

4980 220 (3)

REPORT U-446

AID 1020-28 (10-70)

PROJECT APPRAISAL REPORT (PAR)

PD-AAD-946-D1

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1. PROJECT NO. 498-15-120-220	2. PAR FOR PERIOD: 3/25/74 TO 1/15/75	3. COUNTRY Regional	4. PAR SERIAL NO. 75-3
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5. PROJECT TITLE

Potash Exploration

6. PROJECT DURATION: Began FY 74 Ends FY 75	7. DATE LATEST PROP N/A	8. DATE LATEST PIP N/A	9. DATE PRIOR PAR None <i>7p.</i>
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10. U.S. FUNDING	a. Cumulative Obligation Thru Prior FY: \$105,000	b. Current FY Estimated Budget: \$-0-	c. Estimated Budget to completion After Current FY: \$-0-
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11. KEY ACTION AGENTS (Contractor, Participating Agency or Voluntary Agency)

a. NAME	b. CONTRACT, PASA OR VOL. AG. NO.
Mekong Coordinating Committee	LOA #220-4036
United States Geological Survey	MCC/USGS MOU of 17 Oct. 1974
Thai Department of Mineral Resources Leo Bureau of Mines/Dept. of Public Works	LOA #220-4036

I. NEW ACTIONS PROPOSED AND REQUESTED AS A RESULT OF THIS EVALUATION

A. ACTION (X)			B. LIST OF ACTIONS						C. PROPOSED ACTION COMPLETION DATE
USAID	AID/W	Other	RED	RTG	RLG	USGS			
		MCC							
		and Emb.							
		X	X	X	X	X	Draft final report	30 June 1975	
X	X	X	X	X	X	X	Help distribute to Private Sector data on deposits and Thai/Lao exploitation arrangements.	N/A	
		X	X	X			Monitor completion of procurement activities	30 June 1975	

D. REPLANNING REQUIRES	REVISOR OR NEW: <input type="checkbox"/> PROP <input type="checkbox"/> PIP <input type="checkbox"/> PRO AG <input type="checkbox"/> PIO/T <input type="checkbox"/> PIO/C <input type="checkbox"/> PIO/P	E. DATE OF MISSION REVIEW January 1975
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PROJECT MANAGER: TYPED NAME, SIGNED INITIALS AND DATE James F. Hanks, January 9, 1975	MISSION DIRECTOR: TYPED NAME, SIGNED INITIALS AND DATE Kenneth M. Rubin, January 9, 1975
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II. PERFORMANCE OF KEY INPUTS AND ACTION AGENTS

A. INPUT OR ACTION AGENT CONTRACTOR, PARTICIPATING AGENCY OR VOLUNTARY AGENCY	B. PERFORMANCE AGAINST PLAN							C. IMPORTANCE FOR ACHIEVING PROJECT PURPOSE (X)					
	UNSATISFACTORY		SATISFACTORY			OUTSTANDING		LCW	MEDIUM			HIGH	
	1	2	3	4	5	6	7	1	2	3	4	5	
¹ MCC							X						X
² USGS							X						X
³ RTG DMR RTG DFW/BOM					X		X				X		X

Comment on key factors determining rating

See Attachment 1.

4. PARTICIPANT TRAINING	1	2	3	4	5	6	7	1	2	3	4	5
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Comment on key factors determining rating

N/A

5. COMMODITIES (RTG)	1	2	3	4	5	6	7	1	2	3	4	5
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Comment on key factors determining rating

See Attachment 1.

6. COOPERATING COUNTRY	a. PERSONNEL Thailand	1	2	3	4	5	6	7	1	2	3	4	5
	b. OTHER Personnel Laos							X				X	

Comment on key factors determining rating

- Thailand:** DMR personnel actions have so far greatly exceeded expectations in terms of both competence and cooperation.
- Laos:** Previously inexperienced Lao technicians are now capable of continuing exploration with no assistance other than that of the USGS advisor and budgetary support. Thus, the rating is based to a notable extent on "improvement" as well as competence and cooperation.

7. OTHER DONORS	1	2	3	4	5	6	7	1	2	3	4	5
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(See Next Page for Comments on Other Donors)

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II. 7. Continued: Comment on key factors determining rating of Other Donors

N/A

III. KEY OUTPUT INDICATORS AND TARGETS

A. QUANTITATIVE INDICATORS FOR MAJOR OUTPUTS		TARGETS (Percentage/Rate/Amount)					END OF PROJECT
		CUMULATIVE PRIOR FY	CURRENT FY		FY ____	FY ____	
			TO DATE	TO END			
Feet of core recovered from drilling.	PLANNED	4,500	9,000				9,000
	ACTUAL PERFORMANCE	4,500	8,766				
	REPLANNED			(under study)			
Feet of core analyzed.	PLANNED	-	9,000				9,000
	ACTUAL PERFORMANCE	-	8,766				
	REPLANNED			(under study)			
	PLANNED						
	ACTUAL PERFORMANCE						
	REPLANNED						
	PLANNED						
	ACTUAL PERFORMANCE						
	REPLANNED						
B. QUALITATIVE INDICATORS FOR MAJOR OUTPUTS		COMMENT:					
1.	Private Sector expressions of interest.	Thailand: At least four large private concerns recently have had serious discussions with the DMR. Laos: Results of activity not yet made public.					
2.	Host country support.	Thailand: NESDB recently offered the DMR additional support for the activity. Laos: National leaders were briefed in November and continuing support for the activity has been assured.					
3.		COMMENT:					

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IV. PROJECT PURPOSE

1. Statement of purpose as currently envisaged.

2. Same as in ~~XXXXX~~ YES NO
LOA

To confirm the existence of commercial potash deposits in the Mekong Basin.

B. 1. Conditions which will exist when above purpose is achieved.

2. Evidence to date of progress toward these conditions.

1. Core recovered from six drill sites in Thailand and Laos and analyses made thereof.

1. 8766 feet of core recovered and analyzed.

2. Data available to serve as basis for future exploration/exploitation and disseminated to US MNCs.

2. Preliminary report (IA) TH-16 issued May 1974 and discussions held with reps. US MNCs.

3. Raised level of competence of Thai and Lao mineral depts through experience.

3. DMR has increased accuracy of analyses and BOM now handling follow-up exploration sans outside assistance.

4. Increase in Thai/Lao mineral exploration efforts evidenced by technical exchanges and policy reorientation re joint mineral ventures.

4. RTG has officially suggested to RLC that they join in "joint mineral ventures."

5. Greater comprehension of basin's stratigraphy and mineralization.

5. Better prognostication at latter drill sites.

V. PROGRAMMING GOAL

A. Statement of Programming Goal

To attract private sector investment in exploiting potash deposits in the Mekong Basin. (see attachment #1)

B. Will the achievement of the project purpose make a significant contribution to the programming goal, given the magnitude of the national problem? Cite evidence.

Yes. Confirmation of the existence of commercial deposits in Thailand was no sooner accomplished than representatives from a number of multinational firms initiated serious inquiries. However, exploitation of the deposits in northern Thailand and Laos must now await formulation of exploitation plans, including perhaps promulgation of appropriate legislation, by the respective governments.

Attachment 1

Potash is one of three major components of fertilizer clearly necessary for increased food production on a worldwide basis, and no potash is currently produced in non-Communist Asia, and in only limited amounts in China. Current costs of this imported product to the average Asian, Japan to India, farmer have approximately doubled in the last 1½ years as a result of increased shipping costs, exacerbated by the oil crisis and the product's bulk. And, although exploitation and distribution of potash from these new deposits could conceivably be handled on the basis of government enterprise and government to government programs, the benefits of private sector investment in this depressed area of the Mekong basin and competitive commercial activity on the part of three to five large concerns would best assure production and distribution to the target man at the lowest cost.

Finally, due to current heavy involvement on the part of a number of U.S. and U.S./Canadian firms in the potash industry, and in light of the relatively healthy investment climate in Thailand and perhaps soon Laos, the prospect for the participation of these firms, most of which are currently conducting costly operations at up to 3,000 feet (Mekong basin deposits average less than 200 feet below the surface), appears promising.

II. Performance of Key Inputs and Action Agents, continued.

1-4. Input of Action Agents:

Action agents for this activity are herein accorded exceptionally high ratings for a number of reasons. It is first worth noting that as elsewhere in today's world, there exist in SEA nationalistic tendencies to carefully protect detailed knowledge of possible, commercial non-renewable resources. The tendency is even stronger in instances as this where lucrative exploitation of a like resource in more than one country could easily digress into a highly competitive situation. It is also worthy of note that a radical change in government occurred in Laos during the early stages of this activity and that commercial operations between Thailand and Laos have historically strained relations between the two countries.

In spite of these potentially disruptive considerations, and while recognizing that cooperation and coordination are something to be expected in any AID assisted program, performance on the part of all concerned has, to date, significantly exceeded planned expectations. The Thai DMR clearly made a special effort to assist the less experienced Lao Bureau of Mines with drilling, core analysis and radioactive logging of the hole in Laos (the RTG only recently made official overtures to the RLG to carry out "joint mineral exploration ventures" and there is little doubt that activities under this program were influential in that decision). The Lao, albeit even now still slightly cautious regarding Thai intentions, have fully cooperated as well,

utilizing informal agreement whenever and wherever appropriate to help preclude or avoid the emergence of possible politically troublesome issues.

In terms of purely technical performance, the DMR drilled to surprising depths with an undersized and ancient drilling rig and in some instances through extremely difficult-to-handle siltstones. Drilling for potash requires the use of diesel oil in place of conventional drilling media and special care of the core (cannot be exposed to the air); something with which neither the Thais nor Lao had had any previous experience but which they managed with but few problems.

The USGS advisor is rated exceptional for his expertise and conduct in his sensitive position. Aside from his regular planned duties he was called upon to brief top officials in both the Thai and Lao governments and participate in restricted meetings within those governments. The first two drillings in Laos and Thailand, placed in accordance with his recommendations, were strikes and the Thai and Lao continue to highly value his expertise.

Without the good offices of the MCC it is highly unlikely the current program would have been possible. The disparity between political and geological boundaries is troublesome to say the least, but the MCC, as an official regional organization, provided the necessary functional bridge for inauguration and implementation of the activity. In addition, the MCC Secretariat greatly assisted in the procurement of equipment at a reduced, total package cost.

5. Commodities:

Although procurement is proceeding almost as scheduled, much of the work will have been accomplished before it is complete. This was possible because of Thai initiatives in diverting drilling components from other activities and, with RED concurrence, the replacement thereof with equipment procured under the agreement.

Summary	Objectively Verifiable Indicators	Important Assumptions										
<p>A.1. Goal</p> <p>1. To attract private sector investment in exploiting potash deposits in the Mekong basin.</p>	<p>A.2. Measurement of Goal Achievement</p> <p>1. Investment from private sector of at least \$30 million in the basin's potash industry by FY 78.</p> <p>2. Annual extraction of 700,000 to 1,000,000 tons of potash by CY 80 with an estimated export value of \$50 million.</p> <p>3. Distribution of potash fertilizer at reduced cost to Asian farmers throughout the region.</p>	<p>A.3. (as related to goal)</p> <p>1. The RTG and RLG will develop appropriate investment and mineral exploitation climates for commercial operations, including appropriate legislation where necessary.</p> <p>2. Fertilizer requirements will remain at least the same in the region.</p> <p>3. Global economic problems and political issue will not deter development of the resource.</p>										
<p>B.1. Purpose</p> <p>1. To confirm the existence of large, commercial potash deposits in the basin.</p>	<p>B.2. End of Project Status</p> <p>1. Core recovered from five promising drill sites in Thailand and one in Laos and analyses made thereof.</p> <p>2. Data available to serve as basis for future exploration/exploitation and disseminated to US MNCs.</p> <p>3. Raised level of competence of Thai and Lao mineral departments through experience.</p> <p>4. Increase in cooperative Thai/Lao mineral exploration efforts evidenced by technical exchanges and policy reorientation re joint mineral ventures.</p> <p>5. Comprehension of the basin's stratigraphy and mineralization.</p>	<p>B.3. (as related to purpose)</p> <p>1. The necessary drilling rigs, local currency and supportive services will remain available from RTG and RLG.</p> <p>2. No technological problems will arise owing to the nature or location of the deposits.</p> <p>3. Political issues will not hinder development of the resource or the flow of information between Thai and Lao technicians and departments.</p>										
<p>C.1. Outputs</p> <p>1. Summary report of findings and recommendations for future action by host country governments.</p>	<p>C.2. Output Indicators</p> <p>1. Amount of core recovered.</p> <p>2. Amount of core analysis completed.</p> <p>3. Public disclosure of findings.</p> <p>4. Expressions of interest from the private sector.</p>	<p>C.3. (as related to outputs)</p> <p>1. The RTG and RLG will permit public dissemination of generated data and will be receptive to potential foreign and local investors.</p>										
<p>D.1. Inputs</p> <p>1. Contract services: 1 USGS advisor</p> <p>2. Commodities: Drilling equipment components</p> <p>3. Other U.S. services: Laboratory analyses</p> <p>4. Host governments: Drill rigs, local currency for operational costs and laboratory services.</p>	<p>D.2. Budget/Schedule</p> <table border="0"> <tr> <td>1. Contract services (FY74-75) 60 days TDY</td> <td>9,000</td> </tr> <tr> <td>2. Drilling components and lab. equip.</td> <td>84,000</td> </tr> <tr> <td>3. Operating costs in Laos</td> <td>7,500</td> </tr> <tr> <td>4. Misc. (shipment of core, etc.)</td> <td>5,000</td> </tr> <tr> <td>Total U.S.</td> <td>\$ 105,000</td> </tr> </table> <p>5. Salaries for crews and local technicians, transport and operational costs, and other services provided by host governments.</p>	1. Contract services (FY74-75) 60 days TDY	9,000	2. Drilling components and lab. equip.	84,000	3. Operating costs in Laos	7,500	4. Misc. (shipment of core, etc.)	5,000	Total U.S.	\$ 105,000	<p>D.3. (as related to inputs)</p> <p>1. The USGS advisor will remain available.</p> <p>2. Required new equipment will be available.</p> <p>3. Host country contributions will not be cut for purely budgetary reasons.</p>
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