAN	34.96	12,760.40	7	
394	236,800	1,812,300	NONG NANG WONGS	12.96	4,730.40	8	
395			NONG DAENG	25.00	9,125.00	9	
396			DAENG NOI	5.00	1,825.00	10	
397	236,500	1,822,500	JAWRA KHE	80.00	29,200.00	1	T. JAW RA KHE.
398	236,500	1,819,200	NONG HOI	32.56	11,884.40	2	
399	282,600	1,804,300	PON NGAM	61.68	22,513.20	1	T. PON NGAM.
400	283,600	1,804,300	PON SAWANG	38.28	13,972.20	2	
401	281,500	1,806,340	DON NOI	16.40	5,986.00	3	
402	281,450	1,807,900	MUANG YAI	32.04	11,694.60	4	
403	278,700	1,808,700	DON CHAM PA	22.40	8,176.00	5	
404			DON SAWAN	17.52	6,394.80	6	
405	280,600	1,810,900	NONG KHA NUAN	3.40	1,241.00	7	
406	275,700	1,803,300	NONG SA PHANG [T. KWAO RAI]	56.12	20,483.80	1	T. KWAO RAI.
407	278,100	1,801,700	NONG KHUAN	17.84	6,511.60	2	
408	276,900	1,803,000	NON SA-AT	11.28	4,117.20	3	
409	277,800	1,803,800	LAO PO HA!?	32.85	11,990.25	4	
410	277,210	1,807,710	KHOK KLANG	10.71	3,909.75	5	
411			NONG KHUAN NOI	11.94	4,358.10	6	
412			KHOK SOM BOON	15.09	5,507.85	7	
413			KHOK KLANG NUA	12.84	4,686.60	8	
414	275,420	1,801,800	NON RA SRI	29.34	10,709.10	9	
415	274,500	1,801,000	KHOK LAM	18.90	6,898.50	10	
416	273,450	1,798,850	WANG PHON	12.45	4,544.25	11	

GROUNDWATER USED IN VILLAGES OF IGKK. PROJECT
KHON KAEN PROVINCE AND ADJECENT AREA
IGKK PROJECT: 1994

CREATED ON: 10/Fr.21/1994

Seq. NO.	GRID LOCATION W-E	S-N	VILLAGE NAME	Q. PER DAY (M^3)	Q. PER YEAR (M^3)	TUMBOL SEQ. NO.	REMARKS.
417	273,500	1,798,400	NONG SIM	15.00	5,475.00	12	
418			NON NGAM	15.00	5,475.00	13	
419	273,000	1,797,450	NON PA YOM	15.00	5,475.00	14	
420	270,800	1,793,900	WANG KUNG	38.48	4,045.20	15	
421	284,450	1,807,450	NONG PHUE [T. NONG BUA]			1	T. NONG BUA.
422	282,600	1,808,500	KOK			2	
423	281,600	1,811,350	KUI CHUAK?			3	
424	281,700	1,813,400	KUI PAENG?			4	
425	282,600	1,815,400	NON MUANG NOI	23.92	8,730.80	5	
426	283,850	1,814,900	NON HIN HAE			6	
427	284,600	1,813,750	NONG PLA KHENG	31.68	11,563.20	7	
428	284,350	1,800,000	PHAENG (ISO 69)	100.88	36,821.20	1	T. PHAENG.
429	281,450	1,801,450	SONG KHON	10.00	3,560.00	2	
430	280,500	1,801,310	NON MUANG	10.00	10,950.00	3	
431			NONG NUA	9.54	3,482.10	4	
432			MUANG NOI	5.00	1,825.00	5	
433	284,600	1,795,700	NONG KO	52.12	19,023.80	6	
434	283,900	1,794,500	NUA NA KHAM	15.60	5,694.00	7	
435	284,610	1,797,000	NONG SAENG	7.08	2,584.20	8	
436	278,500	1,795,850	BAN WANG YAO	45.68	16,673.20	1	T. WANG YAO
437	277,850	1,795,600	NONG NO	49.12	17,928.80	2	
438	279,500	1,797,100	BA LUANG	23.64	8,628.60	3	
439	278,150	1,896,300	KHON KWANG	20.60	7,519.00	4	
440	277,550	1,793,710	NONG RAI	21.04	7,679.60	5	
441	276,890	1,792,450	HIN HAE	34.48	12,585.20	6	
442	277,450	1,793,000	NON THAN	13.24	4,832.60	7	
443			NONG WAENG	23.40	8,541.00	1	
444	278,500	1,789,850	WANG JAN	55.32	20,191.80	2	
445	276,200	1,790,700	WANG KHAEN	11.67	4,259.55	3	
446	275,400	1,789,300	LAO	13.48	4,920.20	4	
447	272,600	1,787,430	TAP SOTE	45.04	16,439.60	5	
448	275,950	1,789,600	BON KLANG	17.84	6,511.60	6	
449			NON SUNG	24.00	8,760.00	7	
450			NON JAROEN	6.12	2,233.80	8	
451	282,800	1,791,500	NONG KUNG	15.00	5,475.00	1	T. NONG KUNG SAWAN
452			NONG SAWAN	22.92	8,365.80	2	
453			NONG KUNG TAI	10.44	3,810.60	3	
454			LAO PO CHAI	10.00	3,650.00	4	
455			LAO PO	19.03	6,945.20	5	
456	283,800	1,793,000	SALA	20.52	7,489.80	6	
457			YA KHAO	15.00	5,475.00	7	
458			NON THIANG	18.36	6,701.40	8	
459			NONG KUNG PATTANA	12.48	4,555.20	9	
460			BAN KU THONG	40.28	14,702.20	1	T. KU THONG.
461	284,850	1,816,850	MUANG PENG			2	ENTER DATA: 10/08/94. END DATA
462	244,000	1,835,000	NON MUANG (II) *	7.50	2,737.50		ADDED: 10/THU.27/94.
463	264,900	1,836,700	SAN CHAN *	34.00	12,410.00	2	TAMBOL: UNKNOW.
464	233,500	1,799,500	KUT KHON KAEN *	26.00	9,490.00	3	** Duplic.Data?(T.Nong Kung Se
465	233,200	1,800,200	KUT KHAN HUNG *	8.00	2,920.00	4	~~(0-14 DATA ADDED.)~~
466	233,600	1,797,700	NONG KHAM *	6.00	2,190.00	5	
467	263,300	1,814,000	SA AT *	25.04	9,139.60	6	
468	262,350	1,814,300	SOME SAENG *	28.48	10,395.20	7	

RE_15. PAGE: 010

GROUNDWATER USED IN VILLAGES OF IGKK. PROJECT
KHON KAEN PROVINCE AND ADJECENT AREA
IGKK PROJECT: 1994 CREATED ON: 10/Fr.21/1994

SEQ. NO.	GRID LOCATION W-E	GRID LOCATION S-N	VILLAGE NAME	Q. PER DAY (M^3)	Q. PER YEAR (M^3)	TUMBOL SEQ. NO.	REMARKS.
469	266,725	1,808,193	SOON KRASET (ISO 53)	531.00	193,815.00	8	
470	265,600	1,807,800	KOK MOO (PIG HOUSE)	8.00	2,920.00	9	
471	266,700	1,807,600	BAN PAK SOON CHAN NA SOOT	4.32	1,576.80	10	
472	265,784	1,807,396	NONG NOK YOONG	39.97	14,589.00	11	
473	265,647	1,802,902	PLAENG SAN LIUM (Crops Field)	39.97	14,589.00	12	
474	267,700	1,808,000	KOK SAT TOT LONG I	164.45	60,024.25	13	
475	267,700	1,808,000	KOK SAT TOT LONG II	164.45	60,024.25	14	
476			FISH NET KRUNGTEP CO.,LTD. *	155.00	56,575.00		ADDED 01/14/95.
477			THAI NAM TIP CO,.LTD. (COKE)*	1,009.00	368,412.00		ADDED 01/14/95.
478			SOON SANO BREWERY CO,.LTD.BEER	420.00	153,300.00		,,---,,
TOTAL GROUNDWATER USED =			13,050.450 CUBIC METER/DAY	TOTAL GROUNDWATER USED =			4,765,248.090 CUBIC METER/YEAR

NUMBER OF VILLAGE(S) = 478 VILLAGE(S) 0059 TUMBOL(S) [DISTRICT].
NOTE. NOT ALL VILLAGES NAME SPELLED AS IN MAP.
OUTPUT REVISION #06
PROGRAM, PROCESSED BY: KRIENGKRI ... EXCLUDED NO GRIDDING VILLAGES FOR PLOT CONTOUR LINES.
LASTEST UPDATE 01/Fr.13/1995.
FILE. GWUSEDKK.RPT
TOTAL 010 PAGE(S)

ภาคผนวก ค

ผลวิเคราะห์ Cations และ Anions ของหินอุ้มน้ำชุดภูทอก

ตารางที่ ค1 ผลวิเคราะห์ cations ของหินอุ้มน้ำชุดภูทอก

NO.	WELL NO.	Na+K mg/l	Ca mg/l	Mg mg/l	Na+K meq/l(epm)	Ca meq/l(epm)	Mg meq/l(epm)	Total epm%	Na+K meq%	Ca meq%	Mg meq%
1	THK01	53.44	3.31	4.10	2.28	0.16	0.34	2.78	82.01	5.76	12.23
2	THK02	15872	1117	812	683.69	55.74	66.77	806.2	84.80	6.91	8.28
3	THK03	69.14	0.12	67.85	2.94	0.01	5.58	8.53	34.49	0.12	65.41
4	ISO51	159.86	94.02	50.20	6.47	4.69	4.13	15.29	42.32	30.67	27.10
5	ISO53	60.09	92.66	26.59	2.52	4.63	2.19	9.34	26.98	49.57	23.45
6	ISO54	36.21	100.84	30.57	1.56	5.03	2.52	9.11	17.12	55.22	27.66
7	ISO55	108.68	104.92	15.86	4.69	5.23	1.31	11.23	41.76	46.57	11.67
8	ISO56	46.36	98.11	27.34	1.99	4.30	2.25	8.54	23.30	50.35	26.35
9	ISO57	373.08	140.36	41.50	16.17	7.01	3.41	26.59	60.81	26.36	12.82
10	ISO65	167.48	347.49	157.15	20.27	17.34	12.92	50.53	40.11	34.32	25.57
11	ISO67	448.07	159.43	86.89	19.43	7.96	7.15	34.54	56.25	23.05	20.70
12	ISO68	123.96	550.54	190.78	5.22	27.47	14.87	47.56	10.98	57.76	31.26
13	ISO72	15.60	58.39	21.30	0.62	2.92	1.75	5.29	11.72	55.20	33.08
14	ISO73	29.54	98.12	46.89	1.15	4.90	3.86	9.91	11.60	49.45	38.95
15	ISO74	81.52	64.49	0.00	3.52	3.47	0.00	6.99	50.36	49.64	0.00
16	ISO77	105.05	67.45	0.00	8.00	3.36	0.00	11.36	70.42	29.58	0.00
17	ISO78	101.08	0.00	10.59	4.36	0.00	0.87	5.23	83.37	0.00	16.63
18	ISO79	25.24	95.39	30.63	0.98	4.76	2.52	8.26	11.86	57.63	30.51
19	ISO80	30.46	62.68	28.58	1.26	3.13	2.55	6.94	18.16	45.10	36.74
20	ISO81	29.03	64.05	74.99	1.15	3.20	6.17	10.52	10.93	30.42	58.65
21	ISO82	110.72	74.95	69.98	4.72	3.74	5.76	14.22	33.19	26.30	40.51

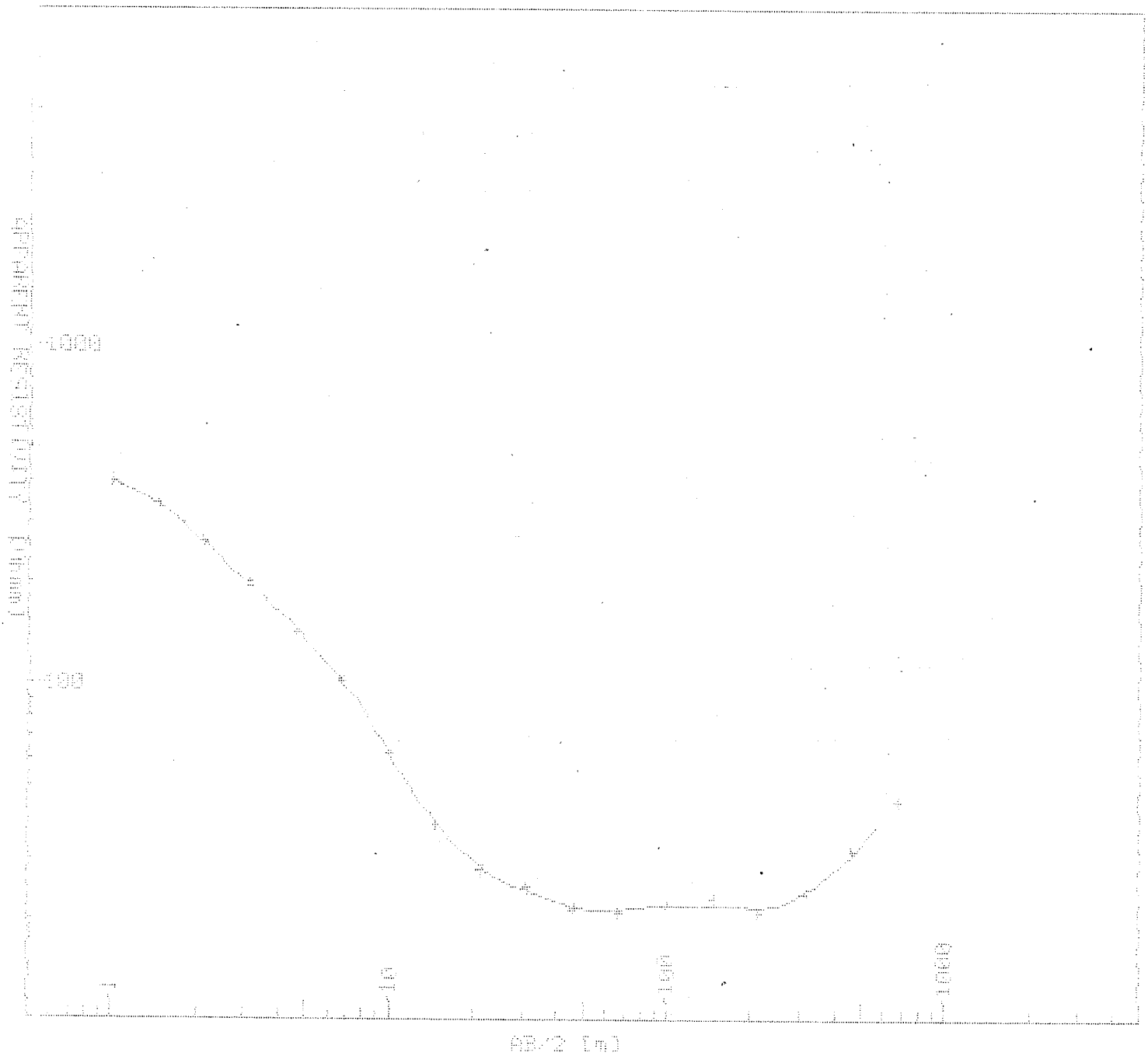
ตารางที่ ค2 ผลวิเคราะห์ Anions ของหินอุ้มน้ำชุดภูทอก

NO.	WELL NO.	Cl mg/l	SO_4 mg/l	HCO_3+CO_3 mg/l	Cl meq/l(epm)	SO_4 meq/l(epm)	CO_3+HCO_3 meq/l(epm)	Total (epm)	Cl meq%	SO_4 meq%	CO_3+HCO_3 meq%
1	THK01	8.70	18.93	243.5	0.24	0.39	4.53	5.16	4.65	7.56	87.79
2	THK02	21920	408.78	122	618.21	8.52	2.00	628.75	98.33	1.36	0.01
3	THK03	65.45	11.58	411.75	1.84	0.24	6.80	8.88	20.72	2.70	76.58
4	ISO51	487.69	0.00	504.39	13.76	0.00	8.26	22.02	62.49	0.00	37.51
5	ISO53	167.84	312.29	552.43	4.74	6.50	9.05	20.29	23.36	32.04	44.60
6	ISO54	107.66	0.00	744.68	3.05	0.00	12.21	15.26	19.99	0.00	80.01
7	ISO55	272.34	316.84	664.51	7.67	6.60	10.90	25.17	30.47	26.22	43.31
8	ISO56	98.26	0.00	776.60	2.76	0.00	12.74	15.50	17.81	0.00	82.19
9	ISO57	978.56	24.54	552.42	27.61	0.51	9.05	37.17	74.28	1.37	24.35
10	ISO65	1896.95	1.14	712.55	53.50	0.02	11.69	65.21	82.04	0.03	17.93
11	ISO67	310.34	0.00	616.47	8.75	0.00	10.10	18.85	46.42	0.00	53.58
12	ISO68	1741.77	0.00	312.24	49.12	0.00	5.11	54.23	90.58	0.00	9.42
13	ISO72	19.00	61.92	552.43	0.54	1.29	9.05	10.88	4.96	11.86	83.18
14	ISO73	53.83	0.06	952.74	1.52	0.00	15.62	17.14	8.87	0.00	91.13
15	ISO74	28.50	0.00	712.55	0.79	0.00	11.69	12.48	6.33	0.00	93.67
16	ISO77	281.84	0.00	536.41	7.95	0.00	8.79	16.74	47.49	0.00	52.51
17	ISO78	31.66	0.00	680.52	0.90	0.00	11.16	12.06	7.46	0.00	92.54
18	ISO79	110.83	35.29	536.41	3.13	0.73	10.42	14.28	21.92	5.11	72.97
19	ISO80	28.50	0.00	712.55	0.79	0.00	11.69	12.48	6.33	0.00	93.67
20	ISO81	117.16	99.04	872.67	3.30	2.06	14.31	19.67	16.78	10.47	72.75
21	ISO82	266.01	99.04	840.65	7.50	2.06	13.78	23.34	32.13	8.83	59.04

ภาคผนวก ง

ข้อมูลธรณีฟิสิกส์

97/03/26 ABEM Super-VES Response Data Page : 1
ISO01 265093 1803468 BANNONGWANG



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	452.24	0.9	0.9
2	154.57	3.3	4.1
3	26.61	19.2	23.3
4	9.56	13.8	37.2
5	52.61	34.2	71.3
6	6.59	78.0	149.3
7	1741.74		

97/03/26 ABEM Super-VES Response Data Page : 2
ISO01 265093 1803468 BANNONGWANG

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	400.00	399.50	-0.1
1.47	345.00	338.58	-0.8
2.15	265.00	263.80	-0.2
3.16	195.00	195.84	0.2
4.64	142.00	144.32	0.7
6.81	102.00	101.72	-0.1
10.00	63.00	62.53	-0.3
14.70	38.50	39.26	0.8
21.50	28.00	28.34	0.5
31.60	25.00	24.25	-1.3
46.40	21.50	21.80	0.6
68.10	21.00	21.32	0.7
100.00	22.00	21.98	-0.0
147.00	23.00	22.17	-1.6
215.00	21.00	21.67	1.4
316.00	24.00	24.16	0.3
464.00	32.00	31.36	-0.9
681.00	45.00	45.28	0.3

RMS = 0.75%

Convergence achieved

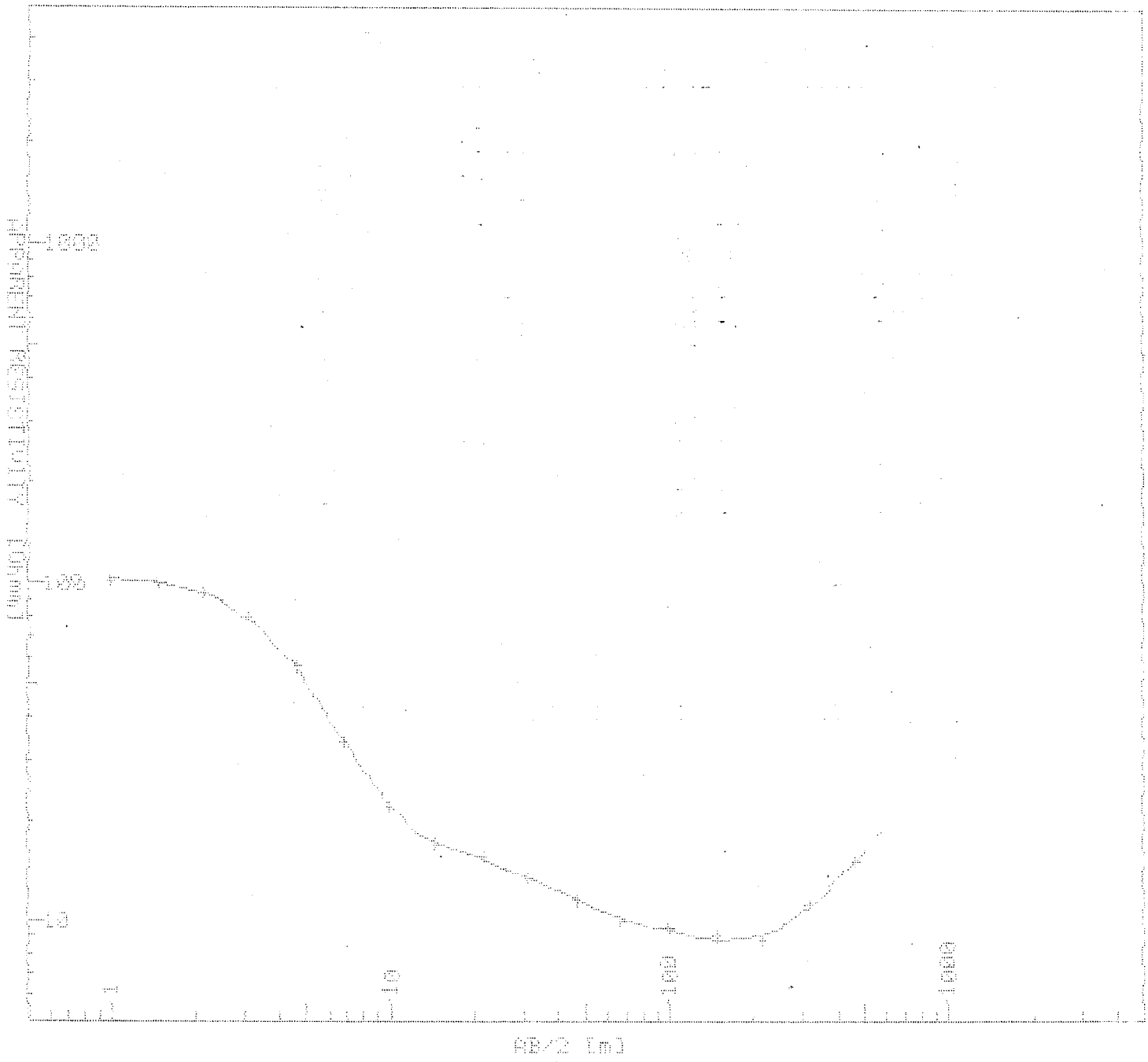
97/03/26 ABEM Super-VES Response Data Page : 2
ISO02 265690 1805952 NONGBOUDEEMEE

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	102.00	103.54	0.7
1.47	100.00	100.84	0.4
2.15	94.00	93.67	-0.2
3.16	80.00	78.30	-0.9
4.64	57.00	56.51	-0.4
6.81	34.00	34.31	0.4
10.00	22.00	22.32	0.6
14.70	17.00	17.09	0.2
21.50	15.50	15.20	-0.9
31.60	13.50	13.42	-0.2
46.40	11.50	11.59	0.3
68.10	10.00	10.19	0.8
100.00	9.50	9.30	-0.9
147.00	9.00	8.85	-0.7
215.00	8.75	9.08	1.6
316.00	11.25	10.94	-1.2
464.00	15.00	15.02	0.0

RMS = 0.74%

Convergence achieved

97/03/26 ABEM Super-VES Response Data Page : 1
1SO02 265690 1805952 NONGBOUDEEMEE



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	105.04	2.1	2.1
2	26.24	0.7	2.9
3	16.00	15.8	18.7
4	8.75	22.0	40.7
5	9.23	74.7	115.4
6	0.95	17.7	133.1
7	759.92		

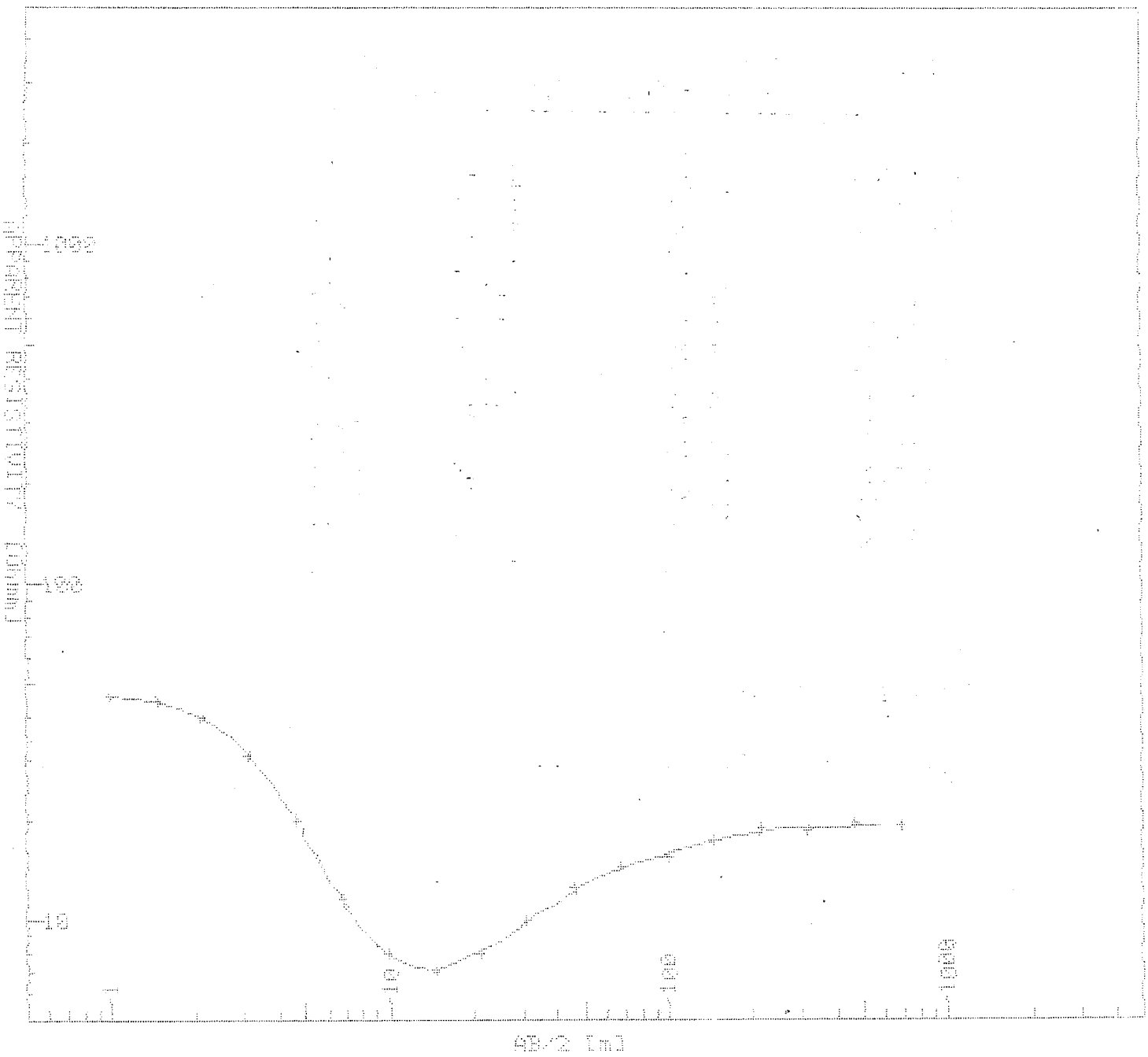
97/03/26 ABEM Super-VES Response Data Page : 2
ISO03 267351 1809352 BANWUNGHIN

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	46.50	46.41	-0.1
1.47	45.00	44.58	-0.4
2.15	40.00	40.00	-0.0
3.16	31.00	31.18	0.3
4.64	20.00	20.37	0.8
6.81	11.50	11.35	-0.6
10.00	8.00	7.87	-0.7
14.70	7.00	7.13	0.8
21.50	8.00	8.09	0.5
31.60	10.00	10.00	0.0
46.40	12.50	12.26	-0.8
68.10	14.50	14.36	-0.4
100.00	15.50	15.98	1.3
147.00	17.50	17.26	-0.6
215.00	18.80	18.51	-0.7
316.00	18.50	19.04	1.2
464.00	19.50	19.13	-0.8
681.00	19.30	19.40	0.2

RMS = 0.68%

Convergence achieved

97/03/26 ABEM Super-VES Response Data Page : 1
ISO03 267351 1809352 BANWUNGHIN



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	47.44	1.9	1.9
2	5.91	14.3	16.3
3	52.96	12.1	28.4
4	9.82	38.8	67.3
5	41.07	95.0	162.3
6	3.86	113.1	275.3
7	894.94	99.0	374.3
8	10.00		

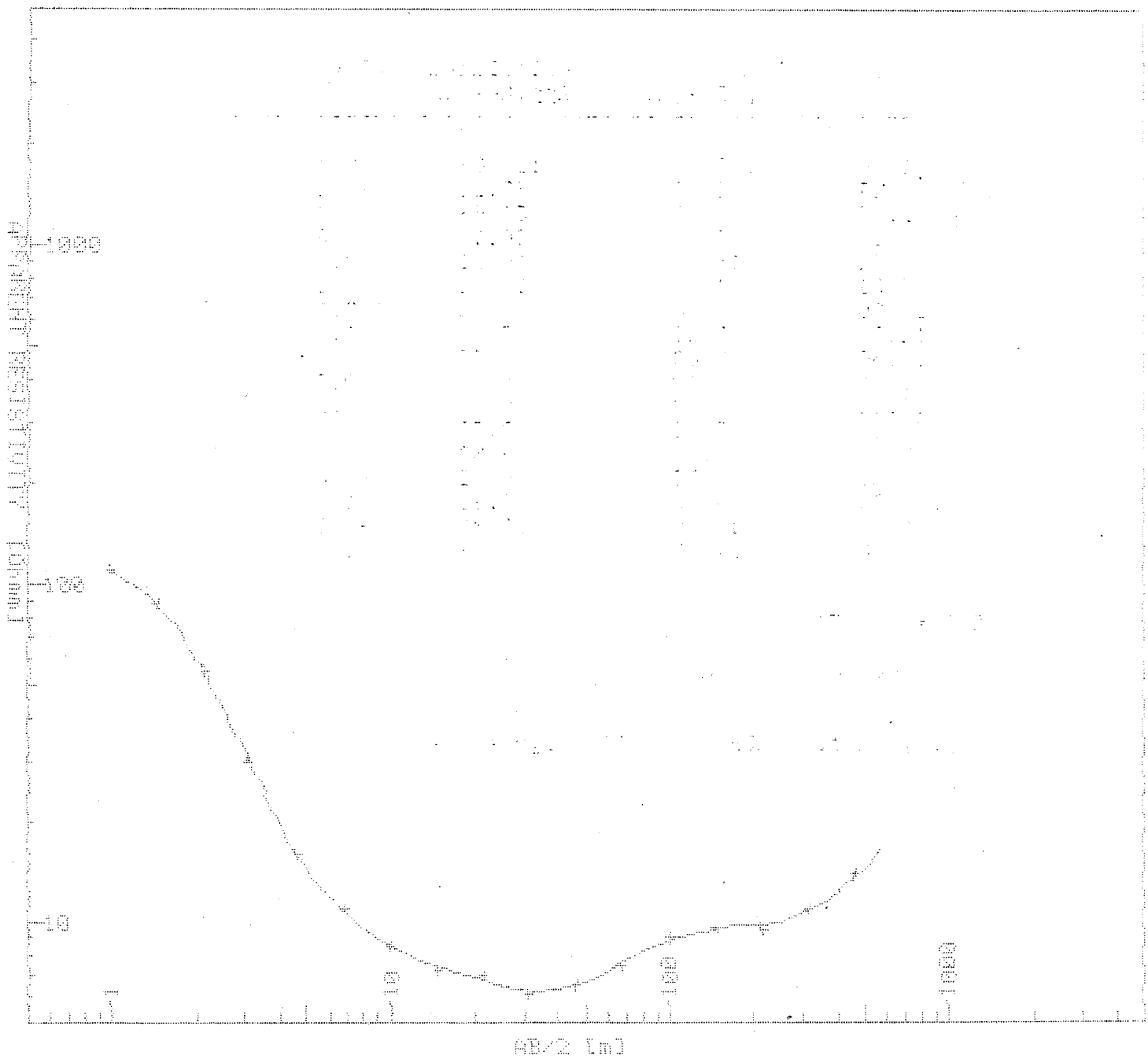
97/03/26 ABEM Super-VES Response Data Page : 2
ISO04 267231 1809200 BANTHAPRA

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	110.00	111.03	0.4
1.47	88.00	87.21	-0.4
2.15	56.00	55.68	-0.3
3.16	30.00	30.19	0.3
4.64	16.00	16.11	0.3
6.81	11.00	10.84	-0.6
10.00	8.50	8.52	0.1
14.70	7.20	7.39	1.1
21.50	7.00	6.75	-1.6
31.60	6.10	6.20	0.7
46.40	6.50	6.53	0.2
68.10	7.50	7.55	0.3
100.00	9.00	8.87	-0.6
147.00	9.75	9.62	-0.6
215.00	9.60	9.85	1.1
316.00	11.00	10.89	-0.5
464.00	14.00	13.67	-1.1

RMS = 0.71%

Convergence achieved

97/03/26 ABEM Super-VES Response Data Page : 1
ISO04 267231 1809200 BANTHAPRA



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	130.90	0.9	0.9
2	15.25	2.2	3.1
3	6.92	6.9	10.0
4	10.57	4.5	14.5
5	1.68	7.7	22.3
6	30.35	32.4	54.7
7	2.87	77.4	132.1
8	702.84		

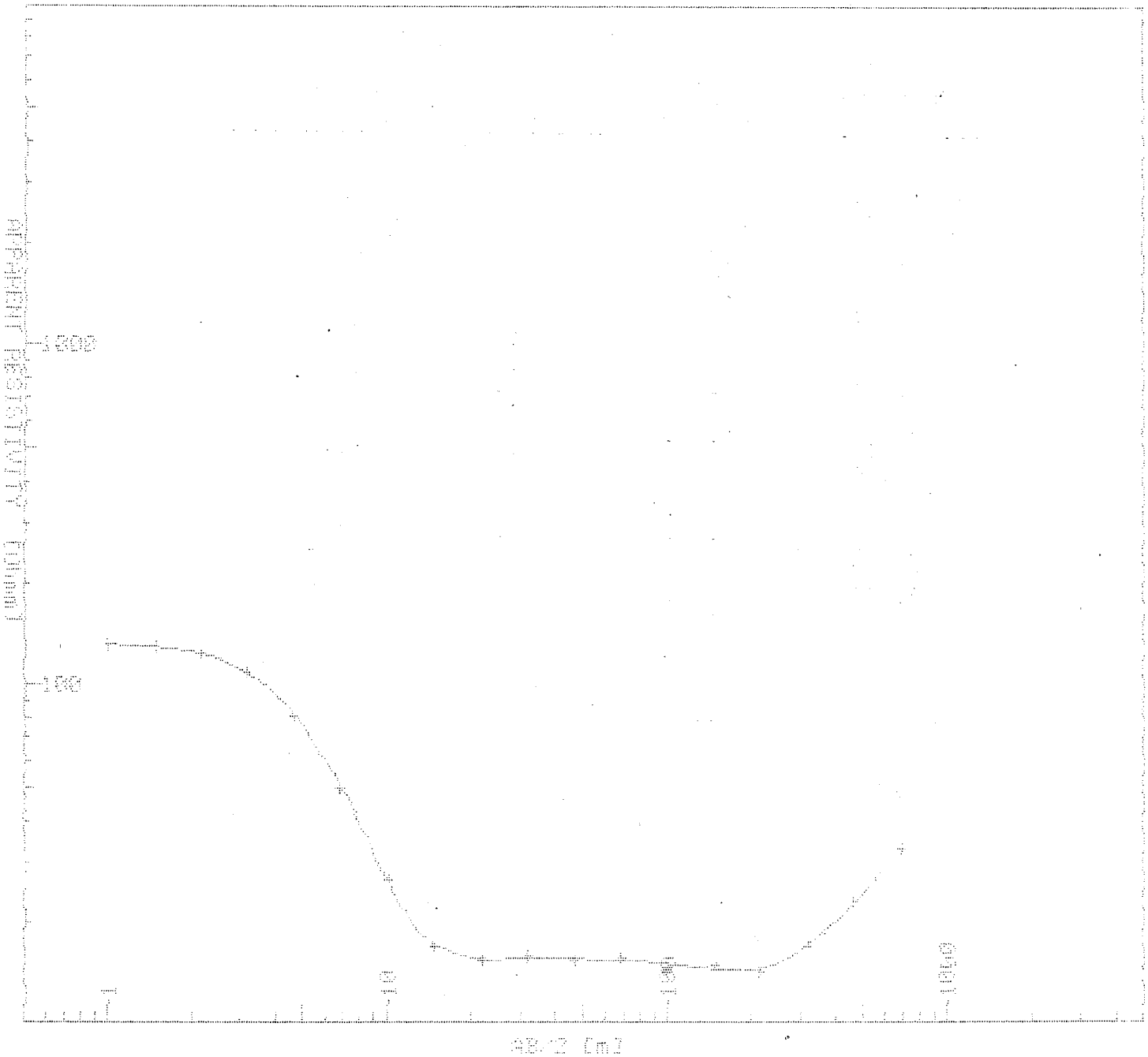
97/03/30 ABEM Super-VES Response Data Page : 2
RE01 264242 1800822 BANNONGMAG

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	132.00	132.27	0.1
1.47	130.00	130.24	0.1
2.15	125.00	124.26	-0.3
3.16	110.00	109.13	-0.3
4.64	82.00	83.14	0.6
6.81	50.00	49.95	-0.0
10.00	27.00	26.60	-0.6
14.70	17.00	17.30	0.8
21.50	15.50	15.43	-0.2
31.60	15.80	15.69	-0.3
46.40	15.40	15.59	0.5
68.10	15.75	15.38	-1.0
100.00	14.50	15.04	1.6
147.00	15.00	14.47	-1.6
215.00	14.25	14.58	1.0
316.00	17.00	17.09	0.2
464.00	23.25	22.96	-0.6
681.00	33.00	33.08	0.1

RMS = 0.72%

Convergence achieved

97/03/30 ABEM Super-VES Response Data Page : 1
RE01 264242 1800822 BANNONGMAG



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	133.44	2.8	2.8
2	12.92	10.2	12.9
3	23.00	10.4	23.3
4	7.92	13.3	36.6
5	34.85	24.8	61.3
6	3.50	37.0	98.4
7	45.32	41.4	139.8
8	8.08	41.5	181.3
9	1847.53		

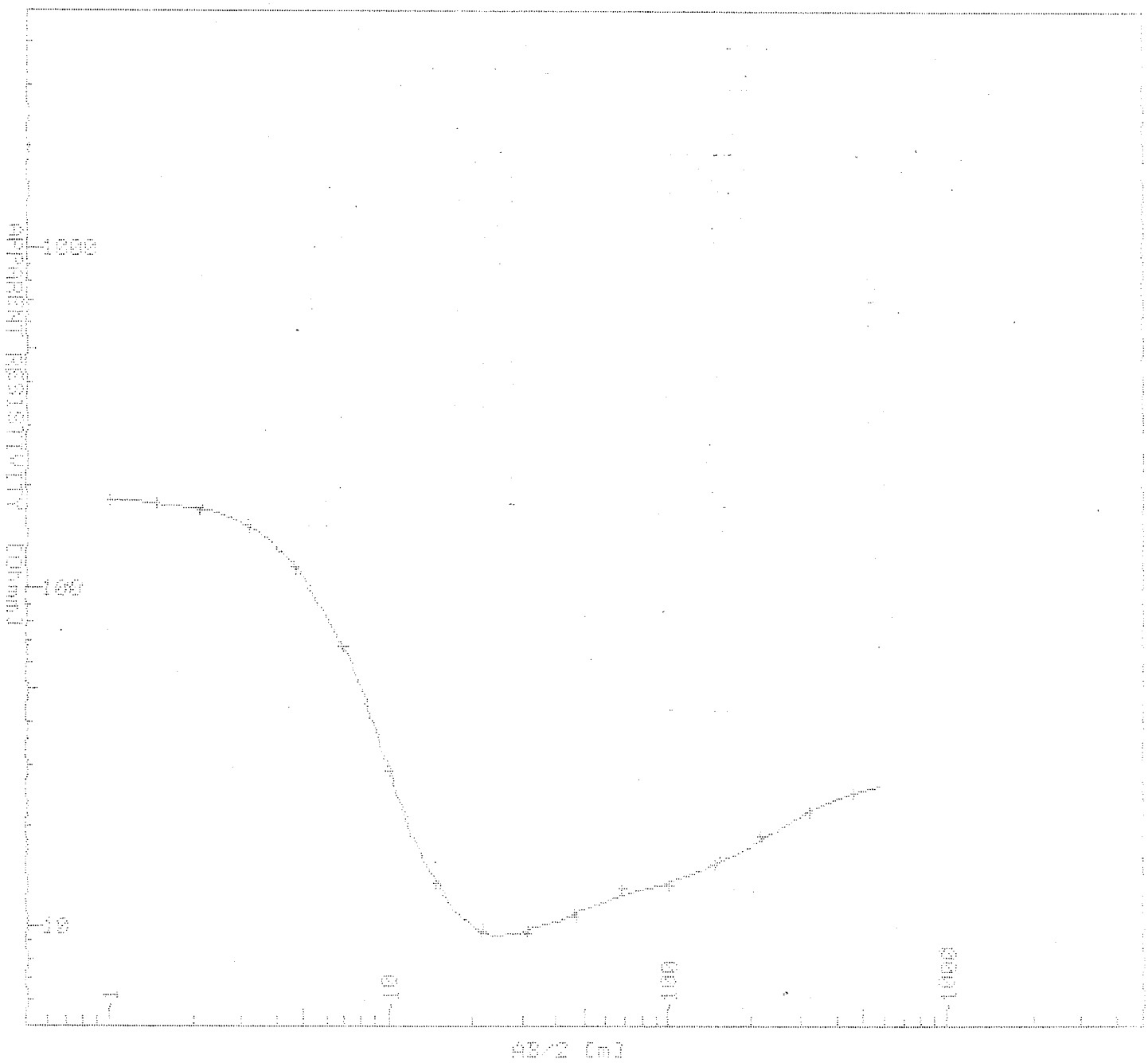
97/03/30 ABEM Super-VES Response Data Page : 2
RE02 269239 1802885 BANHAUYTERY

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	180.00	179.81	-0.0
1.47	177.50	177.44	-0.0
2.15	170.00	170.23	0.1
3.16	152.00	151.07	-0.3
4.64	115.00	115.82	0.3
6.81	68.00	68.00	0.0
10.00	29.00	28.77	-0.3
14.70	13.50	13.62	0.4
21.50	9.75	9.52	-1.1
31.60	9.60	9.88	1.2
46.40	10.75	10.97	0.9
68.10	13.00	12.27	-2.5
100.00	13.20	13.63	1.4
147.00	15.25	15.34	0.3
215.00	18.50	18.30	-0.5
316.00	22.00	21.90	-0.2
464.00	25.00	25.13	0.2

RMS = 0.86%

Convergence achieved

97/03/30 ABEM Super-VES Response Data Page : 1
RE02 269239 1802885 BANHAUYTERY



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	181.22	3.0	3.0
2	8.36	25.0	28.0
3	47.28	10.2	38.3
4	5.11	28.4	66.7
5	74.54	79.1	145.8
6	25.60		

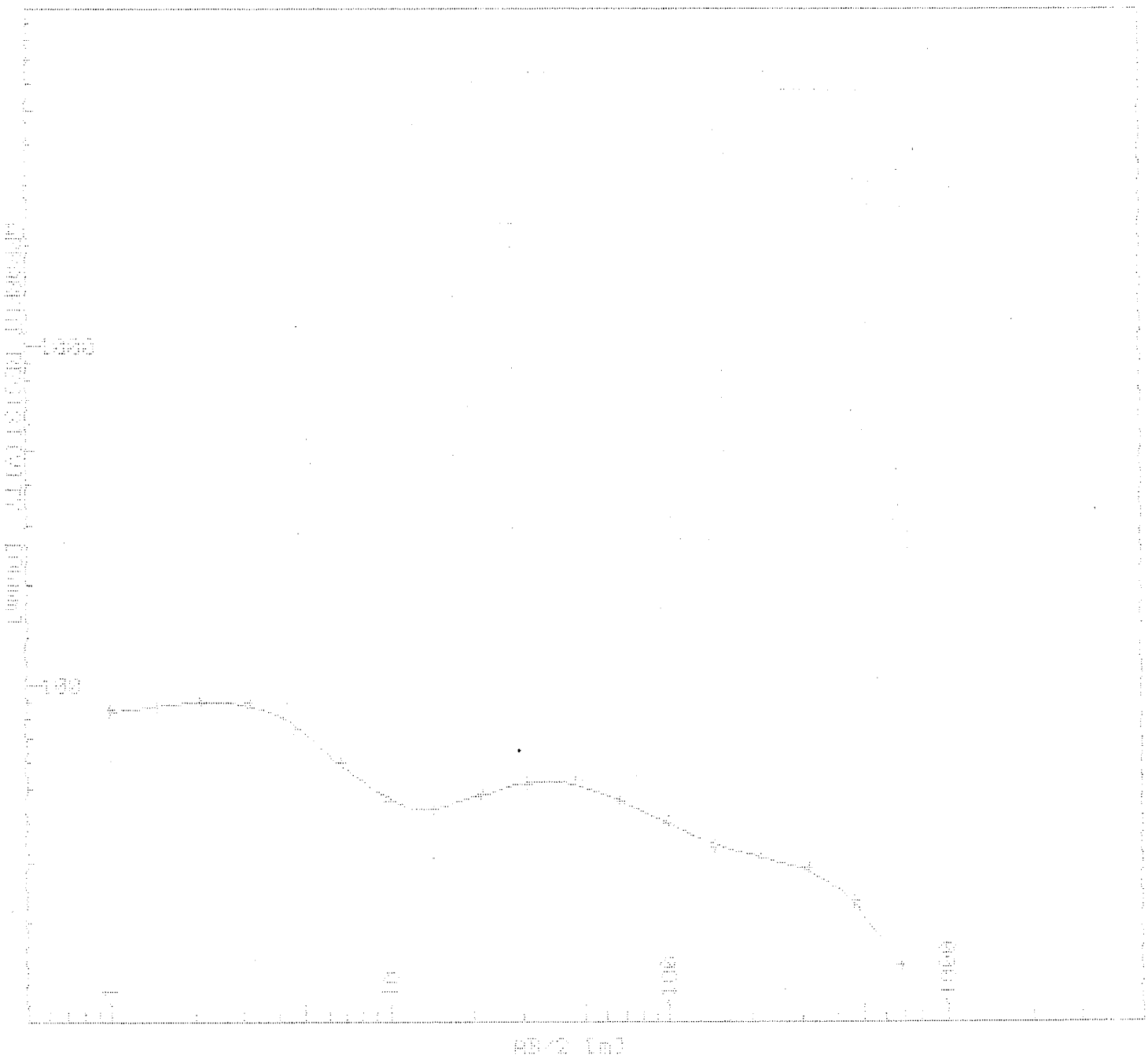
97/03/30 ABEM Super-VES Response Data Page : 2
RE03 271677 1827874 BAN UMPAWUN

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	85.00	84.75	-0.1
1.47	87.00	87.47	0.2
2.15	90.00	90.09	0.0
3.16	90.00	87.90	-1.0
4.64	75.00	77.14	1.2
6.81	60.00	58.50	-1.1
10.00	46.00	46.60	0.6
14.70	44.00	43.81	-0.2
21.50	48.00	48.16	0.1
31.60	52.00	52.19	0.2
46.40	52.00	51.34	-0.6
68.10	46.00	46.26	0.2
100.00	40.00	39.69	-0.3
147.00	34.00	34.53	0.7
215.00	31.00	31.55	0.8
316.00	29.00	28.35	-1.0
464.00	23.00	22.72	-0.5
681.00	15.00	15.13	0.4

RMS = 0.63%

Convergence achieved

97/03/30 ABEM Super-VES Response Data Page : 1
REO3 271677 1827874 BAN UMPAWUN



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	82.83	1.2	1.2
2	182.41	0.9	2.2
3	25.18	5.1	7.2
4	82.17	16.0	23.2
5	31.00	347.7	370.9
6	0.40		

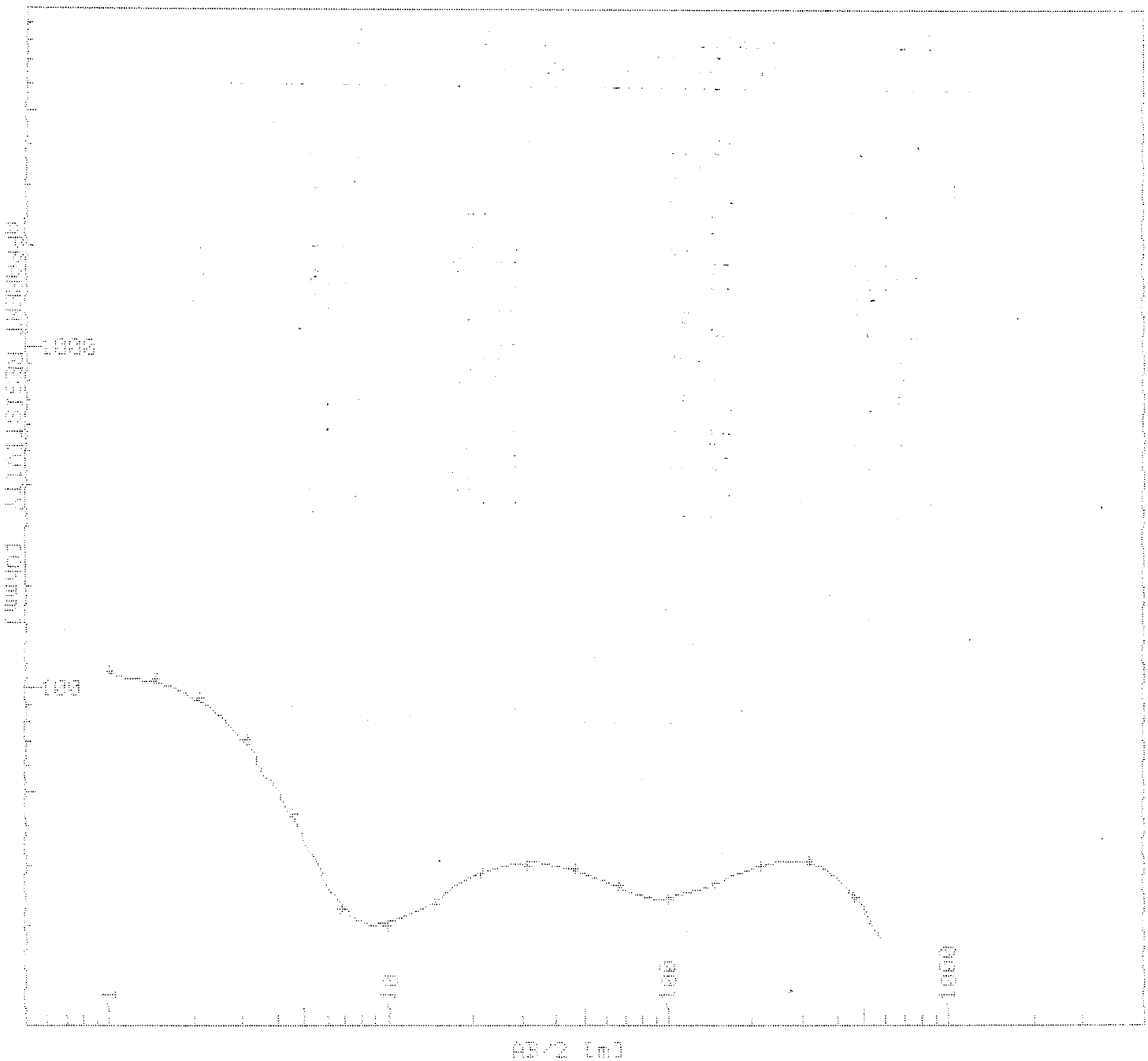
97/03/30 ABEM Super-VES Response Data Page : 2
RE04 271378 1829167 BANKOKNANGAM

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	113.00	110.44	-1.0
1.47	107.50	105.19	-0.9
2.15	95.00	92.34	-1.2
3.16	71.00	68.27	-1.7
4.64	43.00	41.47	-1.6
6.81	22.50	22.84	0.7
10.00	20.00	20.37	0.8
14.70	23.25	23.69	0.8
21.50	28.50	28.74	0.4
31.60	30.00	30.94	1.3
46.40	29.50	29.12	-0.6
68.10	26.50	25.88	-1.0
100.00	24.00	24.21	0.4
147.00	27.00	26.86	-0.2
215.00	30.00	30.48	0.7
316.00	31.00	30.78	-0.3
464.00	24.50	24.49	-0.0

RMS = 0.93%

Convergence achieved

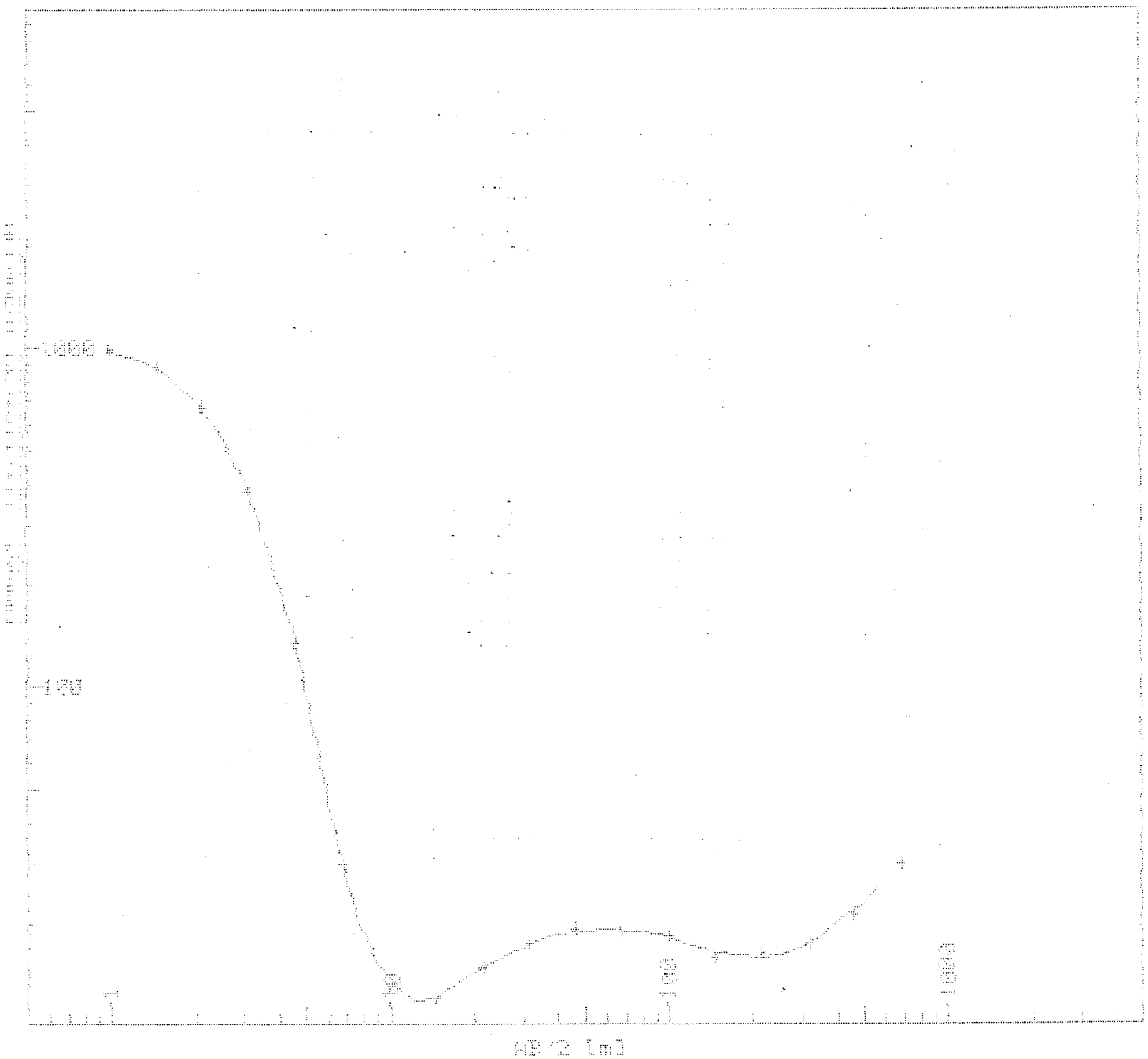
97/03/30 ABEM Super-VES Response Data Page : 1
RE04 271378 1829167 BANKOKNANGAM



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	113.39	1.9	1.9
2	3.98	1.7	3.6
3	138.09	6.1	9.7
4	8.31	28.0	37.7
5	100.00	97.0	134.7
6	18.00	0.0	134.7
7	0.00		

97/03/30 ABEM Super-VES Response Data Page : 1
RE05 2742123 17992223 banwangpone



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	1049.05	1.4	1.4
2	8.55	6.9	8.3
3	26.67	31.4	39.7
4	12.25	216.2	255.9
5	1542.07	72.7	328.6
6	0.25	89.0	417.6
7	2500.00	0.0	417.6

8 0.00

97/03/30 ABEM Super-VES Response Data Page : 2
RE05 2742123 17992223 banwangpone

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	995.00	982.90	-0.5
1.47	885.00	878.19	-0.3
2.15	675.00	669.55	-0.4
3.16	380.00	372.79	-0.8
4.64	135.00	136.34	0.4
6.81	30.00	29.07	-1.4
10.00	13.00	13.64	2.1
14.70	12.00	12.09	0.3
21.50	15.00	14.95	-0.1
31.60	17.50	17.51	0.0
46.40	19.50	19.13	-0.8
68.10	19.00	19.36	0.8
100.00	18.50	18.27	-0.5
147.00	16.00	16.49	1.3
215.00	16.50	15.90	-1.6
316.00	17.50	17.65	0.4
464.00	21.50	22.17	1.3
681.00	30.00	29.73	-0.4
681.00	30.00	29.73	-0.4
681.00	30.00	29.73	-0.4

RMS = 0.89%

Convergence achieved

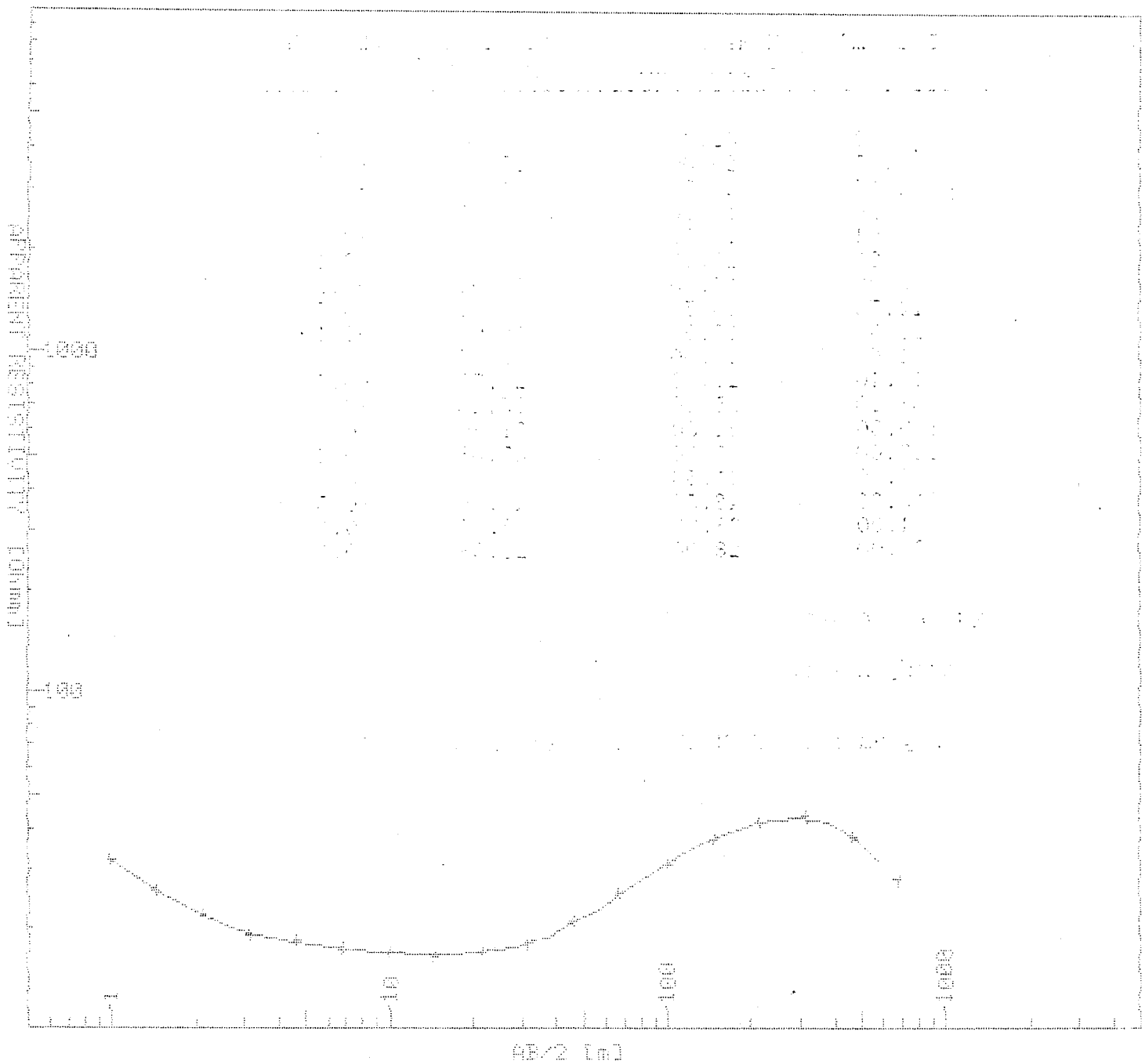
97/03/30 ABEM Super-VES Response Data Page : 2
RE06 277459 1796544 bankhonkwang

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	32.00	32.02	0.0
1.47	26.00	25.99	-0.0
2.15	22.00	21.85	-0.3
3.16	19.00	19.37	0.8
4.64	18.50	18.20	-0.7
6.81	17.40	17.43	0.1
10.00	17.00	16.91	-0.2
14.70	16.50	16.70	0.5
21.50	17.00	16.97	-0.1
31.60	18.00	18.05	0.1
46.40	21.00	20.77	-0.5
68.10	25.50	25.28	-0.4
100.00	31.00	31.30	0.4
147.00	37.00	37.38	0.4
215.00	41.50	41.82	0.3
316.00	43.50	42.96	-0.5
464.00	38.00	38.05	0.1
681.00	28.00	28.08	0.1

RMS = 0.39%

Convergence achieved

97/03/30 ABEM Super-VES Response Data Page : 1
RE06 277459 1796544 bankhonkwang



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	42.48	0.5	0.5
2	18.18	2.5	3.0
3	16.09	32.4	35.4
4	370.05	5.0	40.4
5	52.59	293.5	333.9
6	0.50		

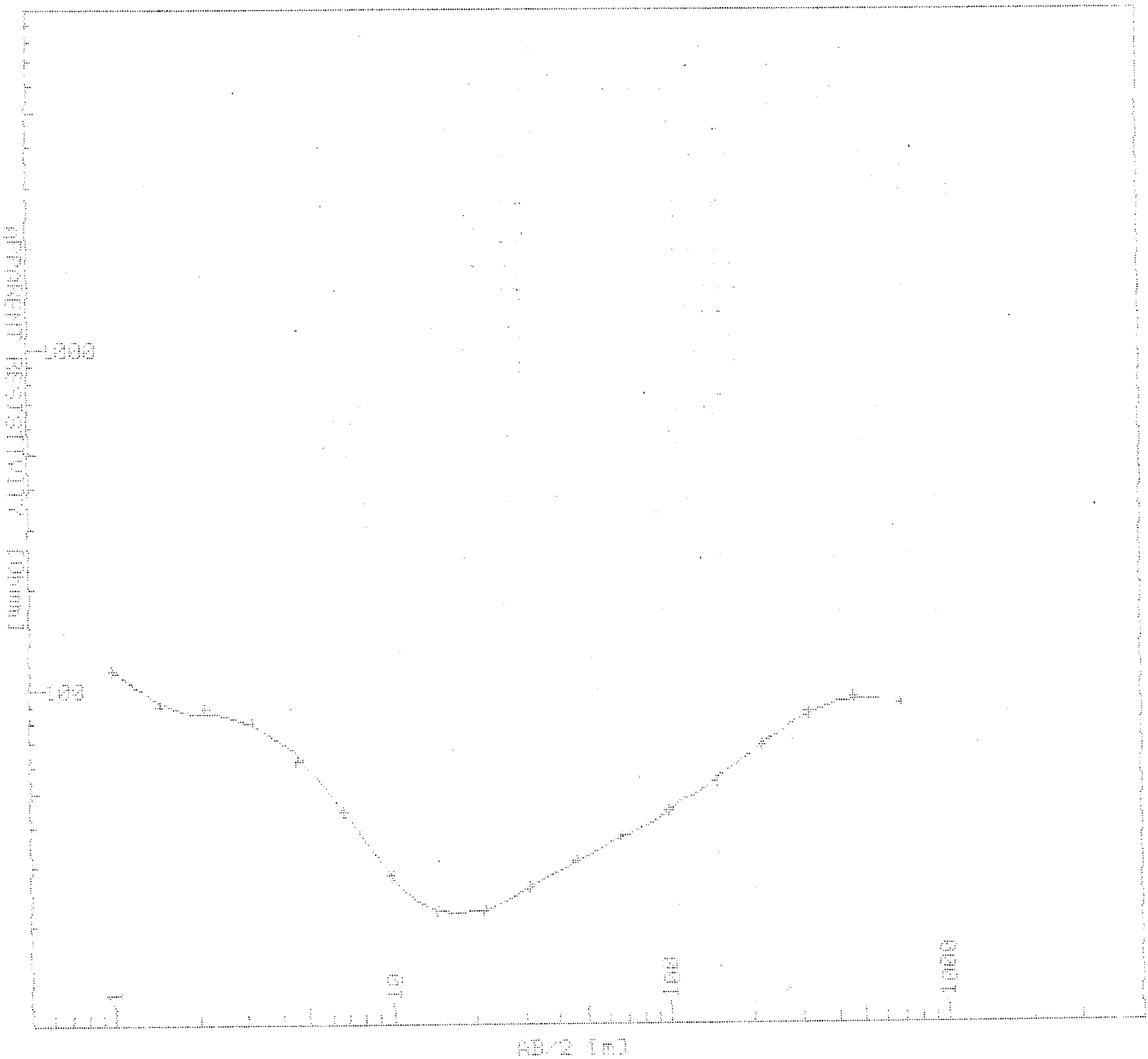
97/03/30 ABEM Super-VES Response Data Page : 2
RE07 1834570 245746 bankumyadang

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	115.00	114.44	-0.2
1.47	90.00	93.06	1.5
2.15	88.00	85.59	-1.2
3.16	80.00	79.10	-0.5
4.64	62.00	64.53	1.7
6.81	44.00	43.24	-0.8
10.00	28.00	28.04	0.1
14.70	22.00	21.90	-0.2
21.50	22.00	22.22	0.4
31.60	26.00	25.97	-0.0
46.40	31.00	30.81	-0.3
68.10	37.00	36.60	-0.5
100.00	44.00	43.85	-0.2
147.00	53.00	54.13	0.9
215.00	68.00	68.38	0.2
316.00	85.00	83.66	-0.7
464.00	95.00	93.09	-0.9
681.00	90.00	91.31	0.6

RMS = 0.77%

Convergence achieved

97/03/30 ABEM Super-VES Response Data Page : 1
RE07 1834570 245746 bankumyadang



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	254.36	0.3	0.3
2	59.49	0.5	0.8
3	110.97	1.8	2.6
4	16.62	11.9	14.5
5	44.76	76.9	91.4
6	350.60	133.4	224.8
7	21.18		

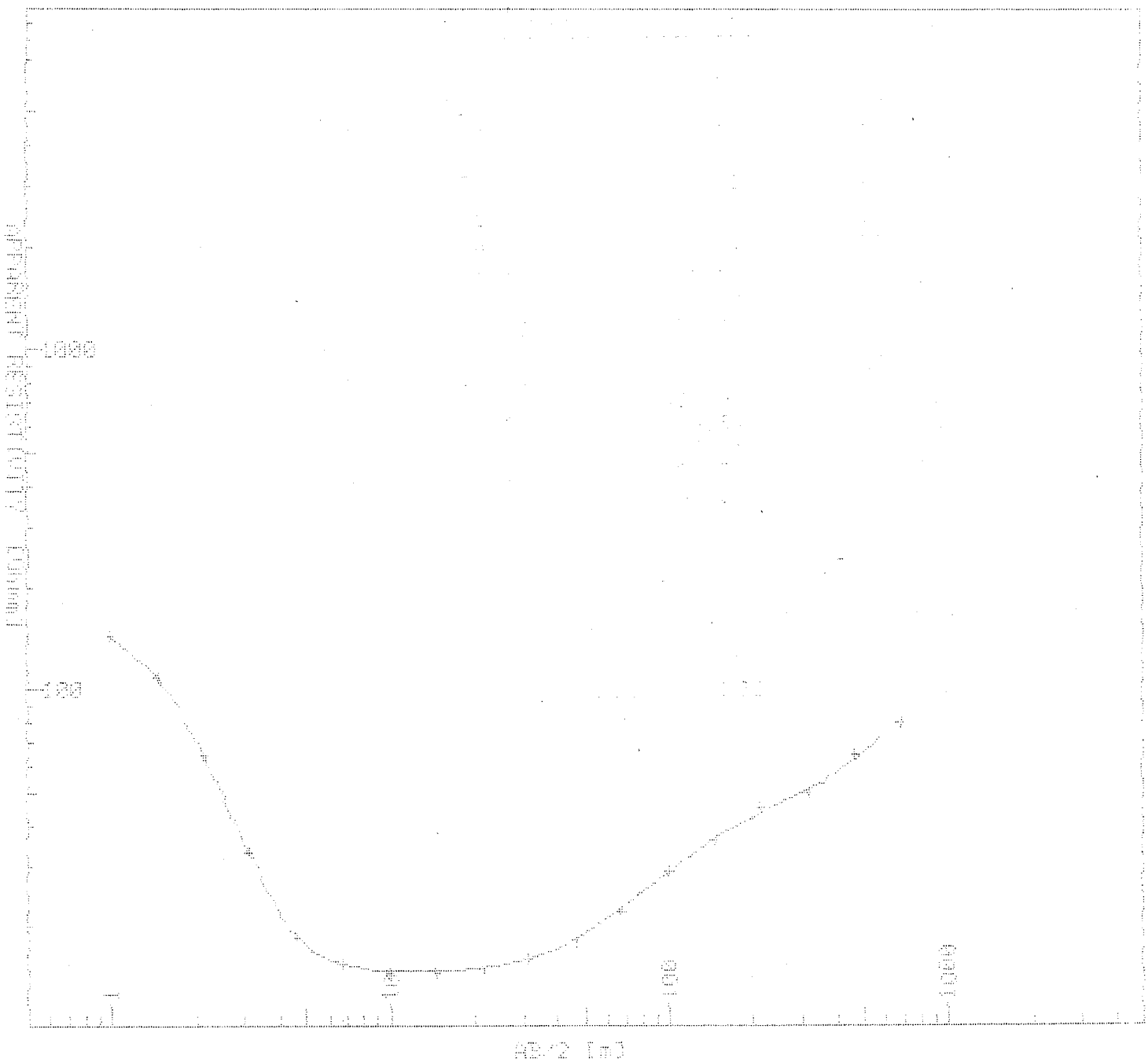
RE08 1826107 241738 bannafai

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	145.00	145.34	0.1
1.47	110.00	109.64	-0.1
2.15	65.00	64.97	-0.0
3.16	33.25	33.35	0.1
4.64	18.50	18.47	-0.1
6.81	15.50	15.48	-0.0
10.00	14.50	14.71	0.6
14.70	14.50	14.70	0.6
21.50	15.00	15.01	0.0
31.60	16.00	15.91	-0.3
46.40	18.00	18.26	0.6
68.10	22.00	22.55	1.1
100.00	29.00	28.94	-0.1
147.00	36.00	36.47	0.6
215.00	45.00	42.66	-1.3
316.00	50.00	51.49	1.3
464.00	65.00	62.47	-1.7
681.00	80.00	80.74	0.4

RMS = 0.72%

Convergence achieved

97/03/30 ABEM Super-VES Response Data Page : 1
RE08 1826107 241738 bannafai

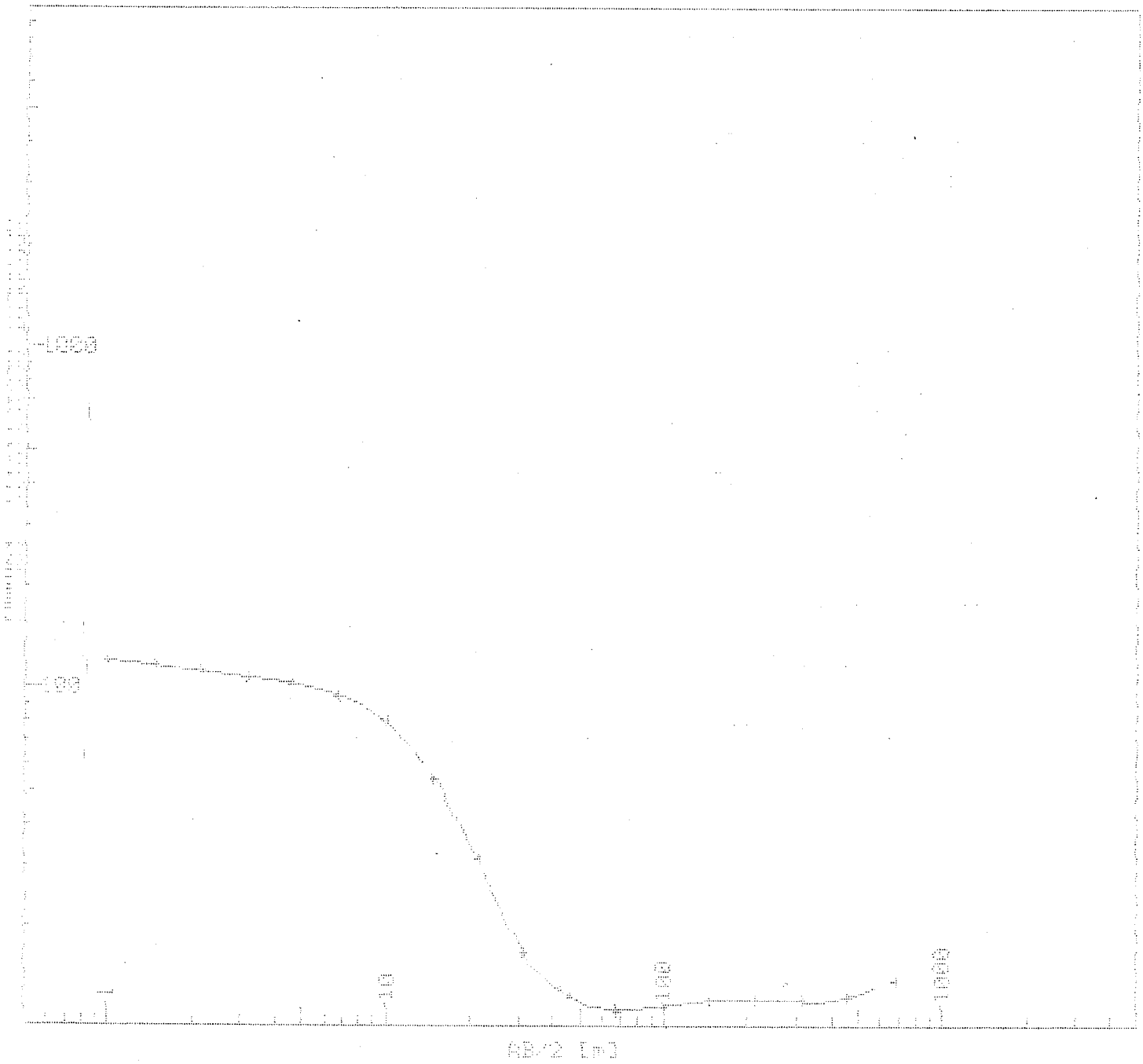


MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	176.54	0.9	0.9
2	14.38	36.6	37.5
3	105.62	68.7	106.2
4	22.31	97.4	203.6
5	534.99		

97/03/30 ABEM Super-VES Response Data Page : 2

97/03/30 ABEM Super-VES Response Data Page : 1
RE09 1808914 278867 bandonchumpa



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	124.94	0.7	0.7
2	104.97	6.9	7.6
3	10.52	66.5	74.1
4	18.00	63.0	137.1
5	6.90	161.0	298.1
6	28.01		

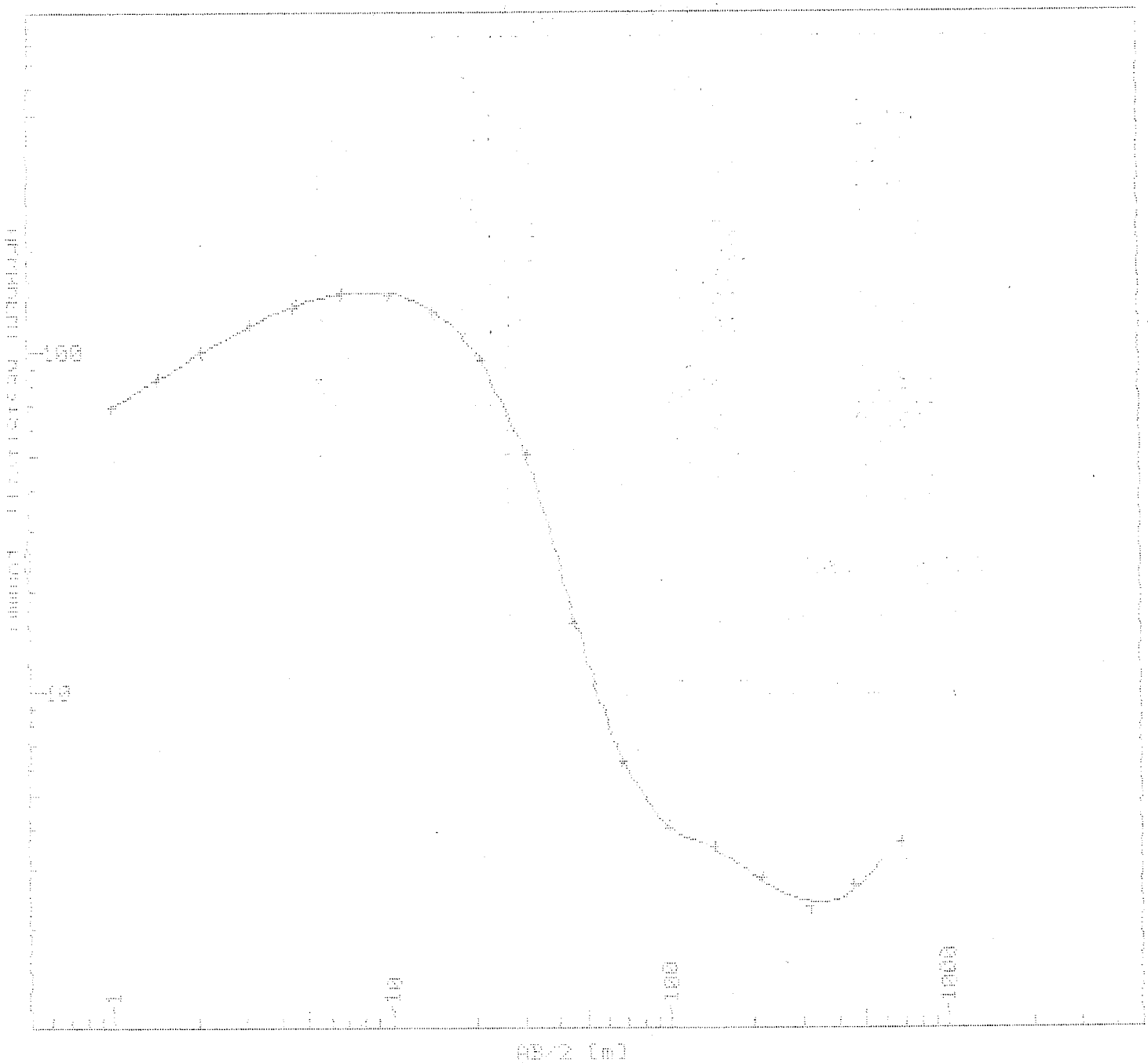
97/03/30 ABEM Super-VES Response Data Page : 2
RE09 1808914 278867 bandonchumpa

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	120.00	120.80	0.3
1.47	117.50	116.72	-0.3
2.15	113.00	112.31	-0.3
3.16	108.00	107.86	-0.1
4.64	102.50	102.97	0.2
6.81	95.00	95.32	0.1
10.00	80.00	79.51	-0.3
14.70	54.50	54.83	0.3
21.50	31.50	31.53	0.0
31.60	16.70	16.60	-0.3
46.40	12.25	12.26	0.0
68.10	11.20	11.24	0.1
100.00	11.50	11.51	0.0
147.00	12.00	11.96	-0.2
215.00	12.00	12.06	0.2
316.00	12.00	11.94	-0.2
464.00	12.25	12.28	0.1
681.00	13.80	13.79	-0.0

RMS = 0.19%

Convergence achieved

97/03/29 ABEM Super-VES Response Data Page : 1
RE10 1810960 280413 bannongkhanoun



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	55.66	0.7	0.7
2	181.70	10.3	11.0
3	4.15	104.9	115.8
4	0.90	143.5	259.3
5	196.42		

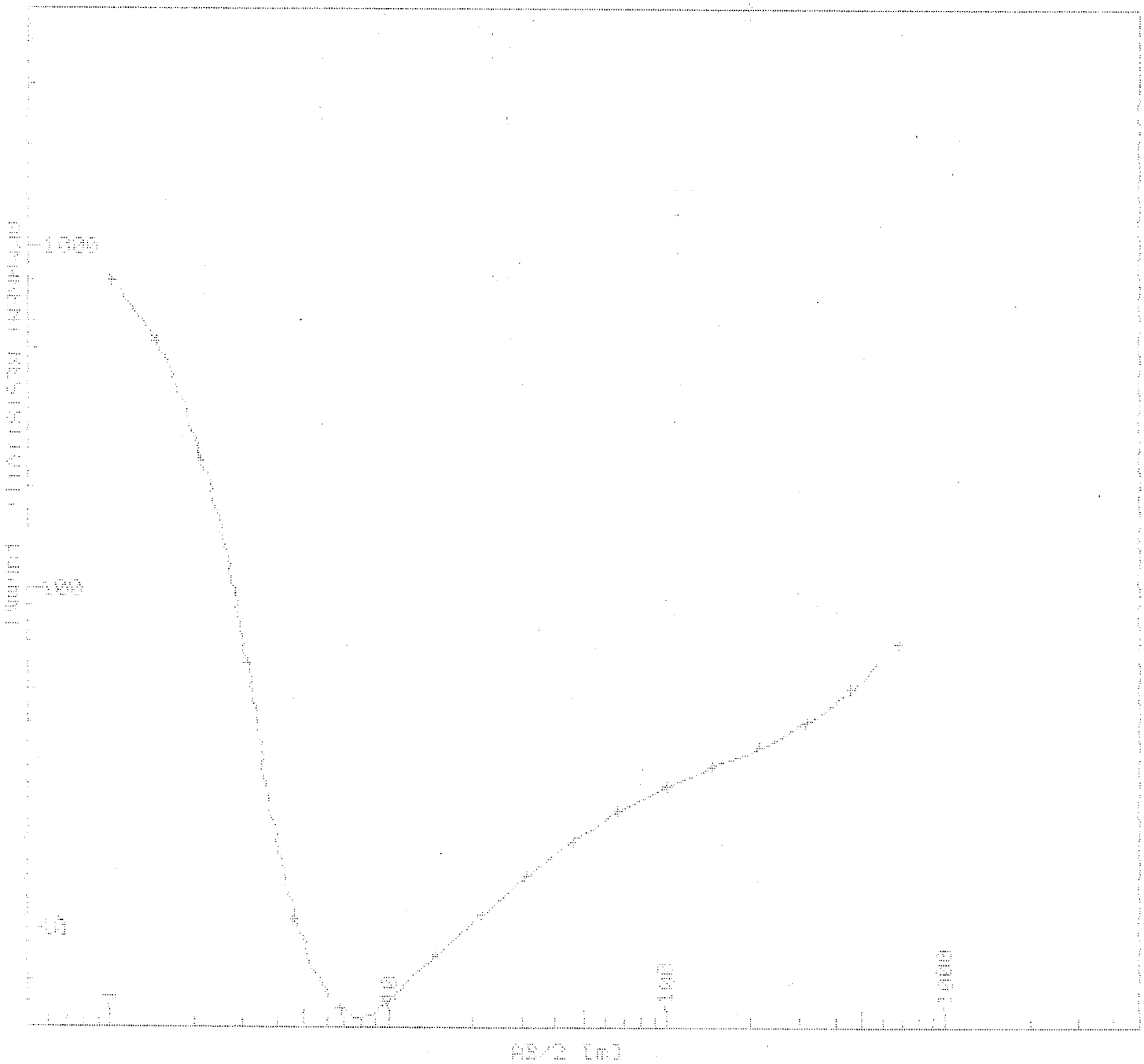
RE10 1810960 280413 bannongkhanoun

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	69.00	69.17	0.1
1.47	83.50	83.03	-0.2
2.15	100.00	100.17	0.1
3.16	120.00	119.21	-0.3
4.64	135.00	136.18	0.4
6.81	148.00	147.88	-0.0
10.00	147.00	148.89	0.6
14.70	130.00	131.45	0.5
21.50	95.00	94.30	-0.3
31.60	50.00	48.38	-1.4
46.40	16.00	16.12	0.3
68.10	6.30	6.49	1.3
100.00	4.00	3.96	-0.4
147.00	3.50	3.45	-0.7
215.00	2.80	2.75	-0.8
316.00	2.30	2.41	2.1
464.00	2.70	2.61	-1.5
681.00	3.60	3.63	0.4

RMS = 0.84%

Convergence achieved

97/03/29 ABEM Super-VES Response Data Page : 1
RE11 1803937 274646 bannongsapung



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	1068.71	0.8	0.8
2	3.96	5.8	6.6
3	35.47	287.1	293.7
4	1398.86		

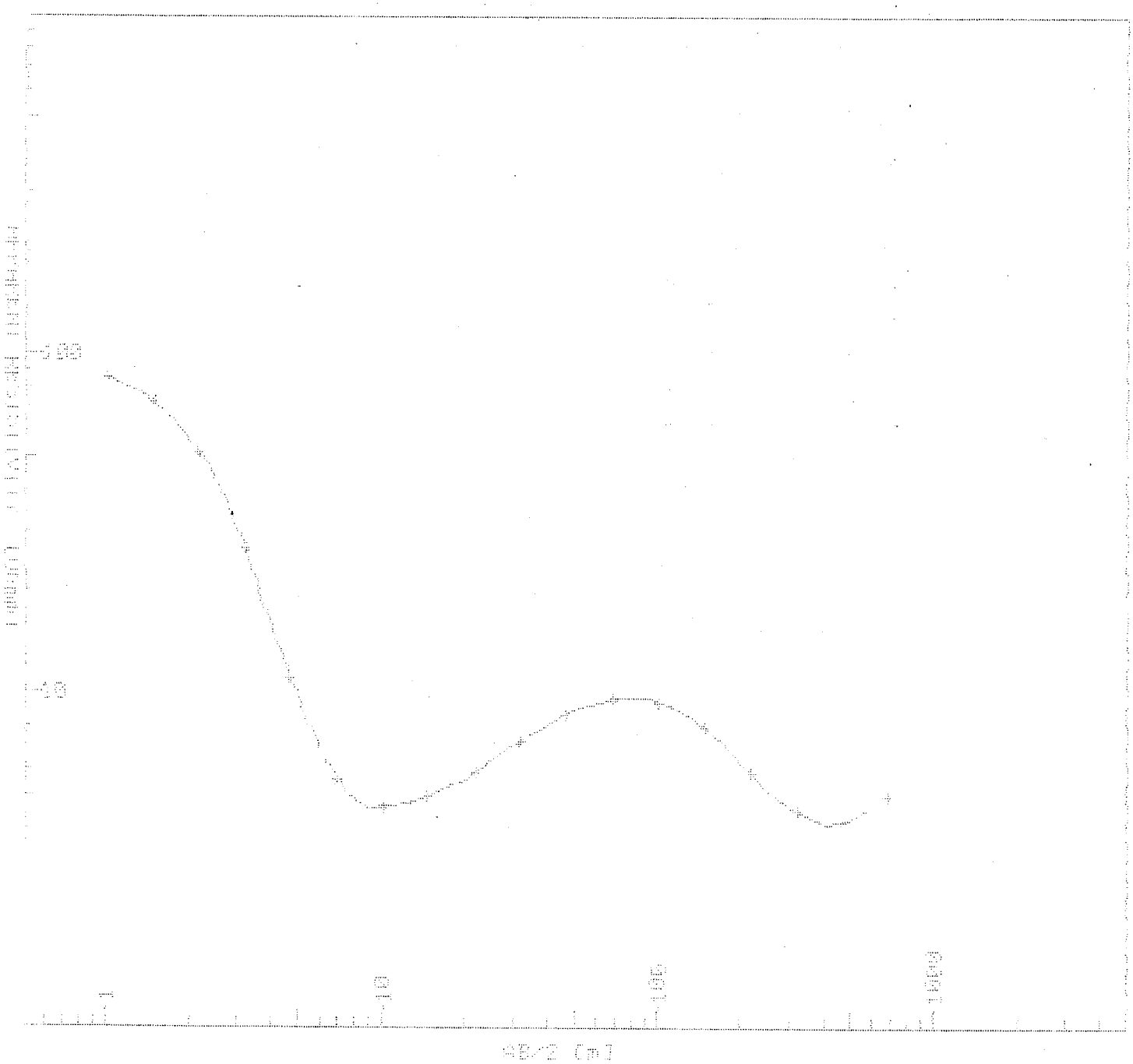
97/03/29 ABEM Super-VES Response Data Page : 2
RE11 1803937 274646 bannongsapung

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	800.00	798.49	-0.1
1.47	530.00	530.85	0.1
2.15	238.00	239.10	0.2
3.16	60.00	59.57	-0.3
4.64	10.70	10.75	0.2
6.81	5.70	5.69	-0.1
10.00	6.00	6.01	0.1
14.70	8.20	8.19	-0.1
21.50	11.00	10.97	-0.1
31.60	14.25	14.26	0.0
46.40	18.00	18.09	0.2
68.10	22.20	22.17	-0.1
100.00	26.20	26.17	-0.0
147.00	30.00	29.95	-0.1
215.00	33.80	33.89	0.1
316.00	40.00	39.89	-0.1
464.00	50.30	50.38	0.1
681.00	69.00	68.95	-0.0

RMS = 0.13%

Convergence achieved

97/03/29 ABEM Super-VES Response Data Page : 1
RE12 1803843 283927 banponsawang



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	93.41	1.2	1.2
2	4.12	12.1	13.3
3	18.89	37.1	50.4
4	3.09	419.3	469.7
5	124.15		

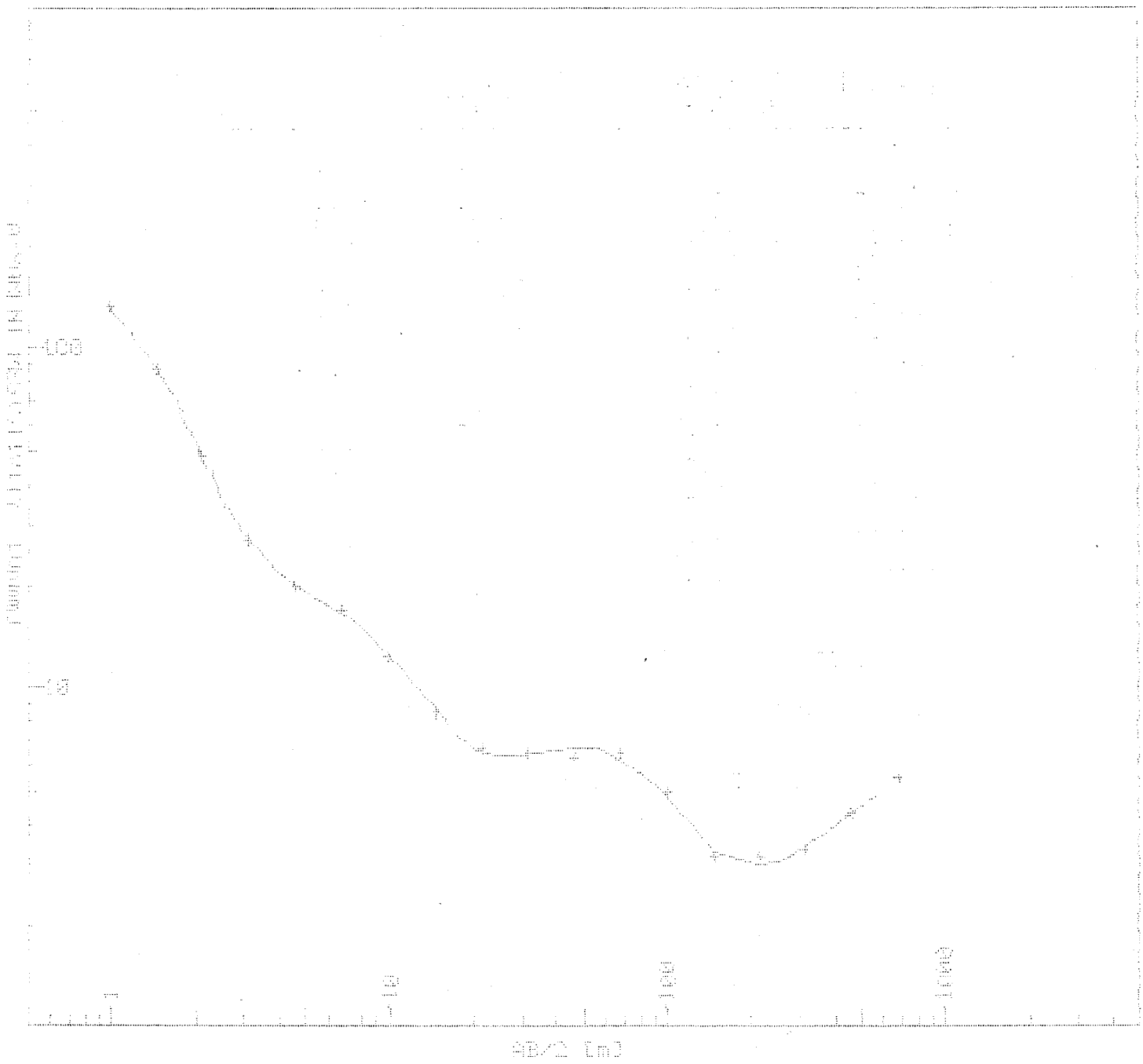
97/03/29 ABEM Super-VES Response Data Page : 2
RE12 1803843 283927 banponsawang

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	85.00	85.14	0.1
1.47	73.00	73.07	0.0
2.15	52.00	51.70	-0.2
3.16	27.00	27.09	0.1
4.64	11.20	11.21	0.0
6.81	5.60	5.57	-0.2
10.00	4.60	4.62	0.2
14.70	5.00	5.00	-0.0
21.50	5.90	5.89	-0.1
31.60	7.30	7.29	-0.1
46.40	8.70	8.75	0.2
68.10	9.75	9.70	-0.2
100.00	9.50	9.52	0.1
147.00	8.00	8.00	-0.0
215.00	5.85	5.85	-0.0
316.00	4.50	4.50	0.0
464.00	4.20	4.19	-0.1
681.00	5.00	4.99	-0.1

RMS = 0.13%

Convergence achieved

97/03/29 ABEM Super-VES Response Data Page : 1
RE13 1808123 278831 donjumpa school



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	188.68	0.7	0.7
2	19.74	5.6	6.3
3	1.70	3.9	10.2
4	12.40	23.7	33.9
5	19.07	1.8	35.7
6	0.84	51.5	87.3
7	130.37	10.2	97.4
8	1.65	121.6	219.0
9	257.06		

97/03/29 ABEM Super-VES Response Data Page : 2
RE13 1808123 278831 donjumpa school

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	133.00	133.19	0.1
1.47	87.00	86.84	-0.1
2.15	48.00	47.96	-0.0
3.16	27.50	27.58	0.1
4.64	20.00	20.04	0.1
6.81	17.00	16.79	-0.5
10.00	12.50	12.51	0.1
14.70	8.50	8.71	1.1
21.50	6.70	6.50	-1.3
31.60	6.50	6.49	-0.1
46.40	6.30	6.72	2.8
68.10	6.50	6.19	-2.1
100.00	5.00	4.85	-1.3
147.00	3.20	3.40	2.6
215.00	3.20	3.06	-1.9
316.00	3.40	3.43	0.4
464.00	4.30	4.34	0.4
681.00	5.50	5.47	-0.2

RMS = 1.25%

Convergence not achieved

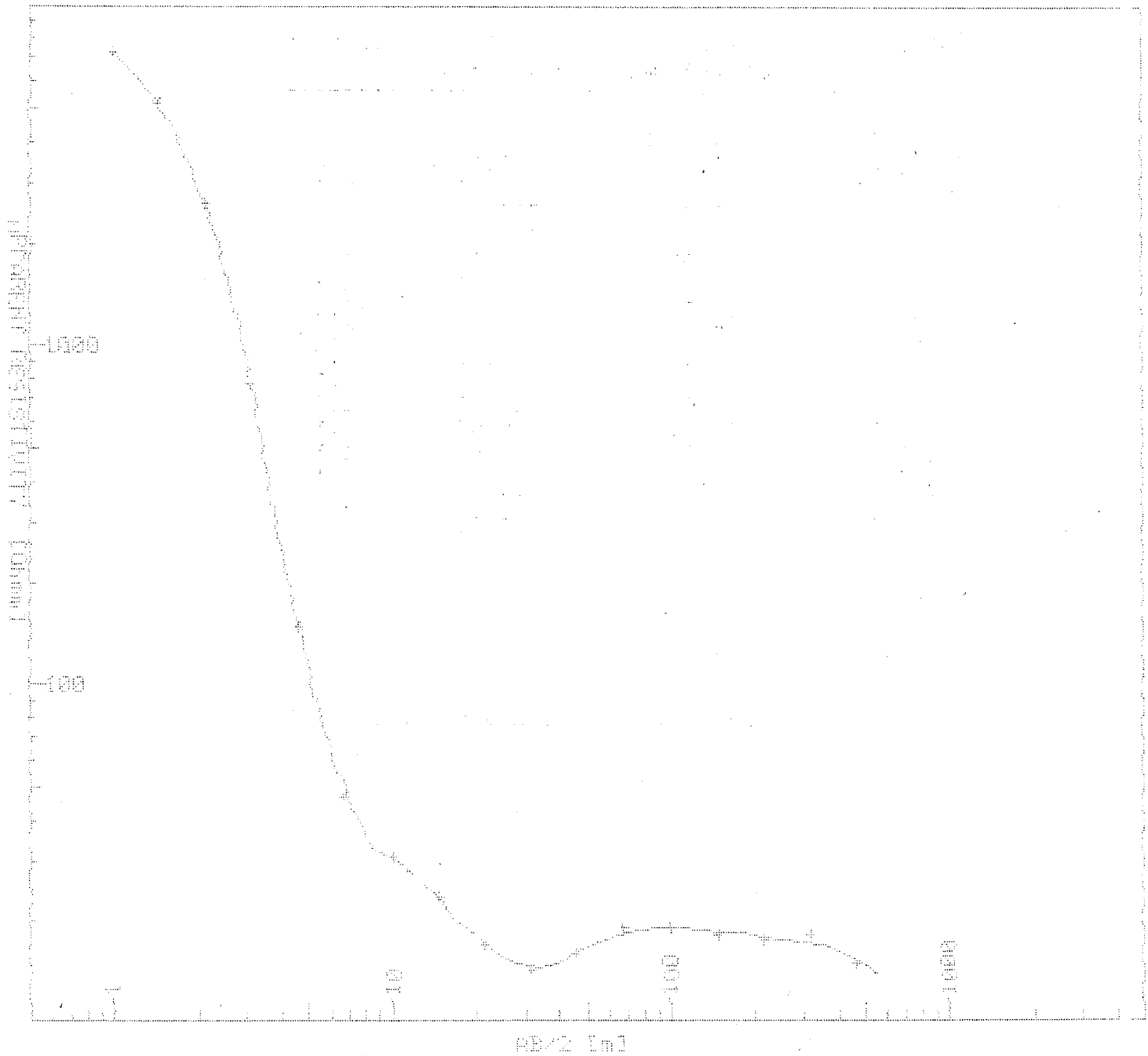
97/03/29 ABEM Super-VES Response Data Page : 2
RE14 1797952 273396 wungpon school

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	7.24 k	7.23 k	-0.1
1.47	5.18 k	5.18 k	0.0
2.15	2.64 k	2.65 k	0.1
3.16	775.00	775.42	0.0
4.64	150.00	148.81	-0.3
6.81	47.00	48.07	1.0
10.00	31.00	30.55	-0.6
14.70	23.50	23.30	-0.4
21.50	17.00	17.09	0.2
31.60	14.25	14.52	0.8
46.40	16.00	16.05	0.1
68.10	19.00	18.17	-2.0
100.00	19.00	19.07	0.1
147.00	18.00	18.62	1.5
215.00	17.50	17.95	1.1
316.00	18.00	17.14	-2.1
464.00	15.00	15.32	0.9

RMS = 0.94%

Convergence achieved

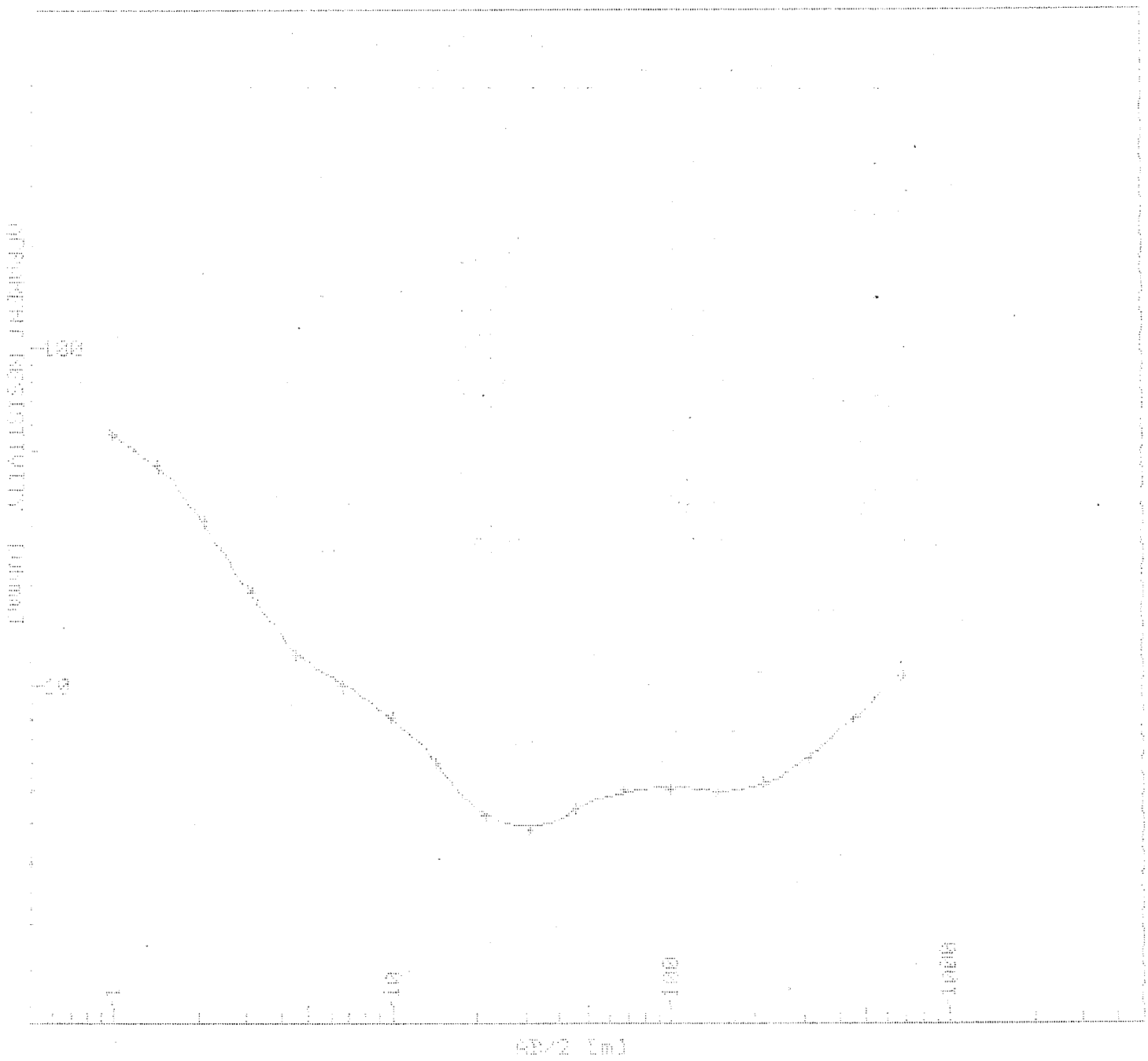
97/03/29 ABEM Super-VES Response Data Page : 1
RE14 1797952 273396 wungpon school



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	9076.92	0.9	0.9
2	41.76	6.9	7.8
3	5.53	8.3	16.1
4	64.30	8.7	24.9
5	16.02	182.1	207.0
6	129.55	25.9	232.8
7	2.81		

97/03/29 ABEM Super-VES Response Data Page : 1
RE15 1807163 276018 bankokkrang



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	64.99	0.9	0.9
2	10.52	6.8	7.7
3	1.32	7.3	15.0
4	10.65	26.9	41.9
5	2.52	88.5	130.4
6	29.53		

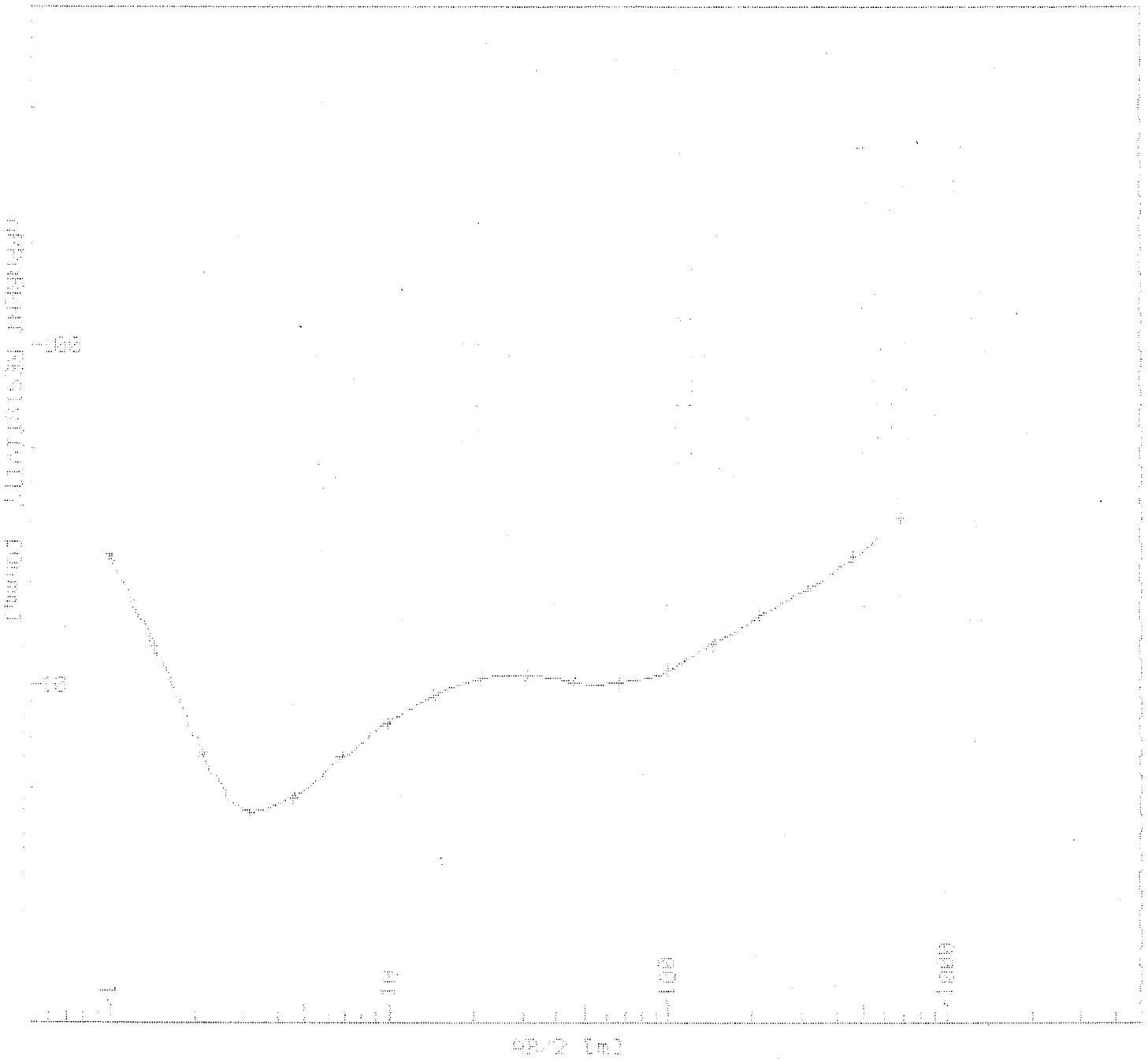
97/03/29 ABEM Super-VES Response Data Page : 2
RE15 1807163 276018 bankokkrang

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	56.00	55.88	-0.1
1.47	45.00	44.87	-0.1
2.15	31.00	30.51	-0.7
3.16	19.00	19.03	0.1
4.64	12.50	12.54	0.1
6.81	10.00	10.18	0.8
10.00	8.20	8.10	-0.5
14.70	6.00	5.91	-0.7
21.50	4.20	4.26	0.6
31.60	3.80	3.88	0.9
46.40	4.40	4.33	-0.6
68.10	5.00	4.87	-1.2
100.00	5.00	5.06	0.6
147.00	4.90	4.94	0.4
215.00	5.20	5.18	-0.2
316.00	6.20	6.21	0.0
464.00	8.20	8.13	-0.4
681.00	10.70	10.75	0.2

RMS = 0.55%

Convergence achieved

97/03/29 ABEM Super-VES Response Data Page : 1
RE16 1806134 281717 bandonnoi



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	13.12	0.6	0.6
2	2.78	2.3	2.9
3	22.26	8.0	10.8
4	6.44	32.6	43.5
5	22.74	362.8	406.3
6	625.23		

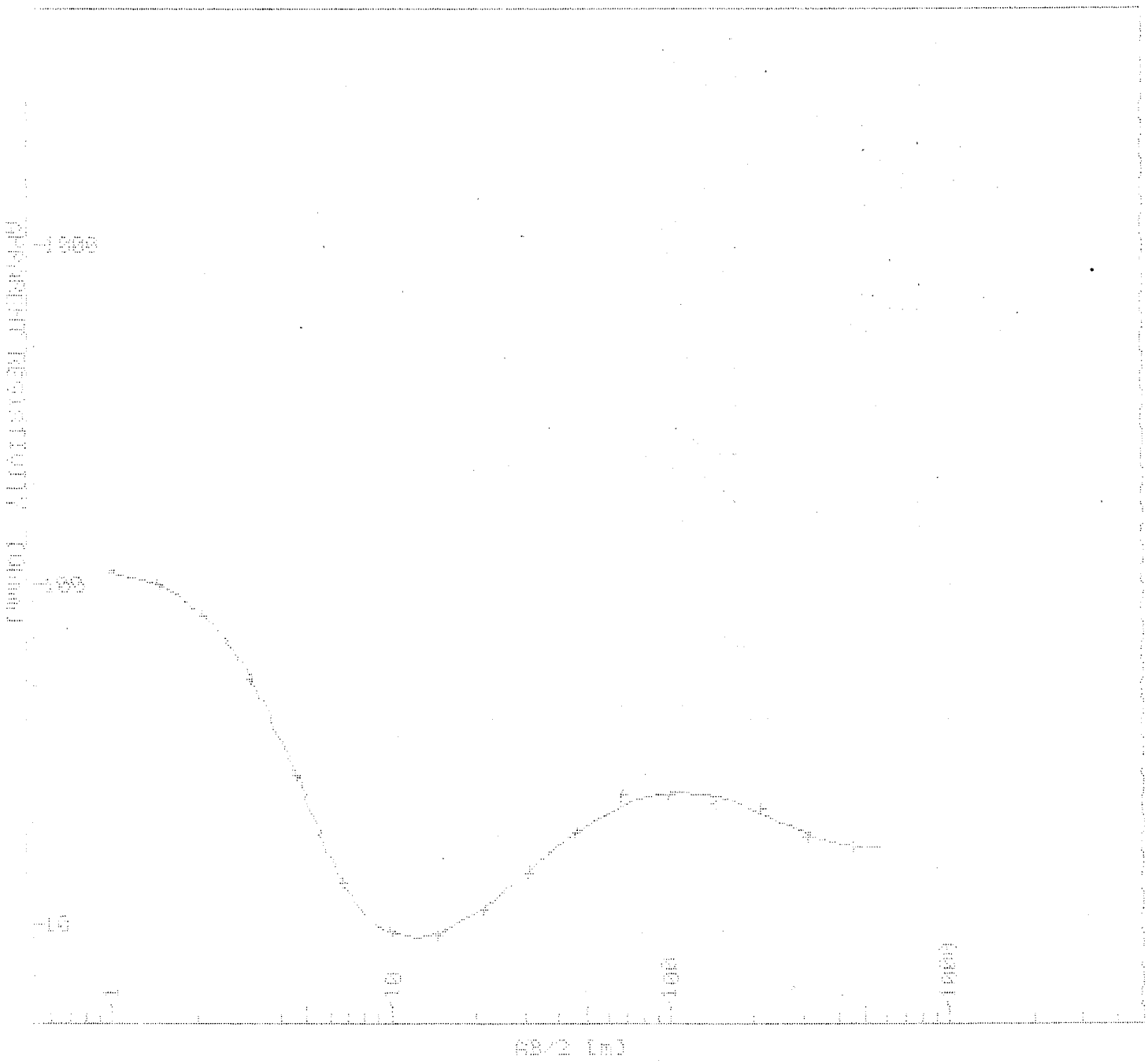
97/03/29 ABEM Super-VES Response Data Page : 2
RE16 1806134 281717 bandonnoi

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	24.30	24.26	-0.1
1.47	13.00	12.90	-0.3
2.15	6.40	6.46	0.4
3.16	4.30	4.28	-0.2
4.64	4.70	4.73	0.2
6.81	6.15	6.11	-0.3
10.00	7.75	7.81	0.3
14.70	9.50	9.45	-0.2
21.50	10.50	10.55	0.2
31.60	10.80	10.73	-0.3
46.40	10.20	10.27	0.3
68.10	10.25	10.23	-0.1
100.00	11.20	11.15	-0.2
147.00	13.20	13.34	0.5
215.00	16.20	15.97	-0.6
316.00	19.00	19.21	0.5
464.00	24.00	23.74	-0.5
681.00	31.00	30.83	-0.2

RMS = 0.33%

Convergence achieved

97/03/29 ABEM Super-VES Response Data Page : 1
RE17 1809008 268368 banwunghin



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	113.50	1.6	1.6
2	7.72	14.3	15.8
3	148.55	14.1	29.9
4	5.24	35.8	65.7
5	44.40	61.6	127.3
6	2.53	50.8	178.2
7	32.04		

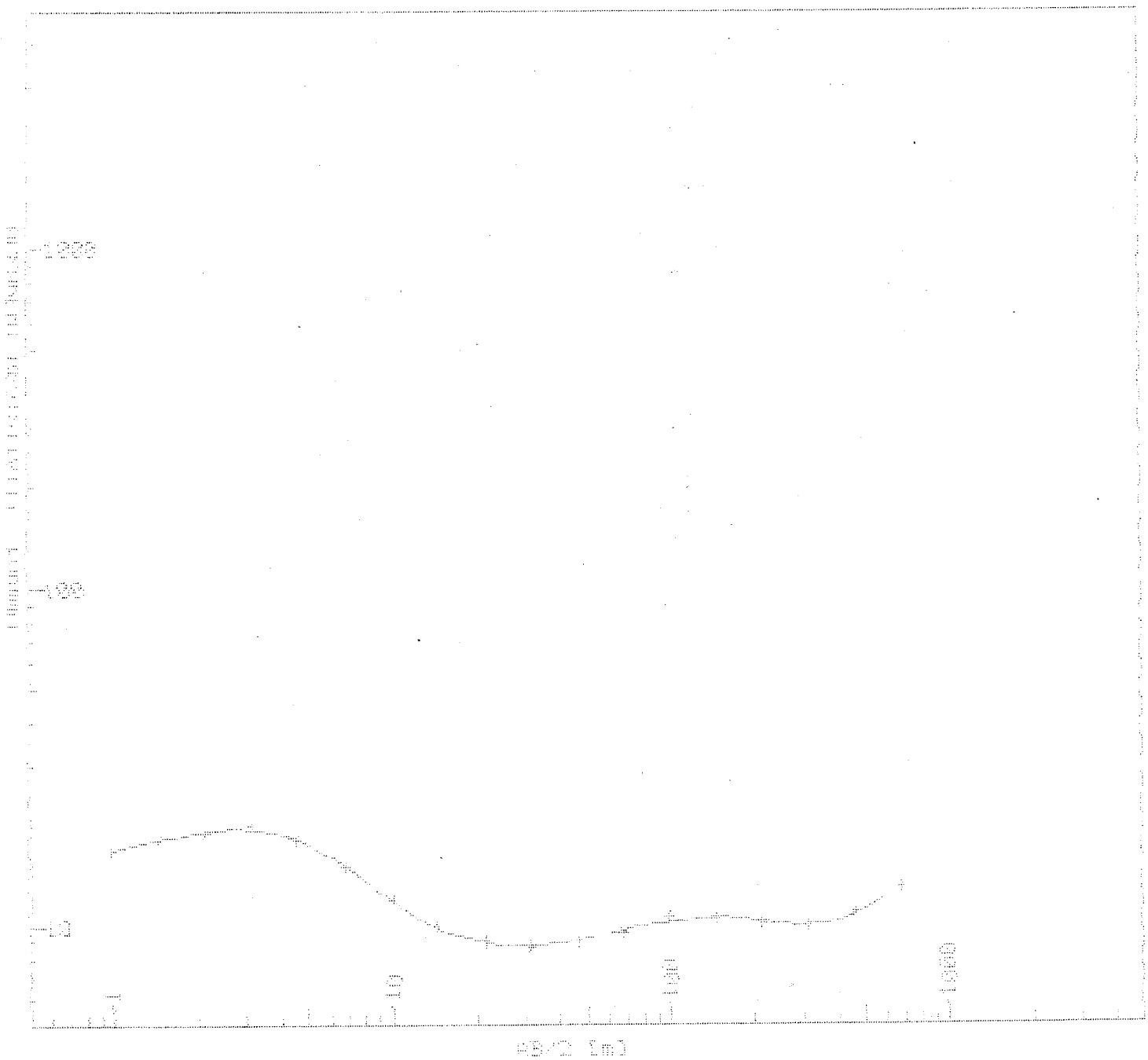
97/03/29 ABEM Super-VES Response Data Page : 2
RE17 1809008 268368 banwunghin

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	110.00	108.41	-0.6
1.47	100.00	99.93	-0.0
2.15	81.00	81.69	0.4
3.16	53.00	53.51	0.4
4.64	27.50	27.67	0.3
6.81	13.20	12.98	-0.7
10.00	9.50	9.41	-0.4
14.70	9.20	9.37	0.8
21.50	11.00	11.17	0.7
31.60	14.20	14.46	0.8
46.40	18.50	18.52	0.1
68.10	24.00	22.30	-3.2
100.00	24.00	24.38	0.7
147.00	22.50	23.74	2.3
215.00	22.00	21.01	-2.0
316.00	18.00	18.37	0.9
464.00	17.00	16.91	-0.2

RMS = 1.19%

Convergence not achieved

97/03/29 ABEM Super-VES Response Data Page : 1
RE18 1807971 281739 banmoungyai



MODEL INTERPRETATION

Layer	Resist. [Ωm]	Thickn. [m]	Depth [m]
1	15.71	0.7	0.7
2	24.25	2.2	2.9
3	8.25	33.5	36.4
4	14.23	62.5	98.9
5	6.58	201.3	300.2
6	38.16		

97/03/29 ABEM Super-VES Response Data Page : 2
RE18 1807971 281739 banmoungyai

AB/2 [m]	Measured App.Res[Ωm]	Calculated App.Res[Ωm]	Dev. %
1.00	17.00	16.91	-0.2
1.47	18.00	18.07	0.2
2.15	19.00	19.13	0.3
3.16	20.00	19.38	-1.4
4.64	18.00	18.11	0.3
6.81	15.00	15.13	0.4
10.00	12.00	11.98	-0.1
14.70	10.00	9.87	-0.6
21.50	9.00	8.94	-0.3
31.60	8.70	8.78	0.4
46.40	9.00	9.08	0.4
68.10	9.50	9.68	0.8
100.00	10.70	10.33	-1.5
147.00	10.50	10.60	0.4
215.00	10.20	10.25	0.2
316.00	10.00	10.08	0.3
464.00	11.00	10.81	-0.8
681.00	13.00	13.11	0.4

RMS = 0.63%

Convergence achieved

ภาคผนวก จ1

ปริมาณน้ำฝนของสถานีศูนย์ขอนแก่น

สถานีศูนย์ขอนแก่น

ปริมาณน้ำฝน (Rainfall, mm)

Rainfall (mm.)

MONTH	2532	2533	3534	2535	2536	2537	TOTAL	AVERAGE
JAN.	0.00	0.00	0.00	13.20	0.00	0.00	13.20	2.20
FEB.	0.00	65.30	0.00	3.00	8.50	39.40	116.20	19.37
MARCH	65.70	94.60	20.90	0.00	5.70	72.60	259.50	43.25
APRIL	63.50	22.50	12.40	24.60	23.70	57.40	204.10	34.02
MAY	100.00	288.10	239.70	80.70	137.30	156.50	1,002.30	167.05
JUNE	89.70	113.20	66.30	100.80	96.20	207.10	673.30	112.22
JULY	109.50	138.60	181.00	164.90	164.70	90.90	849.60	141.60
AUGUST	260.70	194.30	421.10	132.60	118.90	139.40	1,267.00	211.17
SEP.	92.90	232.50	233.50	226.40	295.20	392.80	1,473.30	245.55
OCT.	231.60	177.60	135.60	136.30	15.50	5.20	701.80	116.97
NOV.	1.00	24.10	0.00	0.80	0.30	3.60	29.80	4.97
DEC.	0.00	0.00	35.20	27.50	0.30	24.30	87.30	14.55
TOTAL	1,014.60	1,350.80	1,345.70	910.80	866.30	1,189.20	6,677.40	1,112.90
AVERAGE	84.55	112.57	112.14	75.90	72.19	99.10	556.45	92.74

ภาคผนวก จ2

อุณหภูมิของสถานีศูนย์ขอนแก่น

สถานีอุตุนิยมวิทยาแม่ฮ่องสอน
(อุตุนิยม)

MONTH	2532		2533		2534		2535		2536		2537		TOTAL		AVERAGE	
	AVER.MIN	AVER.MAX	AVER.MIN	AVER.MAX	AVER.MIN	AVER.MAX	AVER.MIN	AVER.MAX	AVER.MIN	AVER.MAX	AVER.MIN	AVER.MAX	AVER.MINI	AVER.MAX	AVER.MINI	AVER.MAX
JAN.	19.00	28.90	21.10	29.80	24.00	30.20	19.00	28.50	19.00	29.00	19.90	30.10	122.00	176.50	20.33	29.42
FEB.	20.90	33.10	22.70	30.30	23.70	32.30	20.70	29.90	23.00	31.70	25.40	33.20	136.40	190.50	22.73	31.75
MARCH	18.10	32.80	23.00	32.80	25.80	35.60	25.70	33.30	25.30	35.60	18.40	31.30	136.30	201.40	22.72	33.57
APRIL	26.40	35.80	26.20	35.10	24.50	36.60	27.00	34.90	26.60	36.50	29.00	35.10	159.70	214.00	26.62	35.67
MAY	24.80	33.10	23.90	34.20	25.00	36.00	24.40	35.10	26.60	35.80	26.00	34.80	150.70	209.00	25.12	34.83
JUNE	25.10	31.80	25.10	32.80	25.80	33.30	24.40	32.40	26.90	33.30	25.90	31.70	153.20	195.30	25.53	32.55
JULY	24.90	32.70	25.80	31.50	26.50	32.40	24.00	32.20	26.00	32.80	26.90	31.90	154.10	193.50	25.68	32.25
AUGUST	24.70	31.90	25.20	31.70	23.00	31.50	23.80	29.40	26.50	31.50	26.10	31.10	149.30	187.10	24.88	31.18
SEP.	24.50	32.30	25.10	31.10	25.50	31.10	23.50	31.30	25.50	31.60	25.60	31.40	149.70	188.80	24.95	31.47
OCT.	22.80	31.30	26.00	31.00	24.20	31.20	20.40	30.40	25.00	31.40	24.30	31.40	142.70	186.70	23.78	31.12
NOV.	21.60	29.70	22.90	31.40	23.80	30.10	21.70	28.50	23.60	31.60	24.70	30.80	138.30	182.10	23.05	30.35
DEC.	20.60	28.60	21.20	29.60	15.80	30.10	17.20	29.30	19.40	30.50	23.90	30.00	118.10	178.10	19.68	29.68
TOTAL	273.40	382.00	288.20	381.30	287.60	390.40	271.80	375.20	293.40	391.30	296.10	382.80	1,710.50	2,303.00	285.08	383.83
AVERAGE	22.78	31.83	24.02	31.78	23.97	32.53	22.65	31.27	24.45	32.61	24.68	31.90	142.54	191.92	23.76	31.99

ภาคผนวก ฉ

รายละเอียดการเก็บตัวอย่างน้ำ เพื่อวิเคราะห์ส่วนประกอบไอโซโทป

และ

ข้อมูลการทำสูบทดสอบบ่อเจาะทดลอง THK01 THK02 และ THK03

ภาคผนวก ฉ1

รายละเอียดการเก็บตัวอย่างน้ำ เพื่อวิเคราะห์ส่วนประกอบไอโซโทป

ตารางที่ 1 รายละเอียดการเก็บตัวอย่างน้ำเพื่อวิเคราะห์ส่วนประกอบไอโซโทป

ที่	หมายเลข	สถานที่	หมู่ที่	ตำบล	อำเภอ	จังหวัด	อุณหภูมิ	CONDUCTIVITY	วันที่เก็บตัวอย่าง	O-18	H-2	Tritium	C-14
	ตัวอย่าง												
1	THK01	รร.บ้านวังโพน		เขวาไร่	โกสุมพิสัย	มหาสารคาม	30.4	420.0	26 ก.พ. 39	X	X	X	X
2	THK02	รร.บ้านโคกกลาง		เขวาไร่	โกสุมพิสัย	มหาสารคาม		82150.0		X	X		X
3	THK03	โรงเรียนบ้านวังหิน		ท่าพระ	เมืองขอนแก่น	ขอนแก่น	29.4	794.0	22 ก.พ. 39	X	X	X	X
4	THK04	บ้านหนองสระพัง		เขวาไร่	โกสุมพิสัย	มหาสารคาม	28.0	3640.0	26 พ.ย. 38	X	X	X	X
5	THK06	บ้านหนองบัวดีหมี	11	ท่าพระ	เมืองขอนแก่น	ขอนแก่น	28.1	4410.0	22 ก.พ. 39	X	X	X	X
6	THK07	ศูนย์ผสมพันธ์สัตว์ ท่าพระ		ท่าพระ	เมืองขอนแก่น	ขอนแก่น	29.4	1113.0	27 พ.ย. 38	X	X	X	X
7	THK09	รร.บ้านม่วง	10	บ้านทุ่ม	เมืองขอนแก่น	ขอนแก่น	28.3	1939.0	20 ก.พ. 39	X	X	X	X
8	THK11	วัดโคกสามารถ(บ้านบะยาว)	6	หนองบัว	บ้านฝาง	ขอนแก่น	28.9	2180.0	18 ก.พ. 39	X	X	X	X
9	THK12	หนองแสง	2	บ้านผือ	หนองเรือ	ขอนแก่น	29.5	3280.0	18 ก.พ. 38	X	X	X	X
10	THK13	บ้านหนองผักตบ	5	โนนสมบูรณ์	บ้านไผ่	ขอนแก่น	28.7	2570.0	22 ก.พ. 39	X	X	X	X
11	THK14	บ้านโนนคุต	08	โพนเพ็ก	มัญจาคีรี	ขอนแก่น	29.0	2910.0	12 พ.ค. 39	X	X	X	X
12	THK16	บ้านคำแคนใต้	12	คำแคน	มัญจาคีรี	ขอนแก่น	28.8	941.0	12 พ.ค. 39	X	X	X	X
13	THK18	บ้านโคก	9	สำราญ	เมืองขอนแก่น	ขอนแก่น	29.5	1144.0	16 ก.พ. 39	X	X	X	X
14	THK19	วัดสุนทโรวาส(หนองงูเหลือม)	4	โคกสี	เมืองขอนแก่น	ขอนแก่น	30.0	1762.0	16 ก.พ. 39	X	X	X	X
15	THK21	รร.มารานาธา	11	โนนสมบูรณ์	บ้านไผ่	ขอนแก่น	29.2	543.0	26 พ.ย. 38	X	X	X	X
16	THK22	สถานีอนามัยบ้านกุดขอนแก่น	02	กุดขอนแก่น	ภูเวียง	ขอนแก่น	28.7	1668.0	13 พ.ค. 39	X	X	X	X
17	THK23	วัดสว่างหนองกุงเซิน	01	หนองกุงเซิน	ภูเวียง	ขอนแก่น	29.1	836.0	13 พ.ค. 39	X	X	X	X

ตารางที่ 1 (ต่อ)

ที่	หมายเลข	สถานที่	หมู่ที่	ตำบล	อำเภอ	จังหวัด	อุณหภูมิ	CONDUCTIVITY	วันที่เก็บตัวอย่าง	O-18	H-2	Tritium	C-14
18	THK25	บ้านคำแก่นคูณใหญ่	7	ม่วงหวาน	น้ำพอง	ขอนแก่น	27.5	353.0	21 ก.พ. 39	X	X	X	X
19	THK26	วัดวิจารณาราม(บ้านวังตอ)	14	บ้านค้อ	เมืองขอนแก่น	ขอนแก่น	28.2	5810.0	18 ก.พ. 39	X	X	X	X
20	THK27	บ้านโนนสว่าง	11	สำราญ	เมืองขอนแก่น	ขอนแก่น	28.4	6340.0	18 ก.พ. 39	X	X	X	X
21	THK28	วัดโนนสวรรค์(บ้านโนนสวรรค์)	6	แดงใหญ่	เมืองขอนแก่น	ขอนแก่น	27.3	229.0	20 ก.พ. 39	X	X	X	X
22	THK29	วัดบ้านยางคำ(วัดสวรรค์คงคา)	01	ยางคำ	หนองเรือ	ขอนแก่น	29.2	2880.0	12 พ.ค. 39	X	X	X	X
23	THK30	รร.บ้านเหล่านาดี	11	บ้านหว้า	เมืองขอนแก่น	ขอนแก่น	29.5	3950.0	11 พ.ค. 39	X	X	X	X
24	THK33	วัดบ้านแก่นเท่า	05	ป่ามะนาว	บ้านฝาง	ขอนแก่น	28.2	1980.0	12 พ.ค. 39	X	X	X	X
25	THK34	บ้านพระยืน	06	พระยืน	พระยืน	ขอนแก่น	29.3	1896.0	11 พ.ค. 39	X	X	X	X
26	THK37	ที่ทำการเกษตรตำบลหนองแปน	09	หนองแปน	มัญจาคีรี	ขอนแก่น	32.0	6570.0	14 พ.ค. 39	X	X	X	X
27	THK38	รร.บ้านหนองแซง	01	บ้านแฮด	บ้านไผ่	ขอนแก่น	28.1	704.0	29 พ.ย. 38	X	X	X	X
28	THK39	บ้านดอนกลาง(เดิม ม.12)	01	วังยาว	โกสุมพิสัย	มหาสารคาม	29.1	2444.0	29 พ.ย. 38	X	X	X	X
29	THK40	วัดบ้านหนองกุง	01	เหล่า	โกสุมพิสัย	มหาสารคาม	28.7	4590.0	29 พ.ย. 38	X	X	X	X
30	THK42	บ้านโนนรัง	11	สาวะถี	เมืองขอนแก่น	ขอนแก่น	27.2	4480.0	20 ก.พ. 39	X	X	X	X
31	THK43	บ้านดอนช้าง	01	ดอนช้าง	เมืองขอนแก่น	ขอนแก่น	30.1	3440.0	11 พ.ค. 39	X	X	X	X
32	THK44	บ้านหนองแวง	07	บ้านโต้น	พระยืน	ขอนแก่น	29.1	2340.0	11 พ.ค. 39	X	X	X	X
33	THK45	บ้านหนองเม็ก	03	โนนสมบูรณ์	บ้านไผ่	ขอนแก่น	28.1	1371.0	26 พ.ย. 38	X	X	X	X
34	THK46	บ้านห้วยเตย(บ่อ รพช.)		ท่าพระ	เมืองขอนแก่น	ขอนแก่น	29.4	654.0	26 พ.ย. 38	X	X	X	X
35	THK47	รร.บ้านหนองโจด(วัดหนองโจด)	08	บ้านเป็ด	เมืองขอนแก่น	ขอนแก่น	29.5	676.0	28 พ.ย. 38	X	X	X	X

ตารางที่ 1 (ต่อ)

ที่	หมายเลข	สถานที่	หมู่ที่	ตำบล	อำเภอ	จังหวัด	อุณหภูมิ	CONDUCTIVITY	วันที่เก็บตัวอย่าง	O-18	H-2	Tritium	C-14
36	THK48	รร.บ้านโพธิ์ขุมดิน(บ่อโยธาฯ)	05	พระบุ	พระยืน	ขอนแก่น	29.3	1805.0	28 พ.ย. 38	X	X	X	X
37	THK49	บ้านคอกคี	9	บัวใหญ่	น้ำพอง	ขอนแก่น	28.9	27.0	16 ก.พ. 39	X	X	X	X
38	THK50	บ้านปากช่อง	5	โคกงาม	บ้านฝาง	ขอนแก่น	29.0	920.0	18 ก.พ. 39	X	X	X	X
39	THK51	วัดสว่างดอนยาง(บ้านดอนยาง)	16	ศิลา	เมืองขอนแก่น	ขอนแก่น	30.6	2039.0	14 พ.ค. 39	X	X	X	X
40	THK52	ฝ่ายพัฒนาน้ำบาดาล เขต 3		ในเมือง	เมืองขอนแก่น	ขอนแก่น	29.0	931.0	15 พ.ค. 39	X	X	X	X
41	THK93	บ้านวังกุง	08	เขวาไร่	โกสุมพิสัย	มหาสารคาม	28.7	897.0	27 พ.ย. 38	X	X	X	X
42	THK100	เขื่อนน้ำพอง(บ้านดอนกอก)		บ้านผือ	หนองเรือ	ขอนแก่น	27.9	204.0	18 ก.พ. 39	X	X	X	
43	THK200	ลำน้ำชี(บ้านดอนบม)	07	เมืองเก่า	เมืองขอนแก่น	ขอนแก่น	28.1	485.0	28 พ.ย. 38	X	X	X	
44	THK500	เขื่อนอุบลรัตน์		เขื่อนอุบลรัตน์	อุบลรัตน์	ขอนแก่น	26.4	181.0	25 พ.ย. 38	X	X	X	
45	THK600	บึงแพง		แพง	โกสุมพิสัย	มหาสารคาม	27.3	102.0	29 พ.ย. 38	X	X	X	
46	THK700	อ่างเก็บน้ำห้วยเตย		ท่าพระ	เมืองขอนแก่น	ขอนแก่น	0.0	0.0	26 พ.ย. 38	X	X	X	
47	THK800	บึงแก่งน้ำต้อน	01	เมืองเก่า	เมืองขอนแก่น	ขอนแก่น	27.3	538.0	28 พ.ย. 38	X	X	X	
48	THK900	บึงแก่นนคร		เมืองเก่า	เมืองขอนแก่น	ขอนแก่น	26.1	481.0	28 พ.ย. 38	X	X	X	
49	AC01	รร.บ้านเป็ด		บ้านเป็ด	เมืองขอนแก่น	ขอนแก่น	26.0	6730.0	23 ก.พ. 39			X	
50	AC02	บ้านทุ่ม	1	บ้านทุ่ม	เมืองขอนแก่น	ขอนแก่น	28.5	4870.0	23 ก.พ. 39			X	
51	AC03	โรงเรียนชุมชนหนองบัว(บ้านหนองบัว)	7	หนองบัว	บ้านฝาง	ขอนแก่น	28.6	776.0	23 ก.พ. 39			X	
52	AC04	บ้านหนองบัว	7	หนองบัว	บ้านฝาง	ขอนแก่น	29.2	1156.0	23 ก.พ. 39			X	
53	AC05	บ้านหนองผือ	9	หนองผือ	หนองเรือ	ขอนแก่น	28.8	1685.0	27 ก.พ. 39			X	

ตารางที่ 1 (ต่อ)

ที่	หมายเลข	สถานที่	หมู่ที่	ตำบล	อำเภอ	จังหวัด	อุณหภูมิ	CONDUCTIVITY	วันที่เก็บตัวอย่าง	O-18	H-2	Tritium	C-14
54	AC06	บ้านแก่นเท่า	5	ป่ามะนาว	บ้านฝาง	ขอนแก่น	28.7	2300.0	27 ก.พ. 39			X	
55	AC07	วัดบ้านแก่นเท่า	5	ป่ามะนาว	บ้านฝาง	ขอนแก่น	28.5	1900.0	27 ก.พ. 39			X	
56	AC08	บ้านวังโพน	6	ป่ามะนาว	บ้านฝาง	ขอนแก่น	28.9	2280.0	27 ก.พ. 39			X	
57	AC09	บ้านวังโพน	6	ป่ามะนาว	บ้านฝาง	ขอนแก่น	28.3	1660.0	27 ก.พ. 39			X	
58	AC10	วัดตลาดวังหิน(บ้านโนนตุ่น)	2	ป่ามะนาว	บ้านฝาง	ขอนแก่น	29.3	1125.0	27 ก.พ. 39			X	
59	AC11	บ้านเขื่อน	4	บ้านเหล่า	บ้านฝาง	ขอนแก่น	28.4	6100.0	27 ก.พ. 39			X	

ภาคผนวก ฉ2

ข้อมูลการทำสูบทดสอบบ่อเจาะทดลอง THK01 THK02 และ THK03

DEPARTMENT OF GEOTECHNOLOGY
FACULTY OF TECHNOLOGY KHON KAEN UNIVERSITY
OBSERVED DATA DURING O PUMPING TEST O RECOVERY TEST

Project : ISOTOPE **Location** : BAN WANG PONE SCHOOL, MAHASARAKHAM
Well no. : THK 01
Well function : PUMPED WELL
Elevation : **Depth** : 237.00 M. **Distance (r)** : 1798090, 273301
Start : 26/02/96 14.00 pm. **Stop** : 28/02/96 14.00 M.
Initial water level : 13.76 M. **Final water level** : 68.16 M.
Depth of pump intake : 88 M. **Depth to upper edge of screen** : 80 m.
Pumping test by : Associate Prof. C. Buaphan and Staffs. and Siam Tone
Remark : Pump : Grundfos, 9.7 kw. rising pipe 2 1/2 inches.
Model A9529 50 HZ : 16 m^3/hr.

Pumping test					Discharge		Recovery test						
time	t,min	Water level	draw–down (s,m)	r^2/t m^2/min	Q m^3/hr.	EC us/cm	time	t,min	t',min	t/t'	water level (m)	Res down (s'.m)	
26/02/96							28/02/96						
13.30		14.61	0.85				14.00				68.16	0.00	
13.45		14.00	0.24				14.00/20				67.45	0.71	
13.55		13.81	0.05				14.00/40				66.82	1.34	
13.58		13.76	0.00				14.01				66.16	2.00	
13.59		13.76	0.00				14.01/30				65.34	2.82	
14.00		13.76	0.00				14.02				64.30	3.86	
14.00/20		21.30	7.54		12.00		14.03				62.60	5.56	
14.01		29.75	15.99				14.05				59.29	8.87	
14.01/30		37.10	23.34				14.07				56.36	11.80	
14.02		43.90	30.14				14.10				52.34	15.82	
14.03		49.44	35.68		6.00		14.13				48.82	19.34	
14.04		53.10	39.34				14.16				46.18	21.98	
14.05		58.17	44.41		4.80		14.20				42.75	25.41	
14.07		62.86	49.10				4.25				39.30	28.86	
14.10		65.41	51.65			405	14.30				36.66	31.50	
14.15		65.72	51.96		2.40		14.00				32.65	35.51	
14.20		65.87	52.11				14.50				29.98	38.18	
14.30		66.02	52.26		2.17								
14.40		66.12	52.36										
14.50		66.10	52.34										
15.00		66.13	52.37			400							
15.15		67.45	53.69										
15.30		66.96	53.20										
15.45		66.56	52.80										

DEPARTMENT OF GEOTECHNOLOGY
FACULTY OF TECHNOLOGY KHON KAEN UNIVERSITY
OBSERVED DATA DURING O PUMPING TEST O RECOVERY TEST

Project : ISOTOPE **Location** : BAN WANG PONE SCHOOL, MAHASARAKHAM
Well no. : THK 01
Well function : PUMPED WELL
Elevation : **Depth** : 237.00 M. **Distance (r)** : 1798090, 273301
Start : 26/02/96 14.00 pm. **Stop** : 28/02/96 14.00 M.
Initial water level : 13.76 M. **Final water level** : 68.16 M.
Depth of pump intake : 88 M. **Depth to upper edge of screen** : 80 m.
Pumping test by : Associate Prof. C. Buaphan and Staffs. and Siam Tone
Remark : Pump : Grundfos, 9.7 kw. rising pipe 2 1/2 inches.
Model A9529 50 HZ : 16 m^3/hr.

Pumping test					Discharge		Recovery test						
time	t,min	Water level	draw–down (s,m)	r^2/t m^2/min	Q m^3/hr.	EC us/cm	time	t,min	t',min	t/t'	water level (m)	Res down (s'.m)	
26/02/96							28/02/96						
16.00		66.60	52.84			395	15.00				28.08	40.08	
16.20		66.67	52.91		2.15		15.15				26.28	41.88	
16.22		67.52	53.76				15.30				25.13	43.03	
16.25		67.64	53.88				15.45				24.24	43.92	
16.28		67.66	53.90				16.00				23.74	44.42	
16.30		67.67	53.91				16.30				22.77	45.39	
16.35		67.67	53.91				17.00				22.27	45.89	
16.40		67.68	53.92				18.00				21.45	46.71	
17.00		67.74	53.98			410	19.00				20.87	47.29	
18.00		67.80	54.04			431	20.00				20.39	47.77	
21.00		67.95	54.19				22.00				19.75	48.41	
24.00		67.92	54.16			532	24.00				19.04	49.12	
27/02/96							29/02/96						
6.00		67.93	54.17			585	7.00				18.79	49.37	
9.00		67.95	54.19			585	10.00				17.44	50.72	
12.00		67.95	54.19		2.00	575	12.00				17.20	50.96	
15.00		68.02	54.26			529							
18.00		68.10	54.34			556							
21.00		68.18	54.42			567							
28/02/96													
8.00		68.18	54.42			617							
12.00		68.34	54.58		2.00	596							
13.55		68.18	54.42			574							
13.58		68.33	54.57										
14.00		68.16	54.40										

DEPARTMENT OF GEOTECHNOLOGY
FACULTY OF TECHNOLOGY KHON KAEN UNIVERSITY
OBSERVED DATA DURING O PUMPING TEST O RECOVERY TEST

Project : ISOTOPE **Location** : BAN KHOK–KLANG SCHOOL, MAHASARAKHAM
Well no. : THK 02
Well function : PUMPED WELL
Elevation : **Depth** : 140.00 M. **Distance (r)** : 1807286 276895
Start : 19/02/96 14.30 pm. **Stop** : 19/02/96 18.30 M.
Initial water level : 3.78 M. **Final water level** : 16.11 M.
Depth of pump intake : 72 M. **Depth to upper edge of screen** : 80 m.
Pumping test by : Associate Prof. C. Buaphan and Staffs. and Siam Tone
Remark : Casing hight 0.30 m.
Pump : Grundfos, 9.7 kw. rising pipe 2 1/2 inches.

Pumping test					Discharge		Recovery test						Note
time	t,min	Water level	draw–down (s,m)	r^2/t m^2/min	Q $m^3/hr.$	EC us/cm	time	t,min	t',min	t/t'	water level (m)	Res down (s'.m)	
19/02/96							19/02/96						
14.20		3.90	0.12				18.30				16.11		
14.25	5.00	3.84	0.06		36.00		18.30.20				10.29		
14.28	3.00	3.81	0.03		18.00		18.30.40				8.56		
14.29	1.00	3.79	0.01				18.31				8.04		
14.30	1.00	3.78	0.00		24.00		18.31.30				7.82		
14.30/20	1.00	9.14	5.36				18.32				7.63		
14.30/40	1.00						18.33				7.38		
14.31	1.00						18.34				7.20		
14.31/30	1.00	12.17	8.39				18.35				7.05		
14.32	1.00	12.55	8.77		23.20	71,100	18.36				6.92		
14.33	1.00	12.83	9.05				18.37				6.79		
14.34	1.00	13.01	9.23				18.40				6.50		
14.35	1.00	13.18	9.40				18.45				6.14		
14.37	2.00	13.46	9.68				19.00				5.38		
14.40	3.00	13.73	9.95		22.50	77,700	19.15				5.03		
14.45	5.00	14.03	10.25				19.30				4.82		
14.50	5.00	14.30	10.52				20.00				4.55		
15.00	10.00	14.50	10.72		22.50	83,200	20.30				4.30		

DEPARTMENT OF GEOTECHNOLOGY
FACULTY OF TECHNOLOGY KHON KAEN UNIVERSITY
OBSERVED DATA DURING O PUMPING TEST O RECOVERY TEST

Project : ISOTOPE **Location** : BAN KHOK–KLANG SCHOOL, MAHASARAKHAM
Well no. : THK 02
Well function : PUMPED WELL
Elevation : **Depth** : 140.00 M. **Distance (r)** : 1807286 276895
Start : 19/02/96 14.30 pm. **Stop** : 19/02/96 18.30 M.
Initial water level : 3.78 M. **Final water level** : 16.11 M.
Depth of pump intake : 72 M. **Depth to upper edge of screen** : 80 m.
Pumping test by : Associate Prof. C. Buaphan and Staffs. and Siam Tone
Remark : Casing hight 0.30 m.
Pump : Grundfos, 9.7 kw. rising pipe 2 1/2 inches.

Pumping test					Discharge		Recovery test						Note
time	t,min	Water level	draw–down (s,m)	r^2/t m^2/min	Q $m^3/hr.$	EC us/cm	time	t,min	t',min	t/t'	water level (m)	Res down (s'.m)	
19/02/96							20/02/96						
15.15		14.86	11.08				10.35				3.60		
15.30		15.11	11.33		21.80	82,900	21.30						
16.00		15.48	11.70		21.80	84,900							
16.30		15.76	11.98										
17.30		15.90	12.12		21.20	91,300							
18.15		16.05	12.27		21.20	94,100					Water Sampling		
18.20		16.07	12.29										
18.25		16.10	12.32										
18.28		16.10	12.32										
18.29		16.10	12.32										
18.30		16.11	12.33										

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OBSERVED DATA DURING O PUMPING TEST O RECOVERY TEST

Project : ISOTOPE **Location** : WANG-HIN SCHOOL, AMPHOE TRAPHRA, KHON KAEN
Well no. : THK 03
Well function : PUMPED WELL
Elevation : **Depth** : 98.00 M. **Distance (r)** : 1808952- 268369
Start : 21/02/96 14.00 pm. **Stop** : 23/02/96 14.00 pm
Initial water level : 3.71 M. **Final water level** : 5.81 m.
Depth of pump intake : 17.99 M. **Depth to upper edge of screen** : 60 m.
Pumping test by : Associate Prof. C. Buaphan and Staffs. and Siam Tone
Remark : Casing hight 0.28 m.
Pump : Grundfos, 22 kw. rising pipe 4 inches, setting depth 18 m.

Pumping test					Discharge		Recovery test						Note
time	t,min	Water level	draw-down (s,m)	r^2/t m^2/min	Q $m^3/hr.$	EC us/cm	time	t,min	t',min	t/t'	water level (m)	Res down (s'.m)	
21/02/96							23/02/96						
13.26		3.80	0.09				14.00				5.81		
13.45		3.72	0.01				14.00.20				5.10		
13.50		3.72	0.01				14.00.40				5.04		
13.55		3.72	0.01				14.01				4.95		
13.58		3.71	0.00				14.01.30				4.90		
13.59		3.71	0.00				14.02				4.87		
14.00		3.71	0.00				14.03				4.82		
14.00/20		4.45	0.74			600	14.04				4.80		
14.00/40		4.56	0.85				14.05				4.79		
14.01		4.65	0.94				14.07				4.76		
14.01/30		4.65	0.94				14.10				4.73		
14.02		4.66	0.95				14.15				4.70		
14.03		4.69	0.98				14.20				4.67		
14.04		4.70	0.99				14.30				4.65		
14.05		4.72	1.01				14.45				4.62		
14.07		4.75	1.04				15.00				4.60		
14.10		4.77	1.06				15.30				4.56		
14.15		4.80	1.09				16.00				4.53		

DEPARTMENT OF GEOTECHNOLOGY
FACULTY OF TECHNOLOGY KHON KAEN UNIVERSITY
OBSERVED DATA DURING O PUMPING TEST O RECOVERY TEST

Project : ISOTOPE **Location** : WANG–HIN SCHOOL, AMPHOE TRAPHRA, KHON KAEN
Well no. : THK 03
Well function : PUMPED WELL
Elevation : **Depth** : 98.00 M. **Distance (r)** : 1808952– 268369
Start : 21/02/96 14.00 pm. **Stop** : 23/02/96 14.00 pm
Initial water level : 3.71 M. **Final water level** : 5.81 m.
Depth of pump intake : 17.99 M. **Depth to upper edge of screen** : 60 m.
Pumping test by : Associate Prof. C. Buaphan and Staffs. and Siam Tone
Remark : Casing hight 0.28 m.
Pump : Grundfos, 22 kw. rising pipe 4 inches, setting depth 18 m.

Pumping test					Discharge		Recovery test						Note
time	t,min	Water level	draw–down (s,m)	r^2/t m^2/min	Q $m^3/hr.$	EC us/cm	time	t,min	t',min	t/t'	water level (m)	Res down (s'.m)	
21/02/96							23/02/96						
14.20		4.84					16.30				4.52		
14.30		4.85					17.00				4.52		
14.45		4.88					18.00				4.52		
15.01		4.89				660	20.15				4.46		
15.30		4.90					24/02/96						
16.00		4.91			50.64	660	12.00				4.18		
17.00		4.96					25/02/96						
20.00		5.17			50.64	680	13.30				4.08		
22/02/96													
12.56		5.38			50.64	650							
15.00		5.41			50.64	650							
23/02/96													
10.00		5.68											
13.00		5.76			50.64	620							
13.30		5.80			50.64	640							
13.50		5.81			50.64	620							
13.58		5.81											
14.00		5.81											