

**SUMATRAN RHINO CONSERVATION CENTRE  
DEPARTMENT OF WILDLIFE AND NATIONAL PARKS  
SUNGAI DUSUN, SELANGOR  
MALAYSIA**

**MONTHLY REPORT**

**MAY 2002**

**BY**

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**&**

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## **INTRODUCTION**

Breeding only took place between Ara and Seputeh although the other females especially Rima and Mas Merah was also mixed with the male when the two was expected in estrus. Ara bred Seputeh on May 17 for 25 minutes, 21 days after her last breeding i.e. on April 26. As for Panjang and Minah still had a low level of progesterone.

The daily introduction between Minah and Ara was initiated on May 8 to stimulate Minah to cycle. After more than two weeks of mixing, there was no positive behaviour observed from both rhinos. However some changes were made and starting May 30, Minah and Ara were paired inside Minah's yard and promising behaviour was observed. The observation was summarized in the table below.

The routine bleeding procedure was carried out as usual, twice weekly and the samples were sent to UPM for hormonal analysis. Minah was weighed twice weekly as to monitor her weight. The other rhinos were weighed once a month.

## **RHINO MANAGEMENT**

### **A) Daily Management**

#### **i) Night stall**

##### *Daily work*

Adam, Shariff and Umor managed the night stalls. Shariff and Umor will clean the night stalls daily while Adam will inspected the food supply when it arrived around 9.30 a.m. The browse and fruits were weighed and cleaned before giving to the rhinos. About 40 to 50 kg of browses and 7kg of fruits including papaya, banana and sweet potatoes were given daily. The rhinos were also given horse pellet about 2.0kg every morning. Every Monday and Thursday morning, blood samples will be collected from all rhinos.

##### *The rhinos*

The rhinos were let out first before cleaning the night stalls. After cleaning, the browses were put in the feed trough and the rhinos were let in for their morning meal. The drinking water was changed daily and stress vet (multi-mineral powder) was mixed inside it. Daily observation was made and recorded in the workbook for each rhino. The rhinos were fed twice daily: 9.00 a.m. and 3.00 p.m.

## **ii) Ten acres enclosure**

### *Daily Work*

Mohd Noor inspects the electric fencing every morning. The fencing was cleaned from any foreign objects such as spider web, dried leaves or creepers to avoid short circuit. Voltmeter was used to ensure that the voltage of the fencing is about 7.0 kV. They will also inspect the fencing for any damages.

During the inspection, the ranger will look for the rhino inside the enclosure and call the rhino for their morning meal. The rhino was confined in the quarter acre first before putting their browse in the feeding trough. The amount given was about 100kg for each rhino per day.

## **B) Breeding Program**

### **i) Breeding Introduction**

Based on the blood result, Seputeh was mixed with Ara on morning May 17. Positive behaviour was observed but the female was in her early stage of estrus. Mounting was recorded without any successful intromission since the female walked away after being mounted. The rhinos were separated since the male looked tired and the two rhinos were kept side by side.

In the afternoon, Seputeh and Ara were mixed again. Ara mounted Seputeh just after five minutes of pairing. Intromission occurred and lasted for about 25 minutes.

Rima and Mas Merah were also paired with Ara. It was decided that these two females were going to be mixed with the male on daily basis when their progesterone level is going down and also when their follicle sized is about 15mm. However no breeding occurred although the two females were mixed since May 8. The observation of the pairing was summarized in the table below.

### **ii) Bleeding Program**

#### **a) Blood Collection**

The blood collection was carried out twice weekly, every Monday and Thursday. The bleeding procedure was summarized in Table 1.

#### **b) Progesterone Hormone Profile**

Blood samples were sent to UPM for hormonal analysis and the latest blood result was attached below.

## B) HEALTH STATUS

Generally, all rhinos are in the good condition. Minah had improved a lot and her weight is being monitored on weekly basis. The other rhinos were weighed once a month. Both weighing results are tabulated below.

**Table 3: Rhinos' Body Weight (Kg), May 2002**

Month/ Rhino ID	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
RIMA	552	542	542	554	580							
MAS MERAH	612	590	578	586	595							
MINAH	462	450	476	476	480							
SEPUTIH	738	752	742	736	*							
PANJANG	532	*	523	512	538							
ARA	610	588	574	574	613							

### REMARKS:

\* In the 10 acres enclosure

**Table 4: Minah's Weekly Body Weight (Kg), April and May 2002**

Rhino ID / Date	9/4	16/4	26/4	30/4	7/5	14/5	21/5	29/5
Minah	470	476	476	492	470	480	492	476

## C) FEEDING

No changes were made for the feeding program. A contractor will supply the browses, which deliver them around 9.00 a.m. daily. The feed was checked to ensure their quantity and quality upon receiving them. They were cleaned and weighed before giving to the rhinos. The rhinos were given about 40 kg of browses and 7.0g of fruits daily. Minah was given 3.0kg of pellets to improve her body weight and the other rhinos were given 2.0kg.

**Table 1: Blood Collection from the Rhinos, May 2002**

<b>Date</b>	<b>Rhino ID</b>	<b>Area taken</b>	<b>Remarks</b>
May 2	Minah Mas Merah Panjang Rima Seputeh Ara	Tail Tail Tail Tail Tail Tail	Samples were taken from these females for P4 analysis. Blood was taken from the males for testosterone analysis.
May 6	Rima Panjang Mas Merah Ara	Tail Tail Tail Tail	Samples were taken from the females for P4 analysis. Blood was taken from the males for testosterone analysis.
May 9	Rima Seputeh Minah Mas Merah Panjang Ara	Tail Tail Tail Tail Tail Tail	Blood was taken for the P4 and testosterone analysis
May 13	Minah Seputeh Panjang Mas Merah Ara	Tail Tail Tail Tail Tail	Samples were taken from all rhinos for P4 and testosterone analysis.
May 16	Minah Mas Merah Panjang Rima Seputeh Ara	Tail Tail Tail Tail Tail Tail	Samples were taken from these females for P4 analysis. Blood was taken from the males for testosterone analysis.
May 20	Minah Mas Merah Panjang Rima Seputeh Ara	Tail Tail Tail Tail Tail Tail	Blood was taken for the P4 and testosterone analysis
May 23	Minah Seputeh Mas Merah Panjang Rima Ara	Tail Tail Tail Tail Tail Tail	Blood was taken for the P4 and testosterone analysis

Date	Rhino ID	Area taken	Remarks
May 29	Minah Mas Merah Rima	Tail Tail Tail	Blood was taken for the P4 and testosterone analysis
May 30	Seputeh Panjang Ara	Tail Tail Tail	
May 31	Minah Rima Mas Merah	Tail Tail Tail	Samples were taken from all rhinos for P4 and testosterone analysis.

**Table 2: The Ultrasound Observation (Follicle Size, mm) of the Females, May 2002**

Date/ Rhino ID	2/5	7/5	10/5	14/5	17/5	21/5	24/5	29/5
Minah	7-10	10-12	10-12	12	12	13&10 (3 fc)	13	13
Rima	17-18	10-12	12	13	13&15	14&15	15	16
Mas Merah	7-10	12	12	12-13	13	12&13	10	14

**Table 3: The Pairing of Ara and the Females, May 2002**

<b>Date</b>	<b>Rhino ID</b>	<b>Observation</b>
May 2	Rima & Ara	The rhinos were paired for about five minutes. No interest observed from both rhinos.
May 8	Minah & Ara	Pairing was conducted for about 10 minutes and no positive behaviour recorded.
	Rima & Ara	The pair was mixed for about five minutes. No mating behaviour noted.
May 9	Minah & Ara	No interest observed from both rhinos. Ara kept eating when Minah walked away.
	Rima & Ara	No interest observed from both rhinos
	Mas Merah & Ara	Mas Merah started to scream when she saw Ara. She blows a lot and the pair was separated.
May 10	Minah & Ara	The rhinos were eating side by side. Ara sniffed Minah's back but no positive response.
	Rima & Ara	Both rhinos eating side by side. No response from Ara when Rima walked passed him.
	Mas Merah & Ara	Mas Merah reluctant to approach Ara. She blew a lot and looked afraid.
May 11	Minah & Ara	No interest from both rhinos. Minah just wandering around the yard and Ara kept eating.
	Rima & Ara	The pair was mixed for about five minutes. No mating behaviour noted.
	Mas Merah & Ara	Mas Merah started to scream when she saw Ara. She blows a lot and the pair was separated.

Date	Rhino ID	Observation
May 13	Minah & Ara	Ara sniffed Minah but did not showed any interest when she walked away.
	Rima & Ara	No positive behaviour observed from both rhinos.
	Mas Merah & Ara	Mas Merah started to scream and blows a lot when she saw Ara.
May 14	Minah & Ara	No positive response observed. The rhinos were side by side eating. Ara sniffed Minah but did not follow her when she walked away.
	Rima & Ara	Both rhinos were eating together. Ara sniffed Rima but no further response. Rima walked away and Ara ignored her.
	Mas Merah & Ara	Mas Merah looked afraid when she saw Ara. The rhinos were fed a few feet apart and Mas Merah reluctant to go near the Ara. Less blowing and crying compared to the previous days.
May 15	Minah & Ara	Both rhinos were eating side by side. Ara sniffed Minah but no further response. Minah walked away and Ara continued eating.
May 16	Minah & Ara	Minah and Ara were eating side by side. No response when Ara sniffed Minah. She walked away and Ara did not follow
	Rima & Ara	Both rhinos were eating together. Ara sniffed Rima but no positive response. They were busy eating. Rima walked away and Ara ignored her.

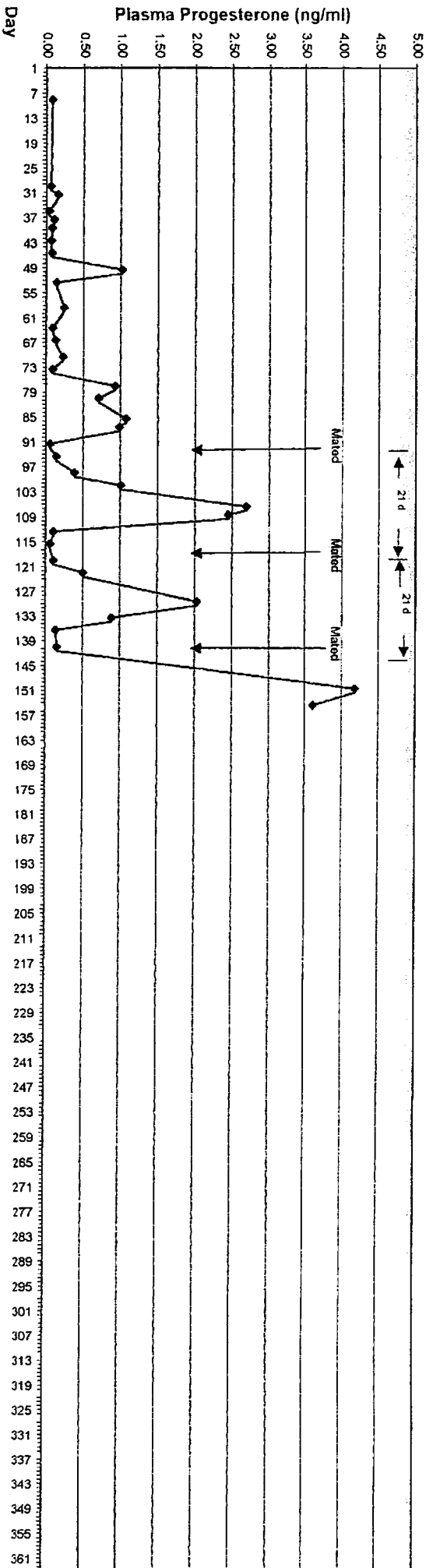


Date	Rhino ID	Observation
May 17	Minah & Ara	No interest observed from both rhinos.
	Seputeh & Ara	The pair was mixed in the morning and positive behaviour observed without any breeding. They were mixed again in the afternoon and Ara bred Seputeh for 25 minutes.
May 21	Rima & Ara	No positive behaviour observed from both rhinos. Rima tried to provoke Ara and the pair was separated to avoid aggression.
	Minah & Ara	Minah was observed wandering around the yard ignoring Ara and the male did not show any interest.
May 22	Minah & Ara	Minah walked around the yard and Ara ignored her. No positive behaviour observed. Separate after 14 minutes.
	Rima & Ara	Rima approached Ara when the male was busy eating. She was eating beside the male and suddenly started to blow. The pair was separated to avoid fighting.
	Mas Merah & Ara	Mas Merah looked afraid and stay away from Ara. She turned around and walked back to the stall.
May 23	Rima & Ara	No positive response observed from the rhinos. Ara ignored Rima after sniffing her back.
	Mas Merah & Ara	Mas Merah started to vocalize and blow when she approached Ara. She turned away and went back to the stall.
May 24	Minah & Ara	No positive behaviour observed from both rhinos.
	Rima & Ara	The rhinos were eating beside each other. Ara sniffed Rima but no further response.
	Mas Merah & Ara	Mas Merah started to vocalize and blow when she approached Ara.

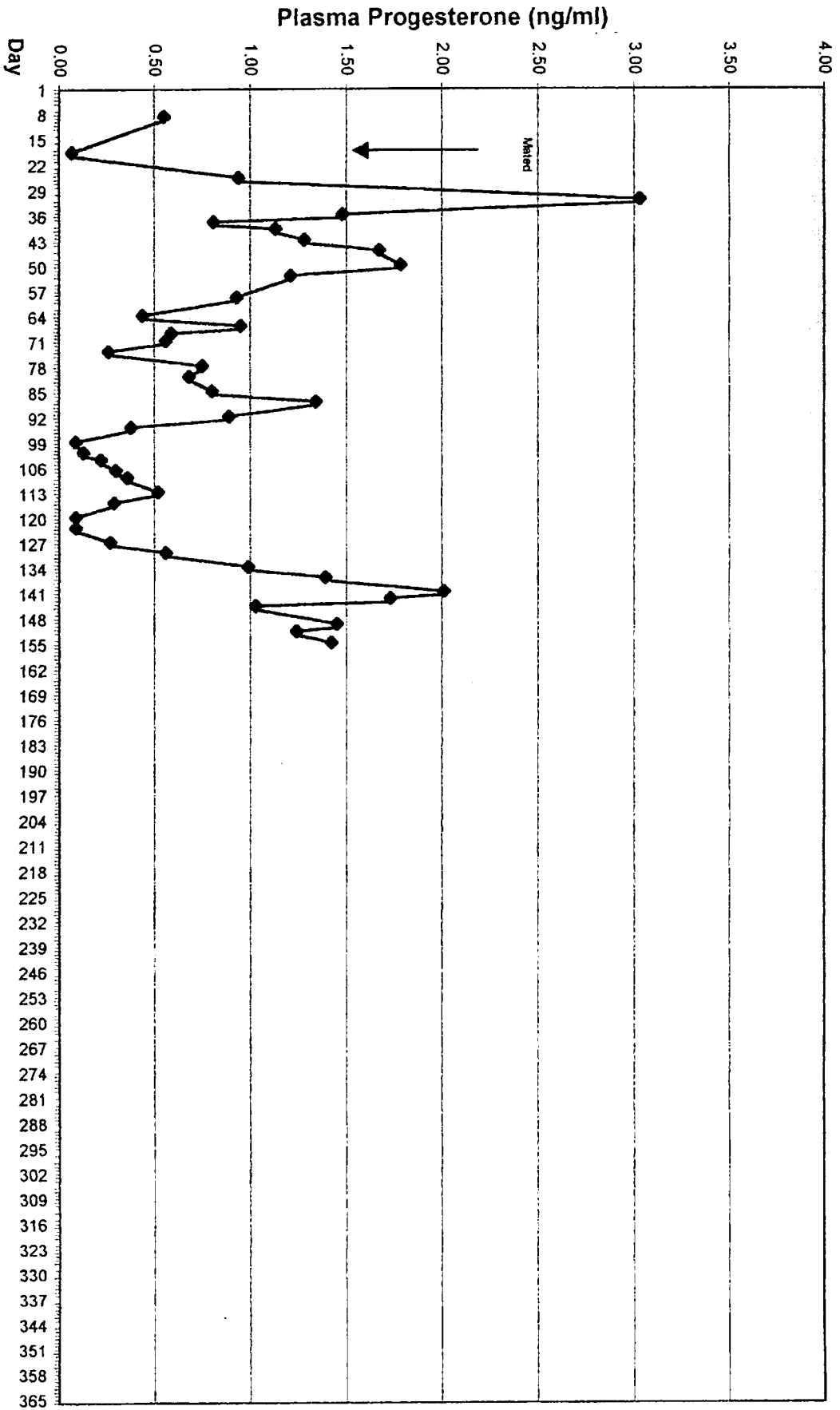
Date	Rhino ID	Observation
May 25	Rima & Ara	No positive behaviour observed.
	Mas Merah & Ara	Mas Merah approached Ara and started to eat beside the male. Later, she walked away and Ara ignored her.
May 26	Rima & Ara	The pair was separated when Rima vocalized and started to fight with the male.
	Mas Merah & Ara	Mas Merah blew a lot when saw Ara and the rhinos were separated to avoid aggression.
May 28	Rima & Ara	Rima started to fight with Ara after 5 minutes of mixing and the rhinos were separated.
	Mas Merah & Ara	Mas Merah started to scream when she saw Ara. Separated after a few minutes.
May 30	Minah & Ara	Minah started to follow Ara and later the two was observed rubbing each other side by side. Then, they were pushing head to head and the rhinos were separated.
	Rima & Ara	No positive behaviour observed. Rima started to fight and the rhinos were separated.
	Mas Merah & Ara	Mas Merah was wandering around the yard when she was released first before Ara. No interest observed.
May 31	Minah & Ara	Minah followed Ara and later the rhinos were observed rubbing each other side by side. Head pushing was observed and Minah turned around presented herself briefly. Ara attempted to mount but Minah ran away. Ara chased her and the rhinos were separated to avoid fighting.
	Rima & Ara	Rima was blowing and did not show any interest. Separated the rhinos to avoid fighting.
	Mas Merah & Ara	Mas Merah reluctant to go near Ara and vocalized a lot.

Date	Day	P4 (ng/ml)	Date	Day	P4 (ng/ml)	Date	Day	P4 (ng/ml)	E2 (pg/l)	Date	Day	P4 (ng/ml)	Date	Day	P4 (ng/ml)
1-Apr-02	91	0.89	1-Apr-02	91	0.35	1-Apr-02	91	0.30		1-Apr-02	91	0.06	1-Apr-02	91	0.06
2-Apr-02	92		2-Apr-02	92		2-Apr-02	92			2-Apr-02	92		2-Apr-02	92	
3-Apr-02	93		3-Apr-02	93		3-Apr-02	93			3-Apr-02	93		3-Apr-02	93	
4-Apr-02	94	0.38	4-Apr-02	94	0.24	4-Apr-02	94	0.37		4-Apr-02	94	0.13	4-Apr-02	94	0.14
5-Apr-02	95		5-Apr-02	95		5-Apr-02	95			5-Apr-02	95		5-Apr-02	95	
6-Apr-02	96		6-Apr-02	96		6-Apr-02	96			6-Apr-02	96		6-Apr-02	96	
7-Apr-02	97		7-Apr-02	97		7-Apr-02	97			7-Apr-02	97		7-Apr-02	97	
8-Apr-02	98	0.09	8-Apr-02	98	0.32	8-Apr-02	98	0.22		8-Apr-02	98	0.45	8-Apr-02	98	0.39
9-Apr-02	99		9-Apr-02	99		9-Apr-02	99			9-Apr-02	99		9-Apr-02	99	
10-Apr-02	100		10-Apr-02	100		10-Apr-02	100			10-Apr-02	100		10-Apr-02	100	
11-Apr-02	101	0.13	11-Apr-02	101	0.13	11-Apr-02	101	0.27		11-Apr-02	101		11-Apr-02	101	1.01
12-Apr-02	102		12-Apr-02	102		12-Apr-02	102			12-Apr-02	102		12-Apr-02	102	
13-Apr-02	103	0.22	13-Apr-02	103	0.33	13-Apr-02	103			13-Apr-02	103	0.52	13-Apr-02	103	
14-Apr-02	104		14-Apr-02	104		14-Apr-02	104			14-Apr-02	104		14-Apr-02	104	
15-Apr-02	105		15-Apr-02	105		15-Apr-02	105			15-Apr-02	105		15-Apr-02	105	
16-Apr-02	106	0.30	16-Apr-02	106	0.33	16-Apr-02	106	0.25		16-Apr-02	106	0.47	16-Apr-02	106	2.69
17-Apr-02	107		17-Apr-02	107		17-Apr-02	107			17-Apr-02	107		17-Apr-02	107	
18-Apr-02	108	0.36	18-Apr-02	108	0.31	18-Apr-02	108	0.25		18-Apr-02	108	0.31	18-Apr-02	108	2.45
19-Apr-02	109		19-Apr-02	109		19-Apr-02	109			19-Apr-02	109		19-Apr-02	109	
20-Apr-02	110		20-Apr-02	110		20-Apr-02	110			20-Apr-02	110		20-Apr-02	110	
21-Apr-02	111		21-Apr-02	111		21-Apr-02	111			21-Apr-02	111		21-Apr-02	111	
22-Apr-02	112	0.52	22-Apr-02	112	0.32	22-Apr-02	112	0.31		22-Apr-02	112	0.63	22-Apr-02	112	0.11
23-Apr-02	113		23-Apr-02	113		23-Apr-02	113			23-Apr-02	113		23-Apr-02	113	
24-Apr-02	114		24-Apr-02	114		24-Apr-02	114			24-Apr-02	114		24-Apr-02	114	
25-Apr-02	115	0.29	25-Apr-02	115	0.30	25-Apr-02	115	0.33		25-Apr-02	115	0.72	25-Apr-02	115	0.08
26-Apr-02	116		26-Apr-02	116		26-Apr-02	116			26-Apr-02	116		26-Apr-02	116	
27-Apr-02	117		27-Apr-02	117		27-Apr-02	117			27-Apr-02	117		27-Apr-02	117	
28-Apr-02	118		28-Apr-02	118		28-Apr-02	118			28-Apr-02	118		28-Apr-02	118	
29-Apr-02	119	0.09	29-Apr-02	119	0.25	29-Apr-02	119	0.37		29-Apr-02	119	0.52	29-Apr-02	119	0.11
30-Apr-02	120		30-Apr-02	120		30-Apr-02	120			30-Apr-02	120		30-Apr-02	120	
1-May-02	121		1-May-02	121		1-May-02	121			1-May-02	121		1-May-02	121	
2-May-02	122	0.09	2-May-02	122	0.44	2-May-02	122	0.20		2-May-02	122	0.85	2-May-02	122	0.51
3-May-02	123		3-May-02	123		3-May-02	123			3-May-02	123		3-May-02	123	
4-May-02	124		4-May-02	124		4-May-02	124			4-May-02	124		4-May-02	124	
5-May-02	125		5-May-02	125		5-May-02	125			5-May-02	125		5-May-02	125	
6-May-02	126	0.27	6-May-02	126	0.38	6-May-02	126	0.22		6-May-02	126	1.29	6-May-02	126	
7-May-02	127		7-May-02	127		7-May-02	127			7-May-02	127		7-May-02	127	
8-May-02	128		8-May-02	128		8-May-02	128			8-May-02	128		8-May-02	128	
9-May-02	129	0.56	9-May-02	129	0.29	9-May-02	129	0.31		9-May-02	129	0.96	9-May-02	129	2.03
10-May-02	130		10-May-02	130		10-May-02	130			10-May-02	130		10-May-02	130	
11-May-02	131		11-May-02	131		11-May-02	131			11-May-02	131		11-May-02	131	
12-May-02	132		12-May-02	132		12-May-02	132			12-May-02	132		12-May-02	132	
13-May-02	133	0.99	13-May-02	133	0.35	13-May-02	133	0.29		13-May-02	133	1.12	13-May-02	133	0.89
14-May-02	134		14-May-02	134		14-May-02	134			14-May-02	134		14-May-02	134	
15-May-02	135		15-May-02	135		15-May-02	135			15-May-02	135		15-May-02	135	
16-May-02	136	1.39	16-May-02	136	0.28	16-May-02	136	0.31		16-May-02	136	1.38	16-May-02	136	0.14
17-May-02	137		17-May-02	137		17-May-02	137			17-May-02	137		17-May-02	137	
18-May-02	138		18-May-02	138		18-May-02	138			18-May-02	138		18-May-02	138	
19-May-02	139		19-May-02	139		19-May-02	139			19-May-02	139		19-May-02	139	
20-May-02	140	2.01	20-May-02	140	0.38	20-May-02	140	0.39		20-May-02	140	1.31	20-May-02	140	0.16
21-May-02	141		21-May-02	141		21-May-02	141			21-May-02	141		21-May-02	141	
22-May-02	142	1.73	22-May-02	142		22-May-02	142			22-May-02	142	1.16	22-May-02	142	
23-May-02	143		23-May-02	143	0.32	23-May-02	143	0.13		23-May-02	143		23-May-02	143	
24-May-02	144	1.03	24-May-02	144		24-May-02	144			24-May-02	144	0.97	24-May-02	144	
25-May-02	145		25-May-02	145		25-May-02	145			25-May-02	145		25-May-02	145	
26-May-02	146		26-May-02	146		26-May-02	146			26-May-02	146		26-May-02	146	
27-May-02	147		27-May-02	147		27-May-02	147			27-May-02	147		27-May-02	147	
28-May-02	148		28-May-02	148		28-May-02	148			28-May-02	148		28-May-02	148	
29-May-02	149	1.45	29-May-02	149	0.39	29-May-02	149			29-May-02	149	0.67	29-May-02	149	
30-May-02	150		30-May-02	150		30-May-02	150	0.40		30-May-02	150		30-May-02	150	4.18
31-May-02	151	1.24	31-May-02	151	0.32	31-May-02	151			31-May-02	151	0.79	31-May-02	151	
1-Jun-02	152		1-Jun-02	152		1-Jun-02	152			1-Jun-02	152		1-Jun-02	152	
2-Jun-02	153		2-Jun-02	153		2-Jun-02	153			2-Jun-02	153		2-Jun-02	153	
3-Jun-02	154	1.42	3-Jun-02	154	0.58	3-Jun-02	154	0.20		3-Jun-02	154	0.88	3-Jun-02	154	3.62
4-Jun-02	155		4-Jun-02	155		4-Jun-02	155			4-Jun-02	155		4-Jun-02	155	
5-Jun-02	156		5-Jun-02	156		5-Jun-02	156			5-Jun-02	156		5-Jun-02	156	
6-Jun-02	157		6-Jun-02	157		6-Jun-02	157			6-Jun-02	157		6-Jun-02	157	
7-Jun-02	158		7-Jun-02	158		7-Jun-02	158			7-Jun-02	158		7-Jun-02	158	
8-Jun-02	159		8-Jun-02	159		8-Jun-02	159			8-Jun-02	159		8-Jun-02	159	
9-Jun-02	160		9-Jun-02	160		9-Jun-02	160			9-Jun-02	160		9-Jun-02	160	
10-Jun-02	161		10-Jun-02	161		10-Jun-02	161			10-Jun-02	161		10-Jun-02	161	
11-Jun-02	162		11-Jun-02	162		11-Jun-02	162			11-Jun-02	162		11-Jun-02	162	
12-Jun-02	163		12-Jun-02	163		12-Jun-02	163			12-Jun-02	163		12-Jun-02	163	
13-Jun-02	164		13-Jun-02	164		13-Jun-02	164			13-Jun-02	164		13-Jun-02	164	
14-Jun-02	165		14-Jun-02	165		14-Jun-02	165			14-Jun-02	165		14-Jun-02	165	
15-Jun-02	166		15-Jun-02	166		15-Jun-02	166			15-Jun-02	166		15-Jun-02	166	
16-Jun-02	167		16-Jun-02	167		16-Jun-02	167			16-Jun-02	167		16-Jun-02	167	
17-Jun-02	168		17-Jun-02	168		17-Jun-02	168			17-Jun-02	168		17-Jun-02	168	
18-Jun-02	169		18-Jun-02	169		18-Jun-02	169			18-Jun-02	169		18-Jun-02	169	
19-Jun-02	170		19-Jun-02	170		19-Jun-02	170			19-Jun-02	170		19-Jun-02	170	
20-Jun-02	171		20-Jun-02	171		20-Jun-02	171			20-Jun-02	171		20-Jun-02	171	
21-Jun-02	172		21-Jun-02	172		21-Jun-02	172			21-Jun-02	172		21-Jun-02	172	
22-Jun-02	173		22-Jun-02	173		22-Jun-02	173			22-Jun-02	173		22-Jun-02	173	
23-Jun-02	174		23-Jun-02	174		23-Jun-02	174			23-Jun-02	174		23-Jun-02	174	
24-Jun-02	175		24-Jun-02	175		24-Jun-02	175			24-Jun-02	175		24-Jun-02	175	
25-Jun-02	176		25-Jun-02	176		25-Jun-02	176			25-Jun-02	176		25-Jun-02	176	
26-Jun-02	177		26-Jun-02	177		26-Jun-02	177			26-Jun-02	177		26-Jun-02	177	
27-Jun-02	178		27-Jun-02	178		27-Jun-02	178			27-Jun-02	178		27-Jun-02	178	
28-Jun-02	179		28-Jun-02	179		28-Jun-02	179			28-Jun-02	179		28-Jun-02	179	
29-Jun-02	180		29-Jun-02	180		29-Jun-02	180			29-Jun-02	180		29-Jun-02	180	
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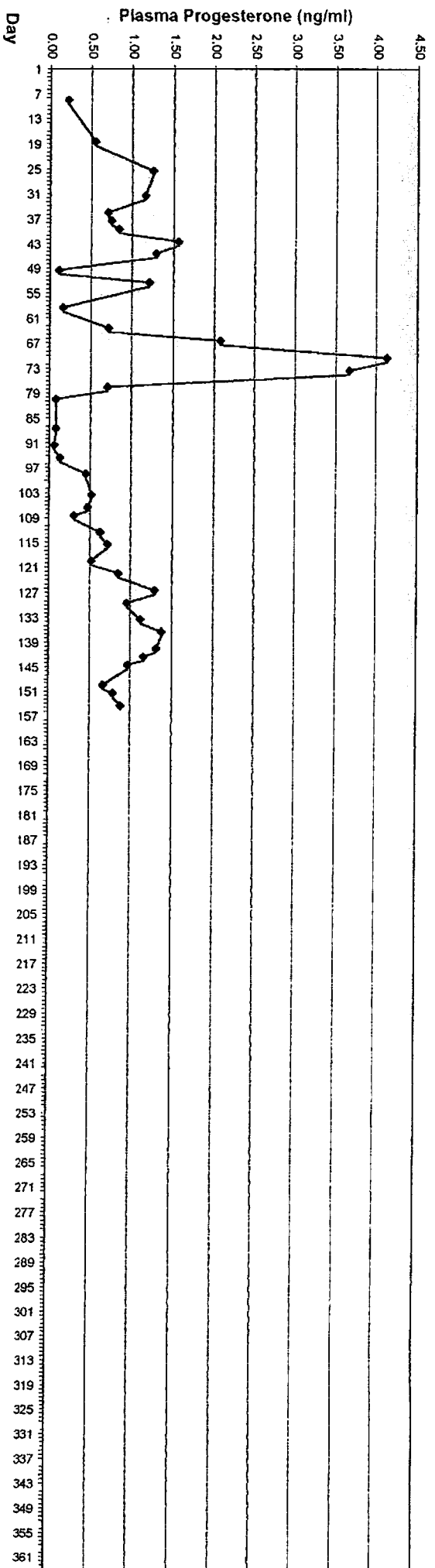
SUMATRAN RHINO - SEPUTIH Plasma Progesterone Profile - 2002



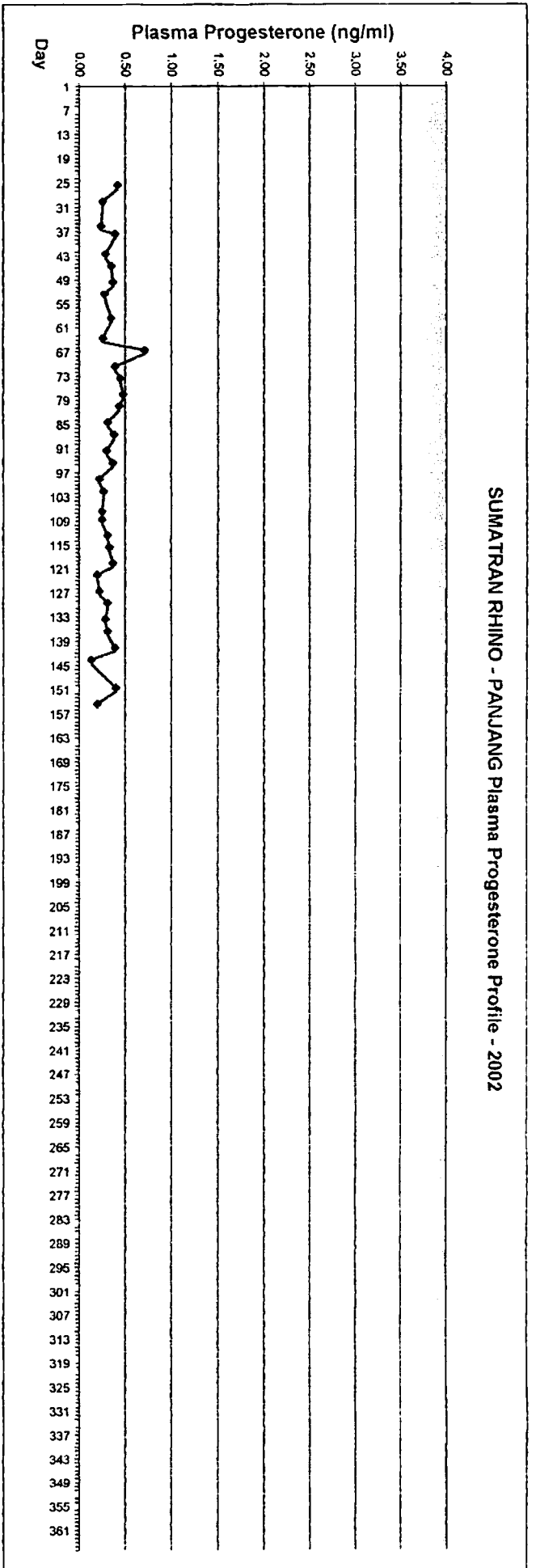
SUMATRAN RHINO - MAS MERAH Plasma Progesterone Profile - 2002



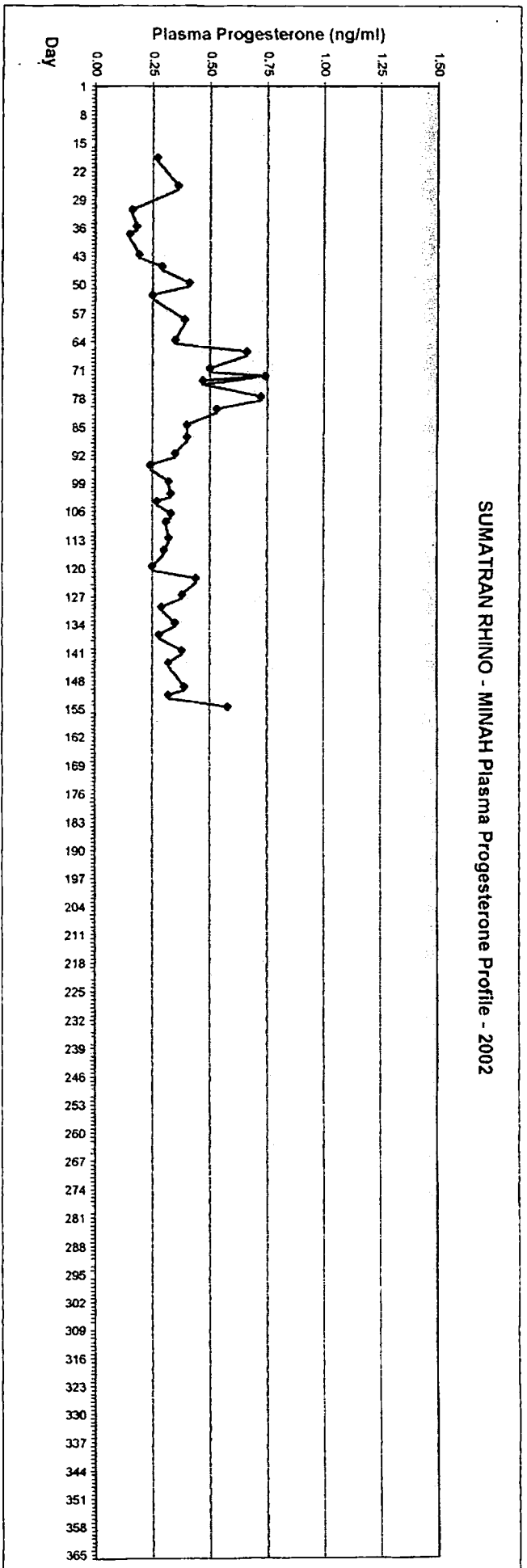
SUMATRAN RHINO - RIMA Plasma Progesterone Profile - 2002



SUMATRAN RHINO - PANJANG Plasma Progesterone Profile - 2002



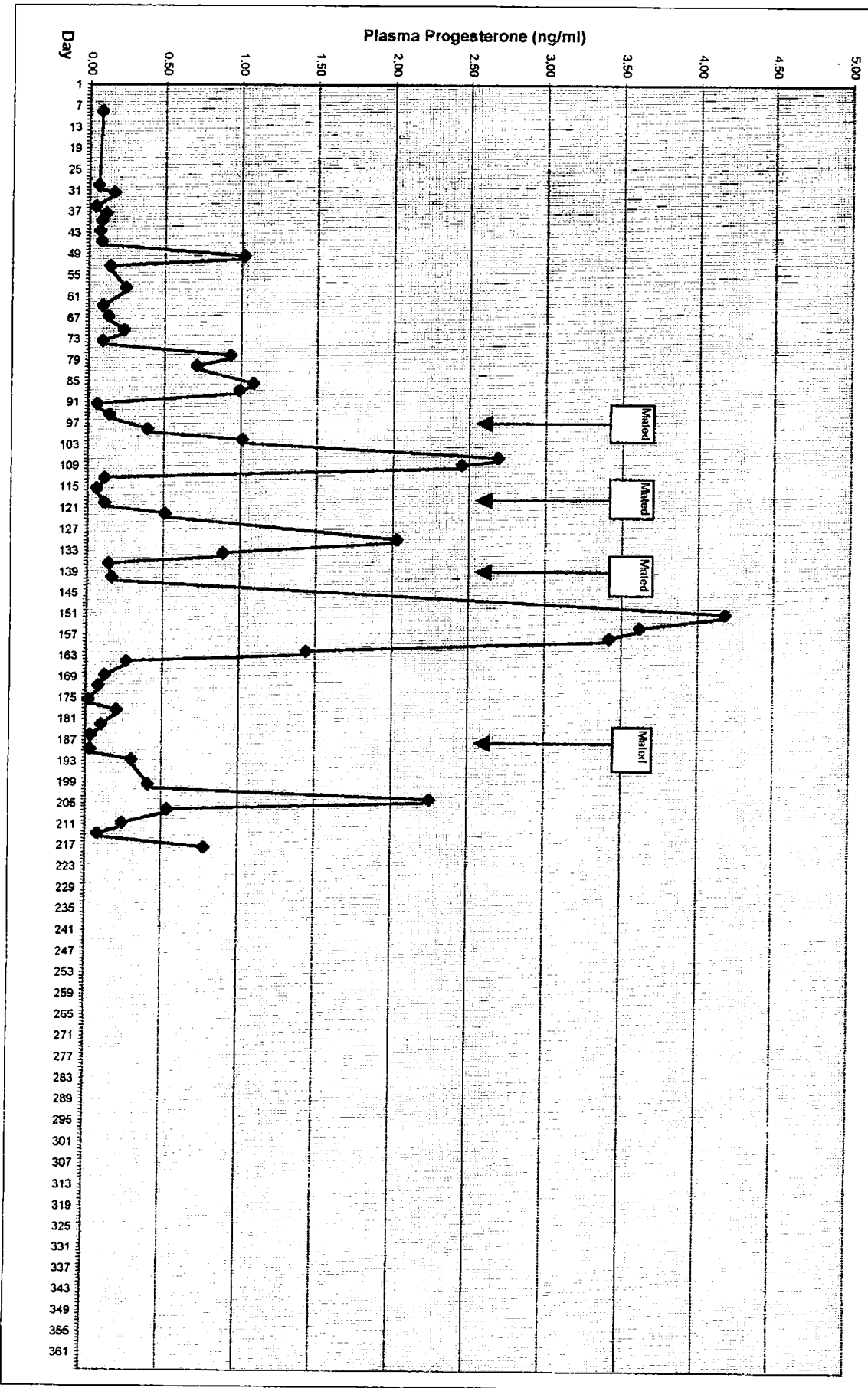
SUMATRAN RHINO - MINAH Plasma Progesterone Profile - 2002



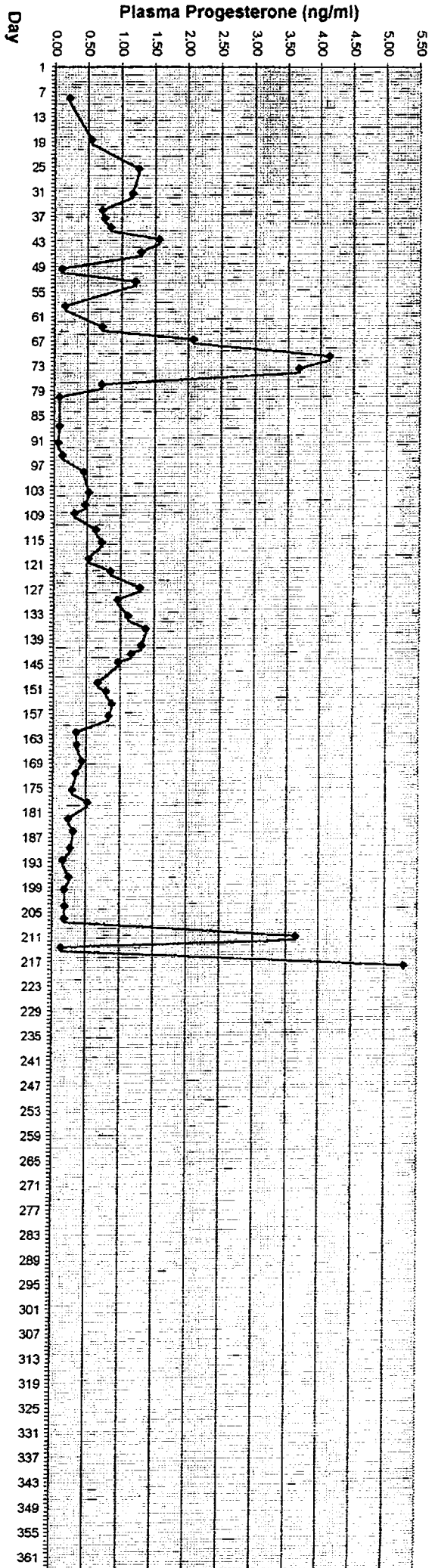


Mas Merah			Panjang			Rima			Seputih		
Date	Day P4 (ng/ml)	E2 (pgl)	Date	Day P4 (ng/ml)	E2 (pgl)	Date	Day P4 (ng/ml)	E2 (pgl)	Date	Day P4 (ng/ml)	E2 (pgl)
1-Jul-02	182	0.07	1-Jul-02	182	0.27	1-Jul-02	182	0.24	1-Jul-02	182	0.10
2-Jul-02	183		2-Jul-02	183		2-Jul-02	183		2-Jul-02	183	
3-Jul-02	184		3-Jul-02	184		3-Jul-02	184		3-Jul-02	184	
4-Jul-02	185	0.66	4-Jul-02	185	0.15	4-Jul-02	185	0.31	4-Jul-02	185	0.03
5-Jul-02	186		5-Jul-02	186		5-Jul-02	186		5-Jul-02	186	
6-Jul-02	187		6-Jul-02	187		6-Jul-02	187		6-Jul-02	187	
7-Jul-02	188		7-Jul-02	188		7-Jul-02	188		7-Jul-02	188	
8-Jul-02	189	1.25	8-Jul-02	189	0.21	8-Jul-02	189	0.27	8-Jul-02	189	0.03
9-Jul-02	190		9-Jul-02	190		9-Jul-02	190		9-Jul-02	190	
10-Jul-02	191		10-Jul-02	191		10-Jul-02	191		10-Jul-02	191	
11-Jul-02	192	1.28	11-Jul-02	192	0.25	11-Jul-02	192	0.16	11-Jul-02	192	0.30
12-Jul-02	193		12-Jul-02	193		12-Jul-02	193		12-Jul-02	193	
13-Jul-02	194		13-Jul-02	194		13-Jul-02	194		13-Jul-02	194	
14-Jul-02	195	0.41	14-Jul-02	195	0.21	14-Jul-02	195	0.25	14-Jul-02	195	
15-Jul-02	196		15-Jul-02	196		15-Jul-02	196		15-Jul-02	196	
16-Jul-02	197		16-Jul-02	197		16-Jul-02	197		16-Jul-02	197	
17-Jul-02	198		17-Jul-02	198		17-Jul-02	198		17-Jul-02	198	
18-Jul-02	199	0.04	18-Jul-02	199	0.27	18-Jul-02	199	0.18	18-Jul-02	199	0.41
19-Jul-02	200		19-Jul-02	200		19-Jul-02	200		19-Jul-02	200	
20-Jul-02	201		20-Jul-02	201		20-Jul-02	201		20-Jul-02	201	
21-Jul-02	202	0.49	21-Jul-02	202	0.28	21-Jul-02	202	0.19	21-Jul-02	202	2.25
22-Jul-02	203		22-Jul-02	203		22-Jul-02	203		22-Jul-02	203	
23-Jul-02	204		23-Jul-02	204		23-Jul-02	204		23-Jul-02	204	
24-Jul-02	205	1.12	24-Jul-02	205	0.36	24-Jul-02	205	0.18	24-Jul-02	205	0.54
25-Jul-02	206		25-Jul-02	206		25-Jul-02	206		25-Jul-02	206	
26-Jul-02	207		26-Jul-02	207		26-Jul-02	207		26-Jul-02	207	
27-Jul-02	208		27-Jul-02	208		27-Jul-02	208		27-Jul-02	208	
28-Jul-02	209		28-Jul-02	209		28-Jul-02	209		28-Jul-02	209	
29-Jul-02	210	1.46	29-Jul-02	210	0.40	29-Jul-02	210	0.39	29-Jul-02	210	0.24
30-Jul-02	211		30-Jul-02	211		30-Jul-02	211		30-Jul-02	211	
31-Jul-02	212		31-Jul-02	212		31-Jul-02	212		31-Jul-02	212	
1-Aug-02	213	1.71	1-Aug-02	213	0.50	1-Aug-02	213	0.22	1-Aug-02	213	0.08
2-Aug-02	214		2-Aug-02	214		2-Aug-02	214		2-Aug-02	214	
3-Aug-02	215		3-Aug-02	215		3-Aug-02	215		3-Aug-02	215	
4-Aug-02	216		4-Aug-02	216		4-Aug-02	216		4-Aug-02	216	
5-Aug-02	217	0.27	5-Aug-02	217	0.54	5-Aug-02	217	0.95	5-Aug-02	217	0.78
6-Aug-02	218		6-Aug-02	218		6-Aug-02	218		6-Aug-02	218	
7-Aug-02	219		7-Aug-02	219		7-Aug-02	219		7-Aug-02	219	
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2-Sep-02	245		2-Sep-02	245		2-Sep-02	245		2-Sep-02	245	
3-Sep-02	246		3-Sep-02	246		3-Sep-02	246		3-Sep-02	246	
4-Sep-02	247		4-Sep-02	247		4-Sep-02	247		4-Sep-02	247	
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6-Sep-02	249		6-Sep-02	249		6-Sep-02	249		6-Sep-02	249	
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29-Sep-02	272		29-Sep-02	272		29-Sep-02	272		29-Sep-02	272	
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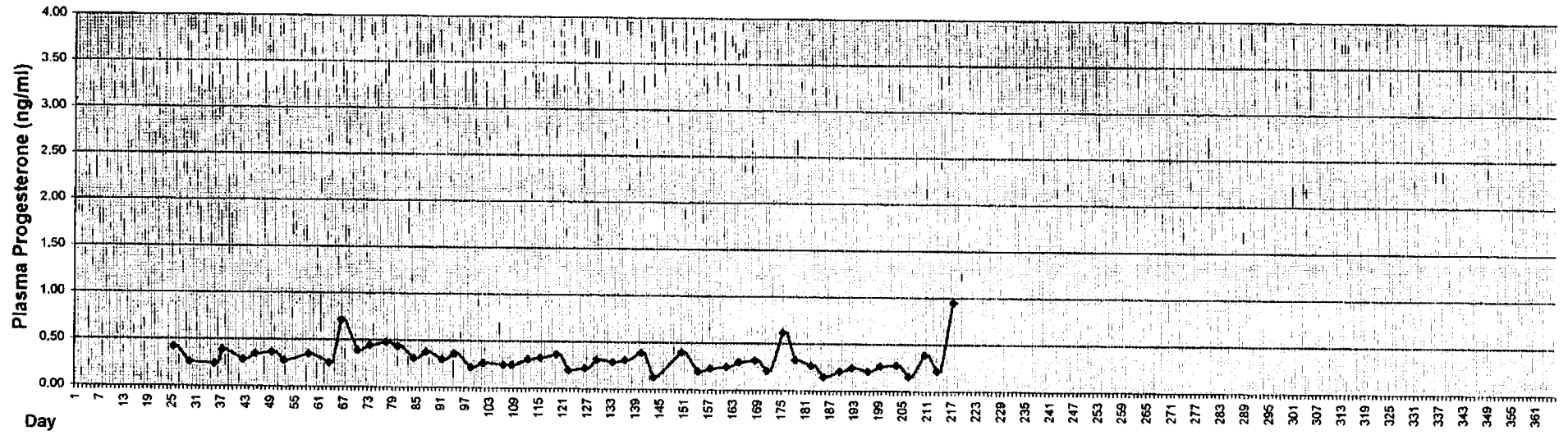
SUMATRAN RHINO - SEPUTIH Plasma Progesterone Profile - 2002



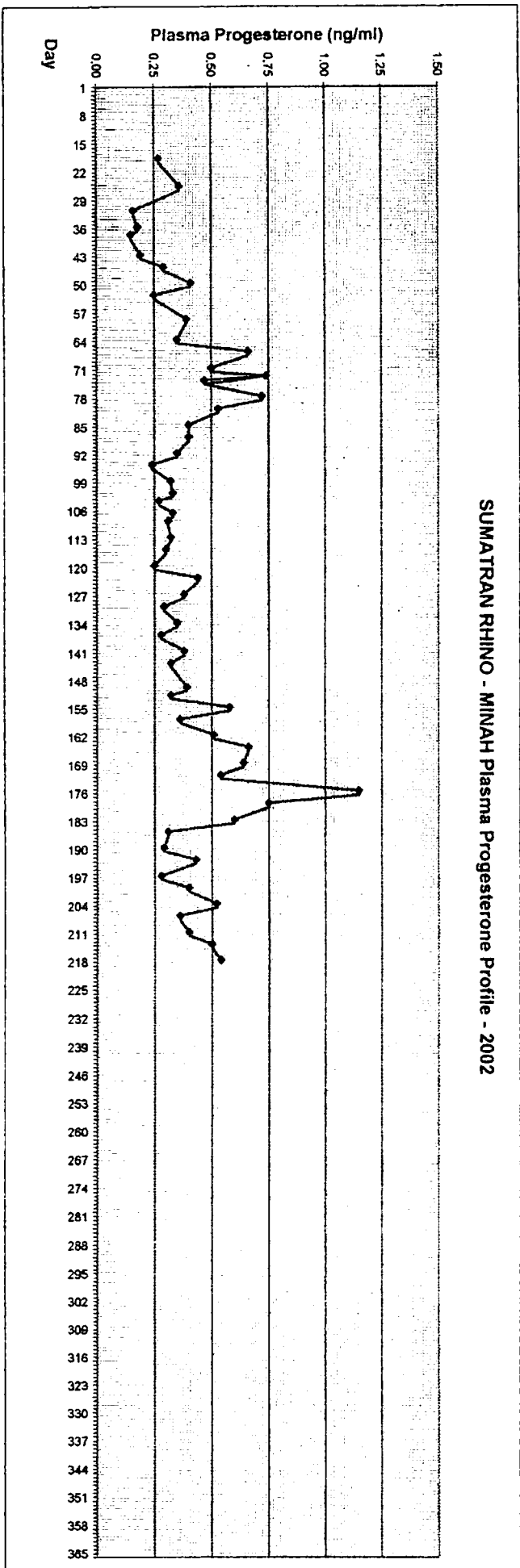
SUMATRAN RHINO - RIMA Plasma Progesterone Profile - 2002



### SUMATRAN RHINO - PANJANG Plasma Progesterone Profile - 2002



SUMATRAN RHINO - MINAH Plasma Progesterone Profile - 2002



SUMATRAN RHINO - MAS MERAH Plasma Progesterone Profile - 2002

