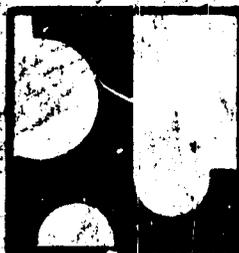


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# REPUBLIK INDONESIA

DEPARTEMEN PEKERJAAN UMUM DAN TENAGA LISTRIK  
DIREKTORAT JENDRAL BINA MARGA



ACEH ROAD BETTERMENT PROJECT

MONTHLY PROGRESS REPORT

MARCH 1979

LOUIS BERGER INTERNATIONAL INC.

P.T. ASA ENGINEERING PERTAMA

CONSULTING ENGINEERS

ACEH ROAD BETTERMENT PROJECT  
MONTHLY PROGRESS REPORT  
MARCH 1979

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P A R T I

S U M M A R Y R E P O R T

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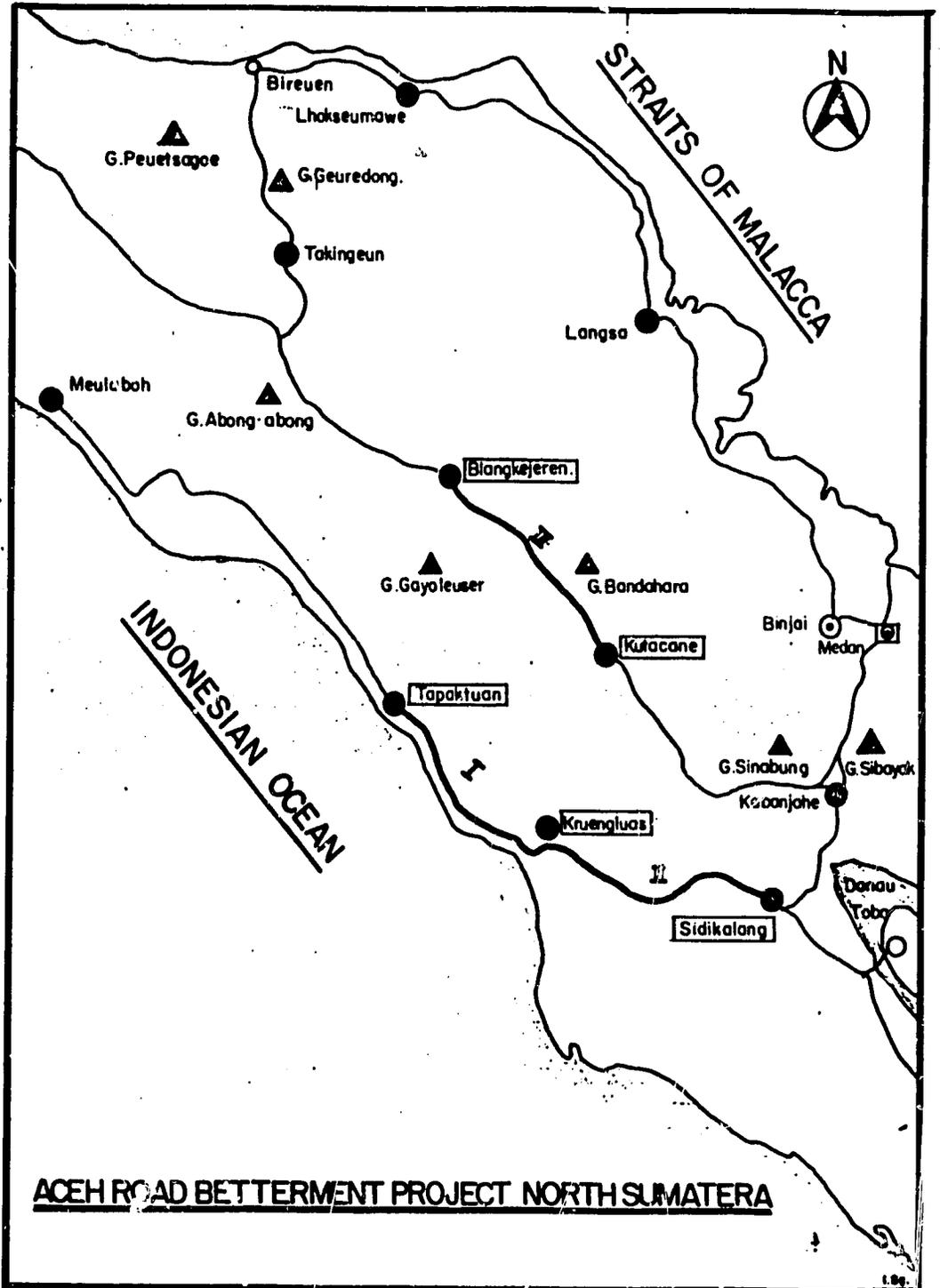
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PROJECT MAP

The Aceh Road Betterment Project is located in the provinces of Aceh and North Sumatera.

Three sections currently under construction are shown on the attached map;

- Section I : Tapaktuan - Kruengluas Road located on the South coast of the Aceh Province.
- Section II : Sidikalang - Kruengluas Road, which is partially in North Sumatera but particularly in Aceh Province.
- Section III : Kotacane - Blangkajeren Road, which is in the central area of the Aceh Province.



ACEH ROAD BETTERMENT PROJECT  
MONTHLY PROGRESS REPORT  
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GENERAL SUMMARY

Construction Progress

The following is a report of Construction Progress to date including Contractor performance for March 1979:

<u>Location</u>	<u>O v e r a l l</u>		<u>M a r c h</u>	
	<u>Planned</u>	<u>Actual</u>	<u>Planned</u>	<u>Actual</u>
Tapaktuan	89.0%	7.27%	0.8%	0%
Sidikalang	56.6%	28.07%	3.1%	1.96%
Kotacane	46.5%	22.97%	1.9%	0.47%

Cost Escalation

A meeting was held on 21 March 1979 between Bina Marga, LBII, P.T. Nindya Karya and P.T. Hutma Karya regarding construction cost escalation throughout the Aceh Project. A report of that meeting is contained in this section of the report. The minutes of this meeting are also contained in this report.

Cost escalation had not been claimed by the three construction Contractors since November 1977. With the devaluation of the rupiah on 15 November 1978, resulting in increased rupiah costs for import material and equipment, a major increase in cost escalation can be anticipated.

Retender of Project

Action is currently underway to divide the three sections of road and bridge construction into five segments in order to complete this project by 1982.

ACEH ROAD BETTERMENT PROJECT  
MONTHLY PROGRESS REPORT  
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MAJOR PROBLEM AREAS

Construction Progress

Though construction progress is increasing through both P.T. Nindya Karya and P.T. Hutma Karya, the Tapaktuan - Kruengluas remains at a standstill and it is becoming increasingly apparent that work will not be completed within the original contract period. In recognition of this major problem area, plans are underway to re-allocate the three sections of road into five segments involving five construction contractors. It is anticipated that three additional expatriate contractors will be included in this project.

P. T. Marjaya

Termination proceedings are currently underway to permit the replacement of P.T. Marjaya by an expatriate construction contractor. It can be anticipated that the P.T. Marjaya situation will involve lengthy litigation and arbitration.

**CONSTRUCTION COST ESCALATION  
ACEH ROAD BETTERMENT PROJECT**

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1. **PURPOSE OF MEETENG.** A meeting was held this date in the Bina Marga conference room, Sidikalang, between representatives of Bina Marga, the Engineer, PT Nindya Karya and PT Hutama Karya to discuss an acceptable approach in preparing cost escalation invoices since the last payment in November 1977.
  
2. **ATTENDANCE.** Those attending were:

Mr Soetomo Noeridin	- Bina Marga
Mr Azmy Jam'an	- Bina Marga
Mr F E M Hutabarat	- Bina Marga
Mr Habinur Habib	- Bina Marga
Mr D A Race	- Louis Berger International, Inc
Mr K S Nadin	- Louis Berger International, Inc
Mr G S Taglienti	- Louis Berger International, Inc
Mr E J Foran Jr	- Louis Berger International, Inc
Mr M J Nicholls	- Louis Berger International, Inc
Mr Soemargadi	- PT Nindya Karya
Mr Moegiarso	- PT Nindya Karya
Mr Sri Widodo	- PT Nindya Karya
Mr H M Sheldon	- PT Nindya Karya (Construction Advisor)
Mr R S Sawirfin	- PT Hutama Karya
Mr Soebagio	- PT Hutama Karya
Mr Hutasuhut	- PT Hutama Karya
Mr J D Hess	- PT Hutama Karya (Construction Advisor)
  
3. **INTRODUCTION.** Mr Soetomo opened the meeting with an introduction to the problem of construction cost escalation. He reported on a method recently used by Bina Marga to determine cost escalation through the use of Economic Indicators, published monthly by the Central Bureau of Statistic in Jakarta.

4. BASIC PRICE INDICES. It was reported that the Base Price Indices used in February 1976 at the start of the project were as follows:

Labour	=	Lo	=	Rp. 866,92
Fuel	=	Fo	=	Rp. 33,05
Cement	=	Co	=	Rp. 924,41
Asphalt	=	Ao	=	Rp. 55
Equipment	=	ERo	=	US\$ 611,780
Steel	=	So	=	(Rebar furnished by Bina Marga therefore not established).

Based on a 27 February 1978 meeting of Contractors and Bina Marga in Medan, the following assignments were made for obtaining up-dated Indices:

PT Marjaya	Equipment
PT Nindya Karya	Labour, Timber, Steel
PT Hutama Karya	Asphalt, Fuel
Bina Marga	Cement

5. LABOUR INDICES. Mr Soemargadi reported that though the Economic Indicators showed a decrease in labour cost during some months since November 1977 to present, that labour costs have in fact increased at a constant rate. Mr Soemargadi attempted to obtain labour rates in Medan, but was unable to obtain these rates officially. He requested assistance from Bina Marga in this regard. Mr Soetomo indicated that he would contact the office in Medan and obtain these rates officially.
6. FUEL INDICES. The fuel price indice Fo was computed as follows:

High Speed Diesel	:	95% x 19 = 18,05
Lubricant	:	5% x 300 = 15
Fuel indice Fo		<hr/> = 33,05

The contract requires that price indices for fuel be obtained from Pertamina. PT Nindya Karya will obtain the fuel price indices from that office for used by all Contractors.

7. CEMENT INDICES. The Base Cement Indices reflects prices for Padang Cement; accordingly; will be used for future escalation payments.
  
8. ASPHALT INDICES. It was agreed that the prices published by Pertamina for penetration asphalt 85/100 and that quoted from Singapore Shell for RC2 would be used. Asphalt indices are computed on the basis of 87.5% - 85/100 and 12.5% - RC2.

Since PT Nindya Karya was to contact Pertamina for Fuel prices, they would also obtain Asphalt prices as well.

9. EQUIPMENT INDICES. A discussion was held regarding the manner of establishing the base price index for equipment. Mr Race indicated that he would obtain updated equipment price information from the supplier in the States if necessary.

It was agreed by PT Nindya Karya that the ERT/Ero factor would be calculated using the "Wholesale Price Index, Import Commodities". Table II 12 of the Indikator Ekonomi or Economic Indicator published monthly by the Central Bureau of Statistics.

PT Hutama Karya requested another week to consider this proposal. Mr Soetomo agreed that the ERT/ERO factor should be calculated as follows if original base price is used: 
$$\frac{\text{Current Equip Value} \times \text{Current Rp conversion rate}}{\text{February 76 Equip Value} \times \text{Feb. 76 Rp conversion rate}}$$

The above formula provides for the conversion of US \$ to Rp.

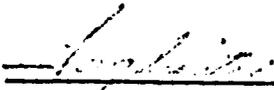
10. STEEL INDICES. Since reinforcing steel is essentially to be provided by Bina Marga; there is no escalation considered for purchase of Reinforcing Steel.

It was agreed however, that the Parametric formulas provided for in section 8, Structures and section 2, Drainage would be used.

There would be no cost escalation considered for Materials on Hand, including steel.

11. NEXT MEETING. A follow-on meeting will be held in the near future at a time to be announced.

Sidikalang, 31 March 1979  
LOUIS BERGER INTERNATIONAL, INC



G S Taglienti  
Deputy Engineer-Contracts

cc: Attendees

ACEH ROAD BETTERMENT PROJECT  
MONTHLY PROGRESS REPORT  
MARCH 1979

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P A R T    I I

HEADQUARTERS    REPORT

ACEH ROAD BETTERMENT PROJECT  
MONTHLY PROGRESS REPORT  
MARCH 1979

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HEADQUARTERS FORCE REPORT

<u>Classification</u>	<u>Begin Period</u>	<u>End Period</u>	<u>Variation</u>	<u>Location</u>		<u>Jkt</u>
				<u>Sdk</u>	<u>Mdn</u>	
<u>Expatriate</u>						
Engineer-in-Charge	1	1	0	1	-	-
Dy.Eng.Contracts	1	1	0	1	-	-
Dy.Eng.Materials	1	1	0	1	-	-
Bridge Design Eng.	1	1	0	1	-	-
Alignment Eng.	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>-</u>	<u>-</u>
	5	5	0	5	-	-
<u>Indonesian</u>						
Progress Eng.and Contract Admin.	1	1	0	1	-	-
Ass.Bridge Design Engineer	1	1	0	1	-	-
Ass.Material Eng.	0	1	+1	1	-	-
Chief Surveyor	1	1	0	1	-	-
Chief Lab.Tech.	1	1	0	1	-	-
Lab.Technician	1	2	+1	2	-	-
Admin. Manager	1	1	0	1	-	-
Purchase Officer	1	1	0	-	1	-
Jr Accountant	1	1	0	1	-	-
Secretaries	2	2	0	1	-	1
Draftsman	1	1	0	1	-	-
Clerks	3	2	-1	2	-	-
Radio Operator	1	1	0	1	-	-
Drivers	7	7	0	6	1	-
Office Janitor	4	4	0	3	-	1
Maintenance Man	<u>3</u>	<u>3</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>-</u>
	29	30	+1	24	3	2
Total Personnel	34	35	+1	29	3	4

ACEH ROAD BETTERMENT PROJECT  
MONTHLY PROGRESS REPORT  
MARCH 1979

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MATERIAL CONTROL PROGRAM

Three Local Assistant Materials Engineers are currently receiving orientation and indoctrination in Materials and Quality Control at the Sidikalang Testing Laboratory. See attached Bar Chart and training program for each candidate.

The Deputy Engineer of Materials visited all three sections of Aceh Road Betterment Project during this reporting period.

Section I : Tapaktuan - Kruengluas Road

Also no activity by the Contractor. The Laboratory started to work on soils classification from station 0 + 000 to Sta 60 + 00.

Section II : Sidikalang - Kruengluas Road

The Contractor produced at the crusher plant, sub-base and modified base course within specification. Sub-grade from Sta 55 + 000 to Sta 52 + 400 was tested and found satisfactory.

Sub-base

The Contractor placed and compacted sub-base material from Sta 54 + 820 to Sta 53 + 000.

Base

From Sta 53 + 300 to Sta 54 + 820 was tested and found satisfactory.

**Penetration Macadam**

The contractor placed macadam pavement from Sta 56 + 000 to Sta 54 + 820 and Sta 54 + 500 to 54 + 100 at the rate of 6 lt/m<sup>2</sup>.

**Bridges**

Lae Tomol : Concrete tested on cross beams 3 & 4.

Lae Leam : Concrete tested on pier 2 and spread footing of pier 5 indicated 95% design strength in 7 days.

Lae Simbolon: Pier no.5 and 2 and spread footings met the 7 days strength requirements.

**Section III: Kotacane - Blangkajeren**

**Sub-base**

The Contractor placed and compacted satisfactory 500 meters of sub-base.

**Base**

The material up to Sta 6 + 000 meets compaction and project requirements.

**Penetration Macadam**

The contractor completed placing paving to Sta 4 + 500 at the rate of 6.8 lt/m<sup>2</sup>.

The practical application of laying macadam paving was changed during this month with satisfactory results.

ACEH ROAD BETTERMENT PROJECT  
MONTHLY PROGRESS REPORT  
MARCH 1979

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TRAINING PROGRAM

Training is now proceeding on a more formal basis; classroom lectures are planned and training syllabus are prepared. A revised schedule for replacement of expatriate engineers by local engineers is being prepared.

**Training Program for Assistant Materials Engineers  
in Headquarter's Laboratory**

1. Introduction in Construction Materials
2. Testing and Testing procedures
3. Classification in Headquarters's Laboratory
4. Concrete Materials and Design
5. Quality Control in the field
6. Paving and paving design and redesign
7. Paving Quality Control in the field
8. Borrow-pit location and sampling of Soils gravel  
rock etc.
9. Field trip locating possible borrow-pits
10. Transferring Ir's to the field

This training program is estimated to take about three  
- four months from the time its activated.

Soils and Concrete	= 2 - 2 $\frac{1}{2}$ months training
Asphalt	= $\frac{1}{2}$ - 1 month training
Borrow-pit locaiton	= $\frac{1}{2}$ - $\frac{1}{2}$ month training
	<hr/>
	3 - 4 months training

# TRAINING PROGRAM FOR ASS. MATERIAL ENGINEERS IN H.Q. LABORATORY

MR. Daryadi

SECTION I.

	FEB.	MARCH	APRIL	MAY	JUNE
1. Introduction in Construction Materials		█			
2. Testing and Testing Procedures		█			
3. Soils classification in Head Quarter's Laboratory		█			
4. Concrete Materials and Design			█		
5. Quality Control in the field				█	
6. Paving and paving design and redesign				█	
7. Paving Quality Control in the field				█	
8. Borrow-pit location and Sampling of Soil gravel rock etc .				█	
9. Field trip locating possible borrow - pits					█
10. Generalization of training					█

# TRAINING PROGRAM FOR ASS. MATERIAL ENGINEERS IN H.Q. LABORATORY

MR. : Mirza Mustafirin

SECTION II.

MR. : Rudy Pitra

SECTION III.

	FEB.	MARCH	APRIL	MAY	JUNE
1. Introduction in Construction Materials	■				
2. Testing and Testing Procedures	■	■			
3. Soils classification in Head Quarter's Laboratory	■	■			
4. Concrete Materials and Design		■			
5. Quality Control in the field		■			
6. Paving and paving design and redesign			■		
7. Paving Quality Control in the field			■		
8. Borrow-pit location and Sampling of Soil gravel rock etc.				■	
9. Field trip locating possible borrow-pits				■	■
10. Generalization of training				■	■

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ACEH ROAD BETTERMENT PROJECT  
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P A R T   I I I

DETAILED SECTION REPORT

ACEH ROAD BETTERMENT PROJECT  
MONTHLY PROGRESS REPORT  
MARCH 1979

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NARRATIVE REPORT  
TAPAKTUAN - KRUENGLUAS SECTION

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This section is currently under litigation involving P.T. Marjaya and the client. Negotiation with RSEA, an expatriate construction Contractor from Taiwan is under review.

Resident Engineer forces are currently re-surveying the road alignment and installing key survey monuments so that construction can proceed without delay throughout the entire section of road.

ACEH ROAD BETTERMENT PROJECT  
MONTHLY PROGRESS REPORT  
MARCH 1979

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ENGINEER FORCE REPORT  
TAPAKTUAN - KRUENGLUAS SECTION

<u>Classification</u>	<u>Begin Period</u>	<u>End Period</u>	<u>Variation</u>
<u>Expatriate</u>			
Resident Engineer	<u>1</u> 1	<u>1</u> 1	<u>0</u> 0
<u>Indonesian</u>			
Ass. Res. Engineer	2	1	-1*
Inspector	-	2	+2
Instrumentmen	2	2	0
Rodmen	2	2	0
Chainmen	2	2	0
Quantityman	1	1	0
Draftsman	1	1	0
Lab. Technician	1	1	0
Driver Mechanic	1	1	0
Drivers	4	4	0
Typist/Radio Operator	1	1	0
Office Janitor	<u>1</u>	<u>1</u>	<u>0</u>
	18	19	+1
Total Personnel	19	20	+2

\* Trained at Sidikalang Laboratory



**ACEH ROAD BETTERMENT PROJECT**  
**MONTHLY FINANCIAL SUMMARY**

Section Tapaktuan-Kruengluas Period NO. 20

Contractor PT Marjaya Contract No. 13/CTR/LN/BM/76

Original Contract Price Rp. 2.195.775.000-

Period Ending Date March 1979  
~~No invoice receive in March 1979~~

Contract Price Beginning of Period, Including C.O. No. <u>1</u>	Rp. 2.195.775.000-
Contract Price Changes Accepted during Period, Including C.O. Nos. <u>2</u>	+ 367.590-
Contract Price at end of Period No. <u>19</u>	2.196.142.590-
Total Contract Payments Due at Beginning of Period Including Retentions and Repayments	157.988.396-
Contract Payment for Period No. <u>20</u> Including Retentions and Repayments	934.060-
Total Contract Payments Due at End of Period No. <u>20</u> Including Retention and Repayments	159.634.881-
Total Contract Price Remaining to Pay at End of Period No. <u>20</u> Including Retentions and Repayments	2.036.507.709-
Total Retention to End of Period No. <u>19</u>	15.861.825-
Retention Period No. <u>20</u>	93.406-
Total Retention at End of Period No. <u>20</u>	15.955.231-
Advance Payment to End Period No. <u>20</u>	-
Total Repayment of Advance Payment to End Period No. <u>20</u>	7.844.396-
Advance Repayment Remaining at End Period No. <u>20</u>	321.521.854-







RAINFALL

TAPAKTUAN - KRUENGLUAS SECTION

<u>D a t e</u>	<u>Rainfall MM</u>
1	0
2	0
3	0
4	0
5	0
6	0
7	13
8	0
9	30
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	11
21	2
22	3
23	0
24	0
25	4
26	0
27	0
28	23
29	0
30	0
31	<u>0</u>
<b>Total:</b>	<b>86</b>

## EQUIPMENT LIST

CONTRACTOR: PT MARJAYA

MONTH ENDING: March 1979

ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD.	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
1.	Dozer, FA 16B	new	3	-	1	-	4	75	
2.	Loader, Cat 920	new	6	-	-	-	6	100	5 in repair
3.	Motor grader								
	a. FA 100c	new	2	-	-	-	2	100	2 in repair
	b. FA 120c	new	-	-	2	-	2	0	Furn.by Bina Marga
	c. FA 150c	new	1	-	-	-	1	100	in repair
4.	Compactor								
	a. Vibr.Smoth SF54	new	1	-	-	-	1	100	Furn.by Bina Marga
	b. " pad SPF 54	new	1	-	-	-	1	100	" " " "
									in repair
	c. Roller, Smoth, ter-								
	dem gallion roll								
	static	new	3	-	1	-	4	75	3 in repair
	d. Roller smoth 3								
	whell koechring								
	3W-10	new	4	-	3	-	4	75	1 in repair
5.	Crushing Plant								
	a. Lippman	-	-	-	1	-	1	0	Furn.by Bina Marga
	b. Secondary	new	2	-	-	-	2	100	2 in repair
6.	Backhoe, Drott 40Y	new	1	-	-	-	1	100	Furn.by Bina Marga
7.	Truck Crane drott								
	S5 RMZ	-	-	-	1	-	1	0	Furn.by Bina Marga
8.	Dumptruck IH 1850	new	40	-	-	-	40	100	20 Furn.by BM-36 in
									repair
	Dumptruck Bedford	new	10	-	-	-	10	100	10 in repair

# EQUIPMENT LIST

CONTRACTOR: PT MARJAYA

MONTH ENDING: March 1979

ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD.	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
9.	Fuel & Lube IH Lincoln	new	1	-	-	-	1	100	Furn.by Bina Marga
10	Water truck IH1850	new	1	-	-	-	1	100	- in repair Furn.by Bina Marga
11.	Fuel truck IH1850	new	2	-	-	-	2	100	in repair Furn.by Bina Marga
12.	Flatbed truck Fargo	-	0	-	1	-	1	0	
13.	Asphalt distributor truck Etnyre	new	1	-	-	-	1	100	Furn,by Bina Marga
14.	Exc.Crane PH550	new	2	-	-	-	2	100	2 in repair
15.	Concr.Mixer-Plymouth 165	new	3	-	-	-	3	100	
16.	Pile drive leads& hammer	new	1	-	-	-	1	100	Furn.by Bina Marga
17.	Conveyor Lippman	-	1	-	-	-	1	100	" " "
18.	Bending Machine rebar	new	2	-	2	-	2	100	
19.	Chip spreader	-	-	-	1	-	1	0	Furn.by Bina Marga
20.	Personnel Vehicles								
	a.Landrover long base	new	1	-	2	-	3	66	
	b.Pick up fargo	new	1	-	1	-	2	50	
	c.Motorcycle Honda	new	-	-	2	-	2	0	
21	Frok lift	-	0	-	1	-	1	100	
22.	Concr.vibrator	new	0	-	3	-	3		

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ACEH ROAD BETTERMENT PROJECT  
MONTHLY PROGRESS REPORT  
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NARRATIVE REPORT  
SIDIKALANG - KRUENGLUAS SECTION

General

The roadway construction is now approximately 7 kilometers from the rock crushing plant. Cycle time of truck handling operations is increasing and will require careful scheduling of trucks for sub-base/base course material.

With the completion of the Lae Tomol Bridge deck it is anticipated that temporary crossings will begin early next major bridge site.

The progress payment for this period was 1.96% of the contract price.

**EQUIPMENT UTILIZATION**

A review of Contractor Equipment Utilization during this period was :

Type of equipment	Quantity	Operation	Idle	Down Time	Change Operation % from last month
Bulldozer	5	34	64	2	+3
Motor Grader	3	64.5	21.5	14	-7
Excavator	1	30.65	16.12	53.23	-55.35
Loader	4	78.63	12.07	9.3	+15.13
Compactor	9	61.19	31.19	7.16	+ 6.65
Crusher	2	93.55	-	6.45	+ 7.55
Pavement Eq.	5	60	40	-	- 24
Concr. Mixer	6	87.1	12.9	-	+18.1
Carry deck	1	55	10	35	+1
Piling Eq.	3	0	0	0	0
Dump Truck	30	67.42	11.31	21.27	+6.92

**DRAINAGE**

**A. R.C.P. Production**

During this period the Contractor produced R.C.P. as follow :

∅ 60 cm	240 M <sup>3</sup>
∅ 80 cm	232 M <sup>3</sup>
∅ 100 cm	146 M <sup>3</sup>

**B. R.C.P. Installation.**

During this period the Contractor installed R.C.P. as follow :

∅	Linear Meter
60	57
80	118
100	18

**C. Box Culvert**

A box culvert 3.00 m x 3.00 m x 22.00 m at Lae Namboras Sta 28 + 205 is approximately 90%.

EARTHWORK

During this period the Contractor removed minor land slide between Sta 52 + 200 to 52 + 237 and approx 19600 Sq. meter of sub-grade preparation was accomplished.

SUB-BASE

The Contractor placed sub-base from Sta 54 + 500 to Sta 52 + 000

BASE

The Contractor placed base from Sta 55 + 370 to Sta 52 + 950

PAVEMENT

A. Prime Coat

During this period the Contractor placed prime coat from Sta 56 + 060 to Sta 53 + 370.

B. Penetration Macadam

During this period the Contractor placed Penetration Macadam from Sta 56 + 060 to Sta 54 + 100.

CRUSHER

During this period the Contractor produced 2,285 M3 of base course material.

MAJOR STRUCTURE

Location

Activity

Lae Tomol Bridge  
Sta 27 + 465

During this period the Contractor placed concrete for beams, slab and railing. Also backfill on both sides of abutment have been started. The percentage of work completed is approx 85%.

**Lae Leam Bridge**  
**Sta 42 + 248**

All piers and abutments are now completed, Beams have been cast. The percentage of work completed is approx 87,3%.

**Lae Simbolon Bridge**  
**Sta 59 + 850**

Abutment on Runding side and other 3 piers are now completed. Beams have been cast. The percentage of work completed is approx 80,7%.

ACEH ROAD BETTERMENT PROJECT  
MONTHLY PROGRESS REPORT  
MARCH 1979

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ENGINEER FORCE REPORT  
SIDIKALANG - KRUENGLUAS SECTION

<u>Classification</u>	<u>Begin Period</u>	<u>End Period</u>	<u>Variation</u>
Resident Engineer	<u>1</u>	<u>1</u>	<u>0</u>
	1	1	0
<u>Indonesian</u>			
Ass.Res.Engineer	2	2	0
Inspectors	2	2	0
Jr Inspector	1	1	0
Surveyor	1	1	0
Instrument Men	3	3	0
Quantity Tech.	1	1	0
Lab.Tech.	1	1	0
Draftsman	1	1	0
Lab.Helper	1	2	+1
Clerk	1	1	0
Chainman	2	2	0
Rodmen	2	2	0
Driver	<u>6</u>	<u>6</u>	<u>0</u>
	24	25	+1
Total Personnel	25	26	+1

## MATERIAL ON SITE SUMMARY

SECTION : Sidikalang-Kruengluas

MONTH ENDING : March 1979

ITEM	UNIT	Begin Period		End Period	
		Quan.	Price in Rp.	Quan.	Price in Rp.
Dynamite	kg	341	603.911	287	508.277
Coarse Aggregate	m <sup>3</sup>	1.421	8.086.911	929	5.286.939
601(2)Aggregate sub-base	m <sup>3</sup>	15.400	81.151.840	13.490	71.086.904
Cement	ton	30	1.527.792	0	0
Rebars	kg	1.140.413	21.553.806	1.087.991	20.563.030
Rebar (Cont. furn)	kg	550.194	112.789.770	550.194	112.789.770
Rebar (trans. cost) to site	kg	550.194	10.398.666	550.194	10.398.666
RCP Ø 60 cm	m	218	2.574.972	380	2.488.484
RCP Ø 80 cm	m	530	9.388.155	673	11.921.186
RCP Ø 100 cm	m	179	4.378.859	315	7.705.813
Asphalt AC85-100	ton	186	16.473.685	174	15.410.867
Base material	cu.m	10.594	55.826.142	10.796	56.890.601
Bearing Pad	dm <sup>3</sup>	605	16.329.737	568	12.073.522
Asphalt RC-2	ton	0	0	0	0
Precast Concrete bridge beams	m <sup>3</sup>	0	0	176	8.807.691

**ACEH ROAD BETTERMENT PROJECT**  
**MONTHLY FINANCIAL SUMMARY**

Section Sidikalang-Kruengluas Period NO. 24  
 Contractor PT Nindya Karya Contract No. 05/CTR/LN/BM/77  
 Original Contract Price Rp 5.783.029.512.-  
 Period Ending Date March 1979

Contract Price Beginning of Period, Including C.O. No. <u>4</u>	Rp 5.859.212.806
Contract Price Changes Accepted during Period, Including C.O. Nos. <u>5</u>	+ 137.486.594
Contract Price at end of Period No. <u>23</u>	5.996.699.400
Total Contract Payments for Work Completed at Beginning of Period	1.513.012.763
Contract Payment for Period No. <u>24</u> Invoiced	113.136.225
Total Contract Payments Due at End of Period No. <u>24</u> Including Retention and Repayments	1.626.148.988
Total Contract Price Remaining to Pay at End of Period No. <u>24</u> Including Retentions and Repayments	4.233.063.818
Total Retention to End of Period No. <u>23</u>	151.027.688
Retention Period No. <u>24</u>	-
Total Retention at End of Period No. <u>24</u>	128.548.921*
Advance Payment Period No. <u>24</u>	22.627.245
Total Repayment of Advance Payment to End Period No. <u>24</u>	109.610.402
Advance Repayment Remaining at End Period No. <u>24</u>	774.004.827

**Notw:\* Total retention in March 79 Invoice is deducted to an amount of Rp 22.627.245.- due to postponement of retention payment from period No. 22 to period No.25 (January '79 - April '79)**

## CHANGE ORDER SUMMARY

CONTRACTOR : P.T. NINDYA KARYA

Sheet 1 No. 3

CONTRACT No: 05/CTR/IN/BM/77

Month Ending March 1979

C.O. No.	C.O. Content + Description	Price Change	Date Submitted	Date Appd. Bina Marga	Date Accepted by Contr.
1	C.O. No. 1	48.562.642	May 21, '77	June 30, '77	Aug. 9, '77
	a) N.O.C. 1 reduce barracks quantity				
	b) N.O.C. No. 2 define base and subbase				
	c) N.O.C. No. 3 add base camp roads				
2	C.O. No. 2	+182.589.549	July 30, '77	Aug. 20, '77	Aug. 9, '77
	a) NOC No. 4 - Install roads and utilities base camp				
	b) NOC No. 5 - include Add No. 3 in contract				
3	C.O. No. 3	-76.131.049	Mar. 19, '77	Apr. 18, '78	Sept. 30, '78
	a) NOC No. 6 - correct contract quantities to agree with pricing				
	b) NOC No. 7 - change specification for asphalt.				
	c) NOC No. 8 - change design of Reinf. Concr. bridge to culvert at sta 38 + 632				

## CHANGE ORDER SUMMARY

CONTRACTOR : P.T. NINDYA KARYA

Sheet 2 No. 3

CONTRACT No: 05/CTR/LN/BM/77

Month Ending March 1979

C.O. No.	C.O. Content + Description	Price Change	Date Submitted	Date Appd. Bina Marga	Date Accepted by Contr.
	d) NOC No.9-change design of Reinf. concr. bridge to culvert Sta 38 + 179				
	e) NOC No.10-change design of reinf. concr. bridge to culvert. Sta 46 + 837				
4	C.O. No. 4 a) NOC No.12 change of bridge to RCP Ø 100 cm b) NOC NO. 13 change of bridge to RCP Ø 100 cm c) NOC No.15 change of mobilization payment of 80% on completion of mobilization. d) NOC No. 17 Extension services of contractor Expat. Advisor e) NOC No.18-Add. pine culverts install.	+18.288.436	June 28, 78	July 11, 78	Sept. 30, 78







RAINFALL  
SIDIKALANG - KRUENGLUAS SECTION

<u>D a t e</u>	<u>Rainfall MM</u>
1	0
2	0
3	0
4	0
5	10.1
6	7
7	0
8	0
9	0
10	0
11	2
12	0
13	0
14	0
15	1.7
16	0
17	0
18	14.8
19	40
20	29
21	22.5
22	18.6
23	3
24	11.6
25	9.8
26	3.1
27	10.3
28	0.7
29	39.2
30	30.8
31	<u>5.3</u>
<b>Total :</b>	<b>259.5</b>

## CONTRACTOR FORCE REPORT

CONTRACTOR : PT Nindya Karya

MONTH ENDING : March 1979

Classification	Beginning of Period	End of Period	Variation + or -	Remarks
Civil Eng. (Superv)	4	4	0	
Eng. Consultant	1	1	0	
Bachelor Civ Eng	4	4	0	
Mech. Engineer	1	1	0	
Bach. Mech. Eng.	2	2	0	
Surveyors	6	4	-2	
Surveyors helper	15	16	+1	
Foreman	12	11	-1	
Ass. Foreman	5	8	+3	
Chief of Adminis.	1	1	0	
Adm. Personnel	14	15	+1	
C l e r k	1	1	0	
Laboratory Crew	1	1	0	
Draftsmen	5	4	-1	
Quantity Crew	1	1	0	
Heavy Eq. Operator	19	21	+2	
Heavy Eq. Op. helper	3	6	+3	
Chief Mechanic	1	1	0	
Mechanic	11	11	0	
Mechanic helper	12	20	+8	
Electrician Foreman	1	1	0	
Electrician	1	1	0	
Carpenters	10	10	0	
Carpenters helper	17	17	0	
M a s o n s	2	2	0	
Masons helper	3	3	0	
Steelmen	7	7	0	
Steelmen helper	3	3	0	
Dump truck Drivers	26	29	+3	
Vehicle Drivers	9	9	0	
Welder	0	1	+1	
Dispather	0	1	+1	



# Best Available Document

## EQUIPMENT LIST

CONTRACTOR: P.T. KENDYA KARYA

MONTH ENDING: March - 1979

ITEM NO	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
I. Earth Mover :									
1	Bulldozer 180 H P	new	*1+**3=	-	-	-	5	80	*Cat D7G, Bina Marga Eq.
2	Bulldozer 140 H P	new	1	-	-	-	1	100	Case 1150 B
3	Ripper	new	2	-	-	-	2	100	1 for D7G, 1 for 1150 B
4	Motor grader 120 H P	*New, **Used	*1+**2=3	-	-	-	4	75	*120G, **KOM GD 37
II. Loading Equipment:									
1	W.Loader 1,40-1,50 M3	new	3	-	-	-	2	150	Cat 920 - Bina Marga Eq.
2	Track Loader up to 1,50 M3	used	1	-	-	-	2	50	KOM D 57 - s Bina Marga Eq.
3	Exc. Shovel 0,67 M3	new	1	-	-	-	1	100	Drott 40 YR - Bina Marga Eq.
4	Backhoe Loader hoe, 17M3, shovel 0,75M3	-	-	-	-	-	2	-	-
5	Clamshell	-	-	-	-	-	1	-	-
III. Contraction Eq.:									
1	Vibro comp. selfpropelled w/t smooth drum	new	1	-	-	-	1	100	SP 54 - Bina Marga Eq.
2	Vibro compactor selfprop. w/t sheep foot	new	1	-	-	-	1	100	SPF 54, substitute for sheep foot roller.
	Pneumatic Tired Roller	new	2	-	-	-	2	100	PSR-C-25 Bina Marga Eq.
	tandem roller 8 - 12 t	new	1	-	-	-	2	50	Bina marga Eq.
	Three wheel roller 12-15t	new	2	-	-	-	3	66.66	Bina Marga Eq.

# EQUIPMENT LIST

CONTRACTOR: P.T. NINDYA KARYA

MONTH ENDING: March 1979

ITEM NO	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
7	Tamping Rammer	new	3	-	-	-	4	75	added if, already needed
<b>IV. Material Process&amp;Plant</b>									
1	Stone Crusher 70 Tph	new	1	-	-	-	1	100	Lippmann
2	Crusher stone up to 30 Tph	used	1	-	-	-	1	100	
3	Air Compressor 600 Cfm	new	1	-	-	-	1	100	IR 600
4	Air compressor 175 Cfm	new	1	-	-	-	2	50	Airman
5	Concrete Mixer 0,250M3	new	2	-	-	-	2	100	
6	Concr. mixer 0,50-1,00M3	*new, **used	**2+**2=4	-	-	-	6	66,67	*plymouth **Lester Engine
7	Concr.vibr. w/t head diam. 36 m/m	new	5	-	-	-	5	100	
8	Water pump 2"-4" Ø	new	12	-	-	-	12	100	
9	Oil pump 2" Ø	new	1	-	-	-	1	100	
10	Jack hammer/Rock Drill	new	6	-	-	-	6	100	IRJ40=4,Atlas Copco =2
11	Paving Breaker	new	2	-	-	-	2	100	Atlas Copco = 2
12	Belt conveyor	new	3	-	-	-	3	100	
<b>V. Bridge Eq.:</b>									
1.	Pile Driver Lead for- 20 M P length	new	1	-	-	-	1	100	Koehring HKO 80-311 Eq.
2	Diesel pile Hammer 5 ton Can	new	1	-	-	-	1	100	
3	Three foot ...	used	1	-	-	-	1	100	
4	Launching Bridge	-	-	-	-	-	1	-	
5	Crane Mobile Can.25ton	-	-	-	-	-	1	-	
6	Buggy	new	12	-	-	-	-	-	

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# EQUIPMENT LIST

CONTRACTOR: P.T. NINDYA KARYA

MONTH ENDING : March 1979

ITEM NO	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
VI	Surface Eq.:								
1	Chip Spreader 3 M	new	1	-	-	-	1	100	Etnyre
2	Asp. Distrib. 4.000 Lt	new	1	-	-	-	1	100	Etnyre
3	Asp. Sprayer 600 Lt	new	1	-	-	-	1	100	
4	Mech. Sweener Broom	new	1	-	-	-	1	100	
5	Asphalt Tank Burner 15 ton	new	1	-	-	-	1	100	
6	Rock spreader	-	-	-	-	-	-	-	
VII	Transportation:								
1	Holden Pick-up	-	1	-	-	-	1	100	used by Contractor Advisor
2	Toyota jeep	new	5	-	-	-	4	-	
3	Pick up & Mini bus	new	9	-	-	1	10	-	Is required
4	Motorcycle	new	10	-	-	-	-	-	
5	Dump Truck 5 ton	*New, **Used	30	-	-	-	20	100	20 Bina Marga Equipment
6	Flatbed Truck 5 ton	new	1	-	-	-	1	100	Bina Marga Equipment
7	Water Tank Truck 4000Lt	new	1	-	-	-	2	50	Bina Marga Equipment
8	Fuel Tank Truck 4000 Lt	new	1	-	-	-	1	100	Bina Marga Equipment
9	Truck Crane 5 Ton	New	1	-	-	-	1	100	Carry deck
10	Truck tractor w/t Low bed 20 t	-	-	-	-	-	-	-	
11	Pole Trailer 20-25 t	-	-	-	-	-	1	-	
VIII	Power Station:								
1	Generator set 300 KVA	new	1	-	-	-	1	100	
2	Generator set 5 KVA	new	1	-	-	-	3	33.33	

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## EQUIPMENT LIST

CONTRACTOR: P.T. NINDYA KARYA

MONTH ENDING : March 1979

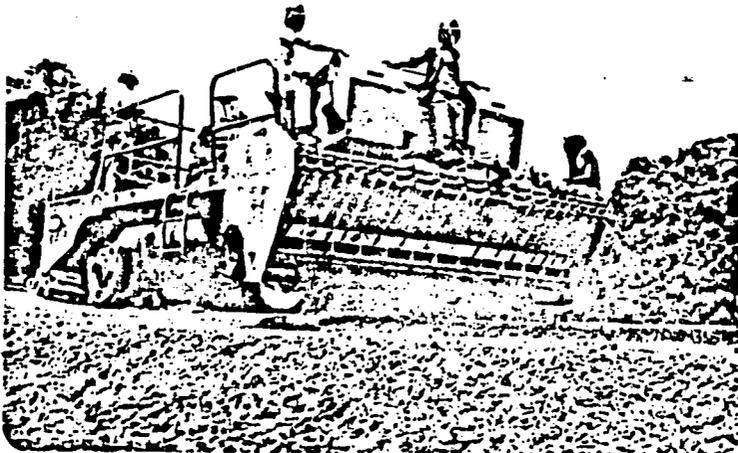
ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD.	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
3	Generator set 50 KVA								
IX.	<u>Mechanic:</u>								
1	Fuel&lube Eq.	new	1	-	-	-	1	100	
2	Electric welder 400A	new	1	-	-	-	1	100	
3	Electric welder 225A	new	1	-	-	-	1	100	
4	Acetylene welder	new	1	-	-	-	-	100	
5	Tire changing Tool	-	-	-	-	-	-	-	
6	R.C.P. form	new	13	-	-	-	-	-	
7	Cutter rebar	new	3	-	-	-	3	100	
8	Handwinch 1 ton	new	2	-	-	-	2	100	
9	Power winch 0,7-5t	new	2	-	-	-	2	100	
10	Grinding machine	new	1	-	-	-	1	100	
11	Repair shon tool	new	same	-	-	-	same	-	
12	Sling, Chain, Rope etc	new	same	-	-	-	same	-	

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Distribution of Penetration Asphalt-85/100



Chip Spreader - Penetration Macadam



PENETRATION MACADAM  
Section II : Sidikalang-Kruengluas

ACEH ROAD BETTERMENT PROJECT  
MONTHLY PROGRESS REPORT  
MARCH 1979

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NARRATIVE REPORT  
KUTACANE - BLANGKEJEREN SECTION

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GENERAL

There was some improvement in the level of production this month. Improvements stem mainly from additional trucks being brought on site and more effort being made in the repair of dead-line equipment. However, Progress remains far below the level required. If the Contractor continues at his current production rate, seven years will be required to complete the project.

Progress payment for this month for Work-in-Place equals 1.08% of the Contract total. This compares poorly with the 2.77% reported in the Contractor's Revised Schedule, for completion.

Total payment to-date for all items equals 22.97% of the Contract total, and for Work-in-Place items equals 8.5% of the Contract total.

Mobilization and Equipment

One grader, one dozer and six new 7 ton trucks were brought on site together with some much needed items of minor equipment such as pumps and concrete mixers.

However, the crews at each site amount to only 5 or 6 men each, and the work is progressing slowly. 78 m<sup>3</sup> of Class A concrete was cast for the month.

#### Bridge/Box Culvert Design

The Engineer has supplied drawings for two bridges and ten box culverts ahead of the work at present under construction.

#### Survey and Re-design

The Engineer has 4 survey teams working on the re-design survey from km 30 onwards. The bench-mark survey has been completed to km 90 and the alignment survey and re-design is partially complete to km 38. One survey team has commenced a preliminary traverse to determine feasibility of a major re-alignment in the vicinity of km 55. This re-alignment would save approximately 4 km compared with following the existing road.

#### Road Maintenance

The Contractor continues to expend considerable effort in up-grading the existing road under a special A.L.S. grant. Seven items of heavy equipment (including a dozer, a loader and grader allocated to the main project) and approximately 40 men are at present working beyond km 50. This work should be completed within two months.

#### Weather

Rainfall recorded for this month was 80 mm which is unusually dry for March; the average March rainfall for Kutacane being 204 mm. There were 28 days where less than 10 mm of rain was experienced.

Base

2.4 km of modified Class A Base were placed. This now extends to km 11.2; but from km 6 onwards the base requires re-work.

Bituminous surfacing

1.3 km of RC2 prime were placed bringing the total length primed to km 6.

2.5 km of Penetration Macadam were placed which is now complete to km 4.5.

The construction sequence used initially and reported last month has been amended and as follows:

3.5 cm loose thickness of 1 1/2" aggregate, followed by 4.0 l/m<sup>2</sup> of 85/100 asphalt, followed by 2.5 cm loose thickness layer of 3/4" aggregate, followed by 2.8 l/m<sup>2</sup> of 85/100 asphalt, followed by 1.5 cm loose thickness layer of 3/8" aggregate.

The efficiency of the operation and quality of riding surface is improving. Out-puts of 400 m of 1/2 width per day were being achieved until break-downs at the de-drumming plant halted progress half way through the month. The Contractor is at present building storage sheds to keep the aggregate dry and when these are complete, out-puts of 300 m full width per day should be achieved, weather permitting.

Bridge and Culverts

The Contractor is at present casting concrete at 6 CIP Box Culverts and one bridge; also is doing demolition and excavation work at other box culverts and bridge.

Equipment utilization for this month is tabulated below:

<u>Equipment Type</u>	<u>Quantity</u>	<u>In operation *</u> <u>%</u>
Bulldozers	4	32%
Motor Graders	4	47%
Excavator	1	72%
Loaders	5	44%
Compactors	6	39%
Crushers	2	51%
Pavement Equipment	3	35%
Dump Trucks	30	47%

\* based on 56 hrs week.

The Contractor has had an equipment specialist on site for three weeks, and has had some success in improving repair and maintenance operations.

#### Drainage

Installation of pipe culverts has recommenced between km 17 and km 20. Some 63 lineal meters of pipe culvert were installed this month.

#### Earthwork and Sub-grade

Renewed effort is being made on excavation and embankment. Most of the work this month was between km 15 and km 17.

The Contractor has been unable to obtain labour to finalize slope trimming between km 12 and 13, but plans to import a 40 man force from Java for this purpose.

#### Sub-Base

500 meters of Sub-Base were placed.

ACEH ROAD BETTERMENT PROJECT  
MONTHLY PROGRESS REPORT  
MARCH 1979

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ENGINEER FORCE REPORT  
KUTACANE-BLANGKEJEREN SECTION

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<u>CLASSIFICATION</u>	<u>BEGIN PERIOD</u>	<u>END PERIOD</u>	<u>VARIATION</u>
Expatriate Engineer	1	1	0
	<hr/>	<hr/>	<hr/>
	1	1	0
Local Personnel:			
Engineers	2	3	+ 1
Inspectors	5	5	0
Quantity Technician	1	1	0
Laboratory Technician	2	2	0
Draftsmen	3	3	0
Instrumentmen	5	6	+ 1
Rodmen	15	25	+10
Clerk	1	1	0
Drivers	7	8	+ 1
Laboratory Labourer	1	1	0
Radio Operator	1	1	0
Janitor	1	1	0
	<hr/>	<hr/>	<hr/>
	44	57	+13
Total personnel	45	58	+13

## MATERIAL ON SITE SUMMARY

SECTION : Kotacane-Blangkejeren

MONTH ENDING : March 1979

ITEM	UNIT	Begin Period		End Period	
		Quan.	Price in Rp.	Quan.	Price in Rp.
Item 9.11 (1)					
R Of W Mnt	Ea	281	1.218.135	281	1.218.135
9.11 (4) Hectometer post	Ea	792	3.433.320	792	3.433.320
Item 7.04 Asphalt cement for penetration Macadam	kg	1.825.565	191.684.325	1.748.050	183.545.250
602(3) Subbase					
C1 C	cu.m	0	0	0	0
601(1) Base Course					
C1 A	Loose cu.m	1784	5.976.903	1784	5.976.903
8.03 Reinforcing steel	kg	298.648	9.855.384	37.982.678	9.855.384
2.04(3a) Reinf. Concrete pipe 60cm	m	508	4.055.618	485	3.871.998
2.04(3b) Reinf. Concr. pipe 80 cm	m	253	3.426.379	219	2.965.917
2.04(3c) Reinf. Concr. pipe 100cm	m	114	2.109.342	89	1.646.767
2.04(3F) Precast concr. Box 50 x 100cm	m	3	63.000	3	63.000



**ACEH ROAD BETTERMENT PROJECT**  
**MONTHLY FINANCIAL SUMMARY**

Section Kotacane - Blangkajeren Period NO. 24

Contractor PT Hutama Karya Contract No. 04/CTR/LN/BM/77

Original Contract Price Rp 4.739.536.738.-

Period Ending Date March 1979

Contract Price Beginning of Period, including C.O. No. <u>4</u>	Rp 5.046.822.274
Contract Price Changes Accepted during Period, including C.O. Nos. <u>5</u>	+ 168.362.320
Contract Price at end of Period No. <u>24+24S</u>	5.215.184.595
Total Contract Payments for Work Completed at Beginning of Period	1.132.993.906
Contract Payment for Period No. <u>24&amp;24S</u> - Invoiced	55.353.714
Total Contract Payments Due at End of Period No. <u>24 &amp; 24S</u> including Retention and Repayments	1.188.347.620
Total Contract Price Remaining to Pay at End of Period No. <u>24 &amp; 24S</u> including Retentions and Repayments	4.026.836.975
Total Retention to End of Period No. <u>23</u>	107.239.026
Retention Period No. <u>24</u>	4.542.520
Total Retention at End of Period No. <u>24</u>	111.781.514
Advance Payment Period No. <u>24</u>	9.085.040
Total Repayment of Advance Payment to End Period No. <u>24</u>	41.869.952
Advance Repayment Remaining at End Period No. <u>24</u>	669.060.559

## CHANGE ORDER SUMMARY

CONTRACTOR : P.T. HUTAMA KARYA

Sheet 1 No. \_\_\_\_\_

CONTRACT No: 04/CTR/LN/BM/77

Month Ending: March 1979

C.O. No.	C.O. Content + Description	Price Change	Date Submitted	Date Appd. Bina Marga	Date Accepted by Contr.
1	C.O. NO.1 a) EWO No.1-Removal slide Nr.km 80 b) EWO No.2-Repair landslide Km 66 c) NOC No.1-change specification for asphalt d) NOC No.4-include Add.No.3 in contract	-359.823	Dec.10/77	Dec.21, '77	
2	C.O. No. 2 a) EWO No.3-repair bridges between Kotacane-Blangkajeren b) EWO No.4-clearance c) NOC No.3-change in quantity of clearing d) Grubbing in sparse vegetation.	+136.073.1	12 Mar. 28 '78	8 Apr. 6 '78	7 OCT 78
3	CO No. 3 a) NOC No.4-Addition of roads, drainage water truck recr. area, landscaping in Bina Marga compound.	+111.476.356	Jun. 19, 78	Jun. 27, '78	7 OCT 78

## CHANGE ORDER SUMMARY

CONTRACTOR : P.T. HUTAMA KARYA

Sheet 2 No. \_\_\_\_\_

CONTRACT No: 04/CTR/LN/BM/77

Month Ending March 1979

C.O. No.	C.O. Content + Description	Price Change	Date Submitted	Date Appd. Bina M'orga	Date Accepted by Contr.
	b) NOC No.6-Improving and maintaining all existing bridges.				
	c) NOC No.7-Payment of 80% on completion of mobilization.				
	d) NOC No.8-Increasing of embankment, common or borrow due to raising road level.				
	e) NOC No.9-Manufacture & Install 80x100 cm Precast box culverts.				
	f). NOC No.10-Excavation of roadway on ground slip & around broken bridge.				
4.	C O No.4	-60.095.912	Oct.10,'78	Nov.8,'78	Dec.21,'78
	a. NOC No.12-Manufacture and Install 50 cm x 100 cm box culvert				
	b. NOC No.13-Extension of services of Expert Advisor to Contractor				





RECORD OF CONTROL TESTS

for month of . . . M a r c h 1979 . . . . .

Section III SECTION LABORATORY	Section Of Road of Pavement	SUB - GRADE		SUB - BASE		BASE		BASE ( Crushed, Stone )		MACADAM		SURFACING ( Asphalt )		CONCRETE		Embankment	
		No. of Tests															
		This Month	To Date	This Month	To Date	This Month	To Date	This Month	To Date	This Month	To Date	This Month	To Date	This Month	To Date	This Month	To Date
Liquid Limit		39		16	4	11										3	3
Plastic Limit		39		18	4	11										3	3
Linear Shrinkage																	
Particle - size Analysis Fine		16		48	23	56	8	55				2	37			4	4
Specific Gravity		5	21	4	2	6						2	37				
Flatness and Elongation							3		13				8		2	2	
Aggregate Least Dimension																	
Aggregate Crushing Value																	
10% Fines																	
Compaction - CBR at B.S.																	
Compaction - CBR at W.A.S.																	
Compaction - CBR at Mod. AASHO		7	22	5	5											1	1
% Air Void of Compacted Stone Base																	
Bulk Density of Aggregate & Filler																	
Field Moisture Content		19	122	53	8	55										3	3
In - Situ Density		19	122	45	8	52										3	3
Compaction Factor			27	3	1												
Analysis of Materials Coarse					2			2									
Extraction Test																	
Marshall Test																	
Sand Equivalent Tests					8								4				
Thickness Determination																	
Surface Finish Asphalt Content																	
Skid Resistance Tests				23													
Slump Tests													6	54			
Cement Tests																	
Concrete Tests													17	155			
Tensile Tests Steel Reinforcement																	
Special Tests																	
Special Tests Ogerhand Brg. Found.																	
Total No OF TESTS		50	408	215	26	174	59	8	70				27	261	19	19	

**RAINFALL**  
**KOTACANE - BLANGKAJEREN SECTION**

<u>D a t e</u>	<u>Rainfall MM</u>
1.	0
2	0
3	0
4	0
5	1
6	0
7	0
8	5
9	0
10	0
11	0
12	0
13	6
14	0
15	0
16	0
17	0
18	6
19	35
20	10
21	2
22	0
23	0
24	0
25	0
26	0
27	0
28	2
29	12
30	0
31	<u>1</u>
Total:	80

## CONTRACTOR FORCE REPORT

CONTRACTOR : PT HUTAMA KARYA

MONTH ENDING : March 1979

Classification	Beginning of Period	End of Period	Variation + or -	Remarks
<b>Staff:</b>				
Project Manager	1	1	0	
Contractor Sup.	1	1	0	Expat. Consultant
Dep. Project Mgr	1	1	0	
Bridge Sup.	1	1	0	
Road Superint.	1	1	0	
Structure Sup.	0	1	+1	
Heavy Equipment	1	1	0	
Liaison Engineer	3	3	0	
ALS Superintendent	1	1	0	
<b>Field Worker:</b>				
Heavy Equip. Ass. Sup.	5	5	0	
Mech. Gen. Foremen	5	5	0	
Estimator	1	1	0	
Surveyor	2	2	0	
Ass. Surveyor	2	2	0	
Draftsmen	4	4	0	
Laboratory	3	3	0	
Foremen	6	6	0	
Warehousemen	6	6	0	
Ass. Warehousemen	2	2	0	
Operators	20	20	0	
Mechanics	13	13	0	
Riggers	2	2	0	
Sk. Aggregate	3	3	0	
Drivers	24	24	0	
Guards	15	15	0	
Electricians	4	4	0	
Road Workers	7	7	0	
Bridge Workers	7	7	0	
Welders	3	3	0	
Oiler	2	2	0	



## EQUIPMENT LIST

CONTRACTOR: PT HUTAMA KARYA

MONTH ENDING: March 1979

ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD.	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
A.	Automobile:								
1.	Jeep	new	4	1	-	-	5	100	1 Used by Consultant
2.	Minibus	new	1	-	-	-	1	100	
3.	Station Wagon	-	1	-	-	-	1	100	
B.	Batchers:								
1.	Concr. Mini Winflow	new	1	-	-	-	1	100	Bina Marga Equip.
C.	Bulldozer:								
1.	Swampdozer CAT D7	new	1	-	-	-	1	100	Bina Marga Equip.
2.	Swampdozer CAT D6		1	-	-	-	1	100	Bina Marga Equip.
3.	Swampdozer Komatsu	new	1	-	-	-	1	100	Bina Marga Equip.
4.	John Deree JD550+JD835		2	-	-	-	2	100	
D.	Compactors:								
1.	Vibre roller IR/SR54	new	1	-	-	-	1	100	Bina Marga Equip.
2.	With sheep foot assy								
	IR/SPF 5A	new	1	-	-	-	1	100	Bina Marga Equip.
E.	Conveyors:								
1.	Portable Belt, Lippman	new	3	-	-	1	4	75	Bina Marga Equip.
2.	Portable Belt, Hewitt								
	Robins	new	2	-	-	-	2	100	Bina Marga Equip.
F.	Cranes:								
1.	Hydraulic Wheel,								
	Drott 40	new	1	-	-	-	1	100	Bina Marga Equip.
2.	Broom P&H 550	new	-	-	-	1	1	0	Bina Marga Equip.

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# Best Available Document

## EQUIPMENT LIST

CONTRACTOR: PT HITAMA KARYA (cont)

MONTH ENDING: March - 1979

ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL RECD.	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
G. Compressors:									
1.	Portable 6000 cfm	new	1	-	-	-	1	100	
H. Crushers:									
1.	Portable, Hewitt-robins	new	-	-	-	-	1	100	Bina Marga
2.	Port. COBHAPCO PC&CF		1	-	-	-	1	100	
AA. Distributors:									
1.	Asphalt	new	1	-	-	-	1	100	Bina Marga
BB. Drills:									
1.	Hand		1	-	-	5	6	16.5	Bina Marga
2.	Crawler		-	-	-	1	1	-	
CC. Generators:									
1.	Electrical, 125 KVA		1	-	-	3	4	25	Bina Marga
2.	Detroit, 300 KVA		1	-	-	-	1	100	
3.	Subota, 10 KVA		1	-	-	-	1	100	
DD. Graders:									
1.	Motor CAT 120 G	new	3	-	-	-	3	75	
FF. Hammer:									
1.	Jack TR/140	new	2	-	-	-	2	100	Maintain
2.	Pile driving MKT/DT105	new	1	-	-	-	1	100	Maintain for use

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# EQUIPMENT LIST

CONTRACTOR: PT HUTAMA KARYA (cont)

MONTH ENDING: March 1979

ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL REGD.	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
EE	Leads:								
1.	Pile driving MK/180	new	-	1	-	-	1	-	Waiting for Rec.
CC	Lifts:								
1.	Fork, Case 58-L	new	-	-	-	2	2	-	
HH	Loaders:								
1.	Wheel, CAT 920	new	4	-	-	-	4	100	Bina Marga Equip.
2.	John Deree, Crawler	new	1	-	-	-	1	100	
AAA	Mixers:								
1.	Concr. Plymouth 165	new	2	1	-	-	3	33.33	Bina Marga Equip.
2.	Soil Mixer	new	1	-	-	-	1	100	
3.	Concr. Goliath 350	new	1	-	-	-	1	100	
4.	Concr. KYC Mixer	new	1	-	-	-	1	100	
BBB	Plants:								
1.	Saw Mill	new	-	-	-	1	1	-	Pend. Cont. need
2.	Preservation		-	-	-	1	1	-	Pend. Cont. need
3.	Aggregate		1	-	-	-	1	100	
4.	Concrete		-	-	-	1	1	-	Pend. Cont. need
CCC	Pumps:								
1.	Water, 8" - 4"	new	3	0	0	2	5	60	
2.	Water tank		-	-	-	1	1	-	

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# EQUIPMENT LIST

CONTRACTOR: PT MUTAMA KARYA (cons)

MONTH ENDING: March 1979

ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL RECD.	% MOBIL	COMMENT
			ONSITE	MEGAN	OTHER	ON ORDER			
<b>DDD Gallons:</b>									
1.	Steel wheel 7, Koeh	new	2	-	-	-	2	100	Bina Marga Equip.
2.	Tandem, Gallon	new	2	-	-	-	2	100	Bina Marga Equip.
3.	Disc Pneumatic	new	1	-	-	-	1	100	Bina Marga Equip.
<b>DDF Spreaders:</b>									
1.	Chip, Tanya 4-51	new	1	-	-	-	1	100	attached to an hydro
2.	Handy, Walter G-5	new	1	-	-	-	1	100	100 tractor
<b>DDU Excavator:</b>									
1.	Shovel, CAT 972L	new	-	-	-	2	2	-	
<b>AAA Trucks:</b>									
1.	Dump loadster	new	20	-	-	-	20	100	Bina Marga Equip.
2.	Dump, IX, KL, 321	new	2	8	-	-	10	20	
3.	Flatbed III 1960	new	1	-	-	-	1	100	Bina Marga Equip.
4.	Fuel Tank III 1960	new	1	-	-	-	1	100	Bina Marga Equip.
5.	Water Tank, 50000 lt	new	1	-	-	-	1	100	Bina Marga Equip.
6.	Daihatsu Diesel SV 20 T	new	1	-	-	-			

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# EQUIPMENT LIST

CONTRACTOR: PT. HITA KARYA (cont.)

MONTH ENDING: March 1979

ITEM No.	DESCRIPTION	CONDITION	LOCATION				TOTAL REQD.	% MOBIL	COMMENT
			ONSITE	MEDAN	OTHER	ON ORDER			
BBBB	Welding Unit:								
1	Acetylene, Lincoln		1	-	-	1	2	50	
2	Arch. Hobart		1	-	-	-	1	100	
2	Arch. travo-las OTC - 250 AMP	new	1	-	-	-	1	100	
4	Arch. TRAVO-LAS OTC 400 AMP		1	-	-	-	1	100	
CCCC	Vibrators:								
1	Concr. Robin	new	1	-	-	1	2	50	
DDDD	Motorcycles:								
1	Honda CB 100		5	-	-	-	5	100	
EEEE	Excavator:								
1	Backhoe	new	1	-	-	-	1	100	
EEEE	Hand compactor:								
1	Tokuden Temper	new	2	-	-	-	2	100	
GGGG	Saws:								
1	ChainSaw	new	4	-	-	-	4	0	
2	Cross cut	new	-	-	-	2	6	66.6	
						4	4	0	

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ACEH ROAD BETTERMENT PROJECT  
MONTHLY PROGRESS REPORT  
1979

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P A R T    I V

PROGRAM SCHEDULE AND "S" CURVES

ACEH ROAD BETTERMENT PROJECT  
MONTHLY PROGRESS REPORT  
1979

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PROGRAM SCHEDULE AND "S" CURVES

The following progress bar charts and "S" Curves have been prepared for each Contract , showing bar schedule, bar chart of actual progress, percent progress for each category, and "S" curve showing projected and actual progress.

The "S" for the project shows the projected and actual percentage of the project as a unit, using weight percentages for each Contract.

Changes will be made in these charts only when the major official bar schedule changes have been made, or when Contract price changes have been of sufficient magnitude to significantly affect percentage of progress.







