

PD-AAR-853

10M-41486

MONTHLY PROGRESS REPORT  
APRIL 1981

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Monthly Progress Report  
Arab Potash Project  
April, 1981

1.0 SUMMARY

1.1 Project Milestones	<u>Scheduled Date</u>	<u>Actual Date</u>
Contract Signing	5 Nov 77	5 Nov 77
Review of Feasibility Report	26 Jan 78	26 Jan 78
Advertise for Refinery Equipment	15 Feb 78	1 Feb 78
Presentation to Lenders - Amman Town Site Contract Award	11 Apr 78 1 May 78	11 Apr 78 4 May 78
Approval of Solar Pan Construction Tender Documents	-	2 June 78
Townsite Contractor starts Mobilizing	-	7 June 78
Solar Pan Construction Tender Inquiry Issued	1 Aug 78	28 June 78
Solar Pan Contract Bids due	4 Oct 78	4 Oct 78
Advertise Power Plant Contract	14 Oct 78	16 Oct 78
Definitive Estimate Due	31 Dec 78	1 May 79
Solar Pan Contract Award	1 Jan 79	13 Jan 79
Solar Pan Contractor starts mobilizing	1 Feb 79	15 Jan 79
Approval of Refinery Mechanical Construction Tenders (Pre-Qualification)	1 Mar 79	12 Apr 79
Approval of Power Plant Construction Tenders (Pre-Qualification)	23 Feb 79	20 Mar 79
Refinery Mechanical Tender Inquiry Issued	5 Apr 79	10 May 79
Power Plant Contract Bids Due	7 July 79	7 July 79
Refinery Contract Bids Due	15 Aug 79	1 Oct 79
Refinery Contract Award	15 Dec 79	17 Jan 80
Power Plant Contract Award	15 Dec 79	11 Jan 80

1.0 SUMMARY - Continued

1.1 Project Milestones - Continued

	<u>Original Scheduled Date</u>	<u>Current Forecast Date</u>	<u>Actual Date</u>
Refinery Contractor Letter of Intent	15 Dec. 79		17 Jan 80
Refinery Contractor Starts Construction	1 Apr. 80		15 May 80
Power Plant Contractor Starts Construction	1 May 80		1 Oct 80
Screening & Compaction Erection Contract Award	30 Oct. 80		26 Jan 80
Power Plant Mechanically Complete	1 Dec. 81	17 Jan 82	
Screening & Compaction Erection Mechanically Complete	1 Dec. 81	17 Jan 82	
<u>Township</u>			
Housing - Lot 1	1 Feb 79		15 Jul 79
Housing - Lot 2	1 Jul 79		15 Feb 79
Housing - Lot 3	1 Feb 80		30 Apr 81
Housing - Lot 4	1 Jun 80	15 Apr 81	
<u>Solar Pans (Partial completion for pan filling)</u>			
Salt Pan	1 Feb 81		20 Mar 81
PC-1	1 Mar 81	1 Mar 81	
PC-2	1 Apr 81		18 Mar 81
C-1	1 May 80		8 Apr 80
C-2	1 Apr 81		2 Feb 81
C-3	1 Apr 82	1 Apr 82	
<u>Start-up Schedule</u>			
<u>Start Carnallite Deposition</u>			
C-1	1 Aug 81	1 Dec 81	
C-2	1 Aug 82	1 Oct 82	
C-3	1 Aug 83	1 Oct 83	
<u>Product Test Runs*</u>			
75% Test Run	1 Feb 83	1 Jun 83	
100% Test Run	1 Nov 83	1 Jan 84	

\*These dates based on assuming start of carnallite precipitation in accordance with above schedule.

**ARAB POTASH COMPANY LTD.**  
**PROJECT SCHEDULE**  
**JACOBS INTERNATIONAL LIMITED**

TYPE OF JOB:  
 JOB NO:  
 SHEET NO 1 OF 1  
 REV NO: 28

POTASH PLANT  
 00-1875  
 DATE 12-1-79 BY RBJ/DB  
 DATE 18-MAY 81 BY RJB

LINE NO	DESCRIPTION	% COMP	1978												1980												1981												1982												YEAR MONTH	REMARKS																											
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	1	2	3	4	5	6	7	8			9	10	11	12	13	14	15	16	17	18	19	20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	ENGINEERING & DESIGN		[Gantt bars for Engineering & Design]																																																																												
2	PROJECT ENGINEERING		[Gantt bars for Project Engineering]																																																																												
3	CONTROL SYSTEMS ENG		[Gantt bars for Control Systems Eng]																																																																												
4	PIPING		[Gantt bars for Piping]																																																																												
5	MECHANICAL		[Gantt bars for Mechanical]																																																																												
6	CIVIL / STRUCTURAL		[Gantt bars for Civil / Structural]																																																																												
7	ARCHITECTURAL		[Gantt bars for Architectural]																																																																												
8	ELECTRICAL		[Gantt bars for Electrical]																																																																												
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11	PROCUREMENT		[Gantt bars for Procurement]																																																																												
12	INQUIRY EQUIPMENT		[Gantt bars for Inquiry Equipment]																																																																												
13	BID ANALYSIS & SELECTION		[Gantt bars for Bid Analysis & Selection]																																																																												
14	PURCHASE EQUIPMENT		[Gantt bars for Purchase Equipment]																																																																												
15	CONTRACTS		[Gantt bars for Contracts]																																																																												
16	TOWNSHIP		[Gantt bars for Township]																																																																												
17	SOLAR PANS		[Gantt bars for Solar Pans]																																																																												
18	REFINERY		[Gantt bars for Refinery]																																																																												
19	POWER PLANT		[Gantt bars for Power Plant]																																																																												
20	SCREENING & COMPACTION		[Gantt bars for Screening & Compaction]																																																																												
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23	ROBING		[Gantt bars for Robing]																																																																												
24	PHASE 1		[Gantt bars for Phase 1]																																																																												
25	PHASE 2		[Gantt bars for Phase 2]																																																																												
26	PHASE 3		[Gantt bars for Phase 3]																																																																												
27	PHASE 4		[Gantt bars for Phase 4]																																																																												
28	ADDITIONAL BLDGS CONTRACT #6		[Gantt bars for Additional Bldgs]																																																																												
29	SOLAR PANS		[Gantt bars for Solar Pans]																																																																												
30	TEMP BRINE SUPPLY		[Gantt bars for Temp Brine Supply]																																																																												
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32	P.C.1 (PART COMP)		[Gantt bars for P.C.1]																																																																												
33	P.C.2 (PART COMP)		[Gantt bars for P.C.2]																																																																												
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35	C.2 (PART COMP)		[Gantt bars for C.2]																																																																												
36	C.3 (PART COMP)		[Gantt bars for C.3]																																																																												
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40	EQUIPMENT FOUNDATIONS		[Gantt bars for Equipment Foundations]																																																																												
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43	PROCESS INSTALLATION		[Gantt bars for Process Installation]																																																																												
44	ADMINISTRATION BUILDING		[Gantt bars for Administration Building]																																																																												
45	MAINTENANCE BUILDING		[Gantt bars for Maintenance Building]																																																																												
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47	SCREENING & COMPACTION		[Gantt bars for Screening & Compaction]																																																																												
48	POWER PLANT		[Gantt bars for Power Plant]																																																																												
49	FOUNDATIONS		[Gantt bars for Foundations]																																																																												
50	MECHANICAL INSTALLATION		[Gantt bars for Mechanical Installation]																																																																												
51			[Gantt bars]																																																																												
52	SALT PANS FOR SALT ROTION & CARB		[Gantt bars for Salt Pans]																																																																												
53	SALT PAN		[Gantt bars for Salt Pan]																																																																												
54	P.C.1		[Gantt bars for P.C.1]																																																																												
55	P.C.2		[Gantt bars for P.C.2]																																																																												
56	C.1		[Gantt bars for C.1]																																																																												
57	C.2		[Gantt bars for C.2]																																																																												
58	C.3		[Gantt bars for C.3]																																																																												
59	PLANT SHALLOW		[Gantt bars for Plant Shallow]																																																																												
60	POWER PLANT & UTILITIES		[Gantt bars for Power Plant & Utilities]																																																																												
61	PROCESS PLANT		[Gantt bars for Process Plant]																																																																												
62	PLANT STARTUP		[Gantt bars for Plant Startup]																																																																												
63	POWER PLANT & UTILITIES		[Gantt bars for Power Plant & Utilities]																																																																												
64	PROCESS		[Gantt bars for Process]																																																																												
65	PRODUCTION TESTS		[Gantt bars for Production Tests]																																																																												
66	75% TEST FOR 24 HRS.		[Gantt bars for 75% Test]																																																																												
67	100% TEST FOR 24 HRS.		[Gantt bars for 100% Test]																																																																												
68			[Gantt bars]																																																																												

CONTRACT WORKED AS 00 00  
 CONTRACT WORKED 00 00

REVISION: B-14, A-7, VACK

AWARDED BY: 6 EN MAY 78  
 1316 JAN 79

OPERATIONAL: 01 FEB 81

CARD-PUNT BRINE: JUNE 83

CON. DATE: 1 JAN 83

### 1.3 Status of Project

#### JIL

During the month of April the potash refinery operation manual was almost completed with final checking being carried out. It is now projected that the manual will be issued to site operation for comments in May.

Work on Product Haulage Trucks, Workboats, and Chlorinator was carried out during the month.

Various queries from site and also from contractors and subcontractors were dealt with on an ongoing basis. Where these queries could not be dealt with by telex meetings took place to resolve the queries.

Model design made significant progress during the month and final fixing of equipment in the screening and compaction building was carried out.

The overall status of the Refinery Mechanical Works was 33.2% at month end.

#### AGP

At month end the progress of work by Sir Alexander Gibb and Partners in terms of man months expenditure was approximately as follows:-

Ratio of man months expenditure to end of  
March 1981, to total man months expenditure  
programmed 78%

Estimated ratio of man months expenditure to  
end of April, 1981 to total man months  
expenditure programmed 79%

### 2.0 Engineering and Design

#### 2.1 JIL - Dublin

##### 2.1.1 Project Engineering

Work continued on preparation of the operations manual for the refinery. This will be complete during the month of May.

Bidders queries on IFB 49-16 (Product Haulage Trucks) were replied to and analysis of bids continued at month end.

2.0 ENGINEERING AND DESIGN - Continued

Technical analysis of IFB 49-23 (Workboats) continued and is nearing completion.

Drawings of equipment supplied by Voest-Alpine on Contract No. 11 were received and commented upon during the month.

A specification was written for a process water chlorinator (40-4) and bid documents were issued to four bidders.

2.1.3 Piping and Mechanical Design

The main effort during the month was the review of the BBC Power Plant package. Meetings were held during the month with BBC and the following Areas reviewed:-

Boiler Area  
Turbo Gen. Area  
Air Compressors  
Air Cooled Condenser

P&ID's were updated, - including the process flow diagrams.

The Launder (Vendor) drawings were reviewed and approved.

BBC Model: Water treatment package was completed. All equipment, piping, instruments, and tanks complete and installed. Work began on the Boiler Area Piping including piping the adjoining piperacks.

Krupp Model: Work continued on the Krupp model. The shipping bins and chutes are now at an advanced stage of completion. The Screening & Compaction Building final fixing of equipment and tanks is now in progress.

2.1.4 Civil/Structural Design

Manloading on the project in this department is now minimal and the main work done has been connected with the review of contractor's construction drawings. Queries from APC site were also dealt with during the month.

Work was also carried out in the area of completion of structural calculation sheets.

Monthly Progress Report  
Arab Potash Project,  
April, 1981

## 2.0 ENGINEERING AND DESIGN - Continued

### 2.1.5 Electrical Design

The following instrumentation interconnection drawings were issued with the main process control panel terminal numbers added:-

- (a) Fuel Oil Storage, Cooling Tower and fire water pump station.
- (b) Carnallite Thickener Tank Area
- (c) Carnallite Centrifuge Area
- (d) Sylvinite Surge and Thickener Tank Area
- (e) Sylvinite Belt filter Area
- (f) Crystalliser Area
- (g) Product and Tail Centrifuge Area

All drawings are now 100% complete.

Work commenced on the selection of settings on the protection relays for the Switchgear and motor Control Centres.

### 2.1.6 Building Services Design

The main work carried out this month involved checking the mechanical services drawings for the administration buildings.

The fire protection drawings for some of the Service Buildings were also checked. Various telexes were answered.

### 2.1.7 Architectural Design

Various colours and finishes confirmed to Balfour Beatty.

Drawings, 2nd details of partitions in Admin. Building (3rd floor) marked up and returned to Unilock Tennon.

General service buildings drawings/telexes replied to and details confirmed, discrepancies noted and advised by telex.

Colour of fabric to seating in lecture theatre confirmed by telex.

Regular telex query/reply service maintained with V.A., B.B. and B.K.G.

2.0 ENGINEERING AND DESIGN - Continued

All subcontract drawings submitted were reviewed, marked up and returned for attention/information.

Substitute hardwoods proposed by BB & Unilock Tennon were rejected.

Thickness and type of plaster to be used in Admin. Building confirmed by telex.

Contract Admin. queries checked against specifications and contract terms.

2.2 AGP - Reading

2.2.1 Contract No., 2 - Permanent Township

Nothing to report.

2.2.2 Contract No. 3 - Solar Evaporation System

Civil Works

Design and production of working drawings for the additional canal outfall pump station was completed.

A report on the alternative harvester crossing points was issued.

Mechanical and Electrical Works

Study of and commenting upon Wimpey's and their sub-contractors drawings of the additional temporary brine supply continued during the month.

Study of and commenting upon Wimpey's final draft Operating and Maintenance manual continued.

Contract No. 4 - Movable Furniture

Nothing to report.

Contract No. 6 - Additional Buildings

Working Drawings were issued to the Contractor during the month.

2.0 ENGINEERING DESIGNING - Continued

Contract No. 7 - Hospital Equipment

Tender documents were submitted to the Employer for comment/approval during the month. Meetings were held to clarify points arising from examination of the documents by the Employer.

3.0 Carnallite Harvesting

A visit was made to Rahco in Spokane, Washington, and barge Marine Manufacturer, Industries in Tacoma Wa. The first barge approx. was ately 25% complete with bottom plate layouts started the remainder ining two barges. Progress on the barges was ahead schedule of . Work had already started on the track frames and supports in Spokane.

4.0 JIL - Contracts

Contract No. 10 with Voest Alpine

It was agreed that henceforth only copies of documents as required by the Contract should be addressed to Dublin. All other questions and queries regarding contract documents, drawings and specifications should be addressed to the JIL Resident Manager on site - similarly, all questions and answers from JIL Dublin should be issued via the JIL Resident Manager - the only exception being on the question of Addendum 4 drawings for which it was agreed to continue communications between the V.A. home office and JIL Dublin until all drawings are issued for construction.

Contract No. 11 with Brown Boveri

Meetings were held with BBC in Dublin to clarify, amongst other things, some outstanding contractual requirements particularly with regard to documentation control and co-ordination, the question of the administration of the training programme for the Employers' Personnel and the administering of the two variations to the contract up to now.

5.0 Procurement - JIL

The following Purchase Orders are complete and 100% payment has been made:

01-1	Centrifugal Pumps	- Mather & Platt
01-2	Rotary Pumps	- Mirrlees
01-3	Fire Pumps	- Aurora
01-5	Slurry Booster Pumps	- Simon Warman
04-1	Thickener Mechanism	- Esmil
05-1	Agitators	- Philadelphia Gear
18-1	Cooling Towers	- Marley International
21-2	Centrifuges	- Bird Machine Company
21-4	Centrifuges	- Bird Machine Company
23-3	Tails Hydrocyclones	- Krebs
25-1	Product Dryer	- Allis Chalmers
29-1	Wet Mechanical Handling	- Precismeca
34-1	Truck Scales	- Pfister
40-6	Condensate Pump Set	- Worthington-Simpson
58-2	Maintenance Building	- Ward Brothers

Status of Remaining Purchase Order

01-4	Process Slurry Pumps	- Worthington Canada
	Original Order complete. Pumps Nos.: 13-01, 531, 532, 541, 542, on board the "Roland Oceanic" sailed 5th April and is due Aqaba early May, 1981. Last two pumps scheduled for shipping late May, 1981.	
11-2	Plate Heat Exchangers	- Alfa Laval
	Supply of missing plates (5% of total) now uncertain Alfa Laval cannot give firm date. Purchasing Dept. persuing.	
16-1	Crystallizer System	- Whiting Vermont

This Purchase Order is complete. Final 10% payment has not been made.

5.0 Procurement - JIL - Continued

- 23-2 Product Hydrocyclones - Dorr Oliver  
Delivery is scheduled for late May, 1981.
- 29-2 Screen & Compaction - Fried Krupp  
This Purchase Order is complete. Final 10% payment has not been made.
- 64-15 Process Instruments - Foxboro  
3rd part shipment made from Germany mid April final shipment from UK scheduled for late May 1981.
- 64-44 Telemetering - Telectron  
Manufacturing is due to commence mid-March 1981. Testing is scheduled for Mid-June, 1981 and delivery by Airfreight to Amman on July 17th 1981.
- 64-45 Control Valves - Fisher Controls  
H.V. 13 will be airfreighted to Jordan late May the remaining two valves, which are being re-made will not be available until December 1981.
- 65-4 Electrical Switchgear - Westinghouse  
1st part shipment left Spain 21st March, 1981, E.T.A. Aqaba is 5th April, 1981. 2nd Part shipment left USA on 23rd March, 1981, on board the Robert E. Lee and was due Aqaba mid-April, 1981. Termination kits shipped airfreight to Amman on April 28th 1981. Earthing truck scheduled for shipping from Barcelona May 2nd 1981. ETA Aqaba is 15th May, 1981. Final shipment from USA scheduled from late May, 1981.

\* = A.P.C.

\*\* = SELLER

PURCHASE ORDER STATUS REPORT

ATTACHMENT NO. 2.6

PURCHASE ORDER NO.	NAME OF SELLER	DATE P.O. SENT TO A.P.C. FOR SIGNING	DATE SIGNED P.O. RET'D FROM A.P.C. & ISSUED TO SELLER	DATE COUNTER-SIGNED COPY OF P.O. REC'D FROM SELLER	SIGNED COPY OF P.O. SENT TO A.P.C.	GUARANTEE'S			REMARKS
						PERFORMANCE GUARANTEE FOR 10%	BANK GUARANTEE FOR 15%	BANK GUARANTEE FOR 25%	
08-1875-01-1 Amendment 2	Mather & Platt Ltd. Mather & Platt Ltd.	11.6.1979 Signed in Dublin office 11.01.1980.	12.6.1979 ** mailed 16.1.'80	30.7.1979 20.5.1980	1.8.1979 23.5.'80				Mailed
08-1875-01-2 Amendment 2	Mirrlees Pumps Ltd. Mirrlees Pumps Ltd.	21.4.1979 Signed in Dublin office 11.01.1980	2.5.1979 ** mailed 16.1.'80	24.7.1979 30.1.1980	1.8.1979 1.2.1980				By Courier
06-1875-01-3 Amendment 3	Aurora Pump	Signed in Dublin Office April 1979 12.3.81	20.4.1979 20.3.1981	30.4.1979	29.6.1979				

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\* = A.P.C.

\*\* = SELLER

PURCHASE ORDER STATUS REPORT

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ATTACHMENT NO. 8.6

PURCHASE ORDER NO.	NAME OF SELLER	DATE P.O. SENT TO A.P.C. FOR SIGNING	DATE SIGNED P.O. RET'D FROM A.P.C. & ISSUED TO SELLER	DATE COUNTER-SIGNED COPY OF P.O. REC'D FROM SELLER	SIGNED COPY OF P.O. SENT TO A.P.C.	GUARANTEE'S			REMARKS
						PERFORMANCE GUARANTEE FOR 10%	BANK GUARANTEE FOR 15%	BANK GUARANTEE FOR 25%	
08-1875-01-4	Worthington (Canada)	11.6.1979	12.6.1979	6.7.1979	1.8.1979				
Amendment 2	Worthington (Canada)		18.6.1979	9.11.1979	13.11.1979				Courier to Seller
Amendment 3	Worthington (Canada)	Signed in Dublin Office 11.01.1980	** mailed 16.1.'80	10.3.1980	13. 3.1980				Courier to APC
Amendment 4	Worthington (Canada)	30.6.1980 Courier	* 14.7.1980 ** 15.7.1980	25.9.1980	26.9.1980				
Amendment 5	Worthington (Canada)	13.8.1980 Courier.	* 9.9.1980 ** Courier 9/9/80	25.9.1980	26.9.1980				Courier

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\* = A.P.C.

\*\* = SELLER

PURCHASE ORDER STATUS REPORT

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ATTACHMENT NO. 6

PURCHASE ORDER NO.	NAME OF SELLER	DATE P.O. SENT TO A.P.C. FOR SIGNING	DATE SIGNED P.O. RET'D FROM A.P.C. & ISSUED TO SELLER	DATE COUNTER-SIGNED COPY OF P.O. REC'D FROM SELLER	SIGNED COPY OF P.O. SENT TO A.P.C.	GUARANTEE'S			REMARKS
						PERFORMANCE GUARANTEE FOR 10%	BANK GUARANTEE FOR 15%	BANK GUARANTEE FOR 25%	
08-1875-01-5	Simon-Warman Ltd.	Hand Carried to APC by MMF 11.11.1979	22.11.1979 Ret'd 23.11.1979 Seller	10.12.1979	11.12.'79				
Amendment 2	Simon-Warman Ltd.	Dublin Office Signed, 11.01.1980	** mailed 16.1.'80	25.1.1980	28.1.1980				Mailed to APC

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\* = A.P.C.  
 \*\* = SELLER

PURCHASE ORDER STATUS REPORT

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ATTACHMENT NO. & 6

PURCHASE ORDER NO.	NAME OF SELLER	DATE P.O. SENT TO A.P.C. FOR SIGNING	DATE SIGNED P.O. RET'D FROM A.P.C. & ISSUED TO SELLER	DATE COUNTER-SIGNED COPY OF P.O. REC'D FROM SELLER	SIGNED COPY OF P.O. SENT TO A.P.C.	GUARANTEE'S			REMARKS
						PERFORMANCE GUARANTEE FOR 10%	BANK GUARANTEE FOR 15%	BANK GUARANTEE FOR 25%	
08-1875-04-1	Esmil Envirotech Ltd.	Signed in Dublin Office April 1979	20.4.1979	24.5.1979	1.8.1979				
Amendment 2	Esmil Envirotech Ltd.	Signed in Dublin Office 11.01.1980	** mailed 16.1.'80	25.1.1980	28.1.1980				Mailed to APC
Amendment 3	Esmil Envirotech Ltd.	30.6.1980 Courier	* 14.7.1980 ** 15.7.1980	23.7.1980	29.7.1980				

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\* = A.P.C.

\*\* = SELLER

PURCHASE ORDER STATUS REPORT

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ATTACHMENT NO. 8.6

PURCHASE ORDER NO.	NAME OF SELLER	DATE P.O. SENT TO A.P.C. FOR SIGNING	DATE SIGNED P.O. RET'D FROM A.P.C. & ISSUED TO SELLER	DATE COUNTER-SIGNED COPY OF P.O. REC'D FROM SELLER	SIGNED COPY OF P.O. SENT TO A.P.C.	GUARANTEE'S			REMARKS
						PERFORMANCE GUARANTEE FOR 10%	BANK GUARANTEE FOR 15%	BANK GUARANTEE FOR 25%	
08-1875-05-1	Philadelphia Gear Middle East Corp.	3.5.1979	9.5.1979	31.5.1979	29.6.1979				
Amendment 2	Philadelphia Gear	Signed in Dublin Office 11.01.'80	** mailed 16.1.'80	28.2.1980	29.2.1980 Courier				
08-1875-11-2	Alfa-Laval AB	21.4.1979	2.5.1979	24.5.1979	29.6.1979				
08-1875-16-1	Whiting-Fermont	11.6.1979	12.6.1979	9.8.1979	23.8.1979				
Amendment 2	Whiting-Fermont	8.8.1979	5.9.1979	12.9.1979	7.9.1979				
Amendment 3	Whiting-Fermont	Signed in Dublin Office 11.01.'80	** mailed 16.1.'80	28.01.1980	1.02.1980				By Courier
Amendment 4	Whiting-Fermont	12.5.1980 Courier	4.6.1980	11.6.1980	13.6.1980				Courier

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 \*\* = SELLER

PURCHASE ORDER STATUS REPORT

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ATTACHMENT NO. 6

PURCHASE ORDER NO.	NAME OF SELLER	DATE P.O. SENT TO A.P.C. FOR SIGNING	DATE SIGNED P.O. RET'D FROM A.P.C.* & ISSUED TO SELLER	DATE COUNTER-SIGNED COPY OF P.O. REC'D. FROM SELLER	SIGNED COPY OF P.O. SENT TO A.P.C.	GUARANTEE'S			REMARKS
						PERFORMANCE GUARANTEE FOR 10%	BANK GUARANTEE FOR 15%	BANK GUARANTEE FOR 25%	
03-1875-18-1	Marley International Inc.	Signed in Dublin Office April 1979	20.4.1979	24.5.1979	1.8.1979				
Amendment 3	Marley Inter. Inc.	Hand Carried to APC by MMF 11/11/'79	* 4.12.1979 Courier 5.12.1979	25.2.1980	25.2.1980 Courier				Letter of Credit enclosed with purchase order
03-1875-21-2	Bird Machine Co.	3.5.1979	9.5.1979	August '79	1.8.1979				
Amendment 3	Bird Machine Co.	Signed in Dublin Office 11.01.'80	** mailed 16.1.'80	25.2.1980	25.2.1980 Courier				

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\* = A.P.C.  
 \*\* = SELLER

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ATTACHMENT NO. 8.6

PURCHASE ORDER NO.	NAME OF SELLER	DATE P.O. SENT TO A.P.C. FOR SIGNING	DATE SIGNED P.O. RET'D FROM A.P.C. & ISSUED TO SELLER	DATE COUNTER-SIGNED COPY OF P.O. REC'D. FROM SELLER	SIGNED COPY OF P.O. SENT TO A.P.C.	GUARANTEE'S			REMARKS
						PERFORMANCE GUARANTEE FOR 10%	BANK GUARANTEE FOR 15%	BANK GUARANTEE FOR 25%	
08-1875-21-4	Bird Machine Co.	3.5.1979	9.5.1979	August '79	1.8.'79				
Amendment 3	Bird Machine Co.	21.12.1979 Courier	* 9.1.1980 10.1.1980	29.01.1980	29.01.1980				By Courier
Amendment 4	Bird Machine Co.	Signed in Dublin office 11.01.'80	** mailed 16.1.'80	4.02.1980	8.02.1980				By Courier
08-1875-22-1	Eimco Process Mach. Division.	3.5.1979	9.5.1979	18.6.'79	1.8.'79				
Amendment 3	Eimco Process Mach.	Signed in Dublin office 11.01.'80	** mailed 16.1.'80	8.4.1980	10.4.1980 Courier				
08-1875-23-2	Dorr-Oliver Inc.	Signed in Dublin Office April 1979	20.4.1979	14.5.'79	1.8.'79				
Amendment 3	Dorr-Oliver Inc.	26.10.1979	15.11.1979	20.12.1979	21.12.1979 Courier				

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PURCHASE ORDER STATUS REPORT

ATTACHMENT NO. 8.6

PURCHASE ORDER NO.	NAME OF SELLER	DATE P.O. SENT TO A.P.C. FOR SIGNING	DATE SIGNED P.O. RET'D FROM A.P.C. & ISSUED TO SELLER	DATE COUNTER-SIGNED COPY OF P.O. REC'D FROM SELLER	SIGNED COPY OF P.O. SENT TO A.P.C.	GUARANTEE'S			REMARKS
						PERFORMANCE GUARANTEE FOR 10%	BANK GUARANTEE FOR 15%	BANK GUARANTEE FOR 25%	
08-1875-25-1	Allis-Chalmers	15.6.1979	20.6.1979	3.10.1979	5.10.'79				Hand Carried to A.P.C. by M.E.
Amendment 2	Allis-Chalmers	3.10.1979	16.10.1979		5.10.'79				Telex from APC (courier to Seller)
3	Allis-Chalmers	11.3.1980 Courier	* 25.3.1980 ** 27.3.1980	15.4.1980	25.4.1980				
4	Allis-Chalmers	25.3.1980 Courier	* 8.4.1980 ** 9.4.1980	15.4.1980	25.4.1980				
5	" "	12.3.81	** 20.3.1981	20.3.1981	24.1981 by Courier				
08-1875-29-1	Precismeca S.A.	9.7.1979	25.7.1979	21.9.'79	25.9.'79				
Amendment 2	Precismeca S.A.	5.9.'80 Courier	* 25.9.1980 ** 26.9.1980 Courier.	14.10.'80	17.10.80 Courier				
08-1875-29-2	Fried Krupp Gmbh (Draft Purchase Order)		By courier to Seller 20.12.1979						
08-1875-29-2	Fried Krupp Gmbh	25.01.1980 Courier	* Returned 12/2/80 ** Courier 14/2/80	20.2.1980	21.2.1980 Courier				
Amendment 2	Fried Krupp Gmbh	12.5.1980 Courier	** 29.5.1980	23.6.1980	27.6.1980				

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PURCHASE ORDER NO.	NAME OF SELLER	DATE P.O. SENT TO A.P.C. FOR SIGNING	DATE SIGNED P.O. RET'D FROM A.P.C. & ISSUED TO SELLER	DATE COUNTER-SIGNED COPY OF P.O. REC'D FROM SELLER	SIGNED COPY OF P.O. SENT TO A.P.C.	GUARANTEE'S			REMARKS
						PERFORMANCE GUARANTEE FOR 10%	BANK GUARANTEE FOR 15%	BANK GUARANTEE FOR 25%	
08-0975-29-2 Amendment 3	Fried Krupp GMBH	22nd. July 1980	* 9.9.1980 ** Hand Carried 9.9.1980 (F.K.)	15.9.1980	16.9.1980 Courier				

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ATTACHMENT NO. 8 6

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						PERFORMANCE GUARANTEE FOR 10%	BANK GUARANTEE FOR 15%	BANK GUARANTEE FOR 25%	
08-1875-34-1	Pfister Waagen Gmbh	11.6.1979	12.6.1979	25.9.1979	27.9.'79				
Amendment 2	Pfister Waagen Gmbh	9.7.1979	25.7.1979	25.9.1979	27.9.'79				
Amendment 3	Pfister Waagen Gmbh	Signed in Dublin Office 11.01.'80	** mailed 16.1.'80	4.02.1980	8.02.1980				By Courier
08-1875-39-1	Rahco Disc Inc.	Signed in Washington Sept.13th.'79	Issued to Seller at meeting in Washington	13.9.1979	20.9.'79				
Amendment 1	Rahco Disc Inc.	12.9.1980 Courier.	***						***Amendments 1 & 2 re-issued to AK-2nd April 1981 by courier to be re-signed
Amendment 2	Rahco Disc Inc.	7.11.1980 Hand Carried (MXF)	5.12.1980 Amendts., 1 & 2 rec issued to Vendor by 8.10.1979	d from APC 13.4.81 courier 12.10.1979	18.10.'79 for signature				
08-1875-39-3	GPE Teo Ltd.	Hand carried to APC by DG							
Amendment 2	GPE Teo Ltd.	Signed in Dublin Office 11.01.'80	** mailed 16.1.'80	31.01.1980	1.02.'80				By Courier

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ATTACHMENT NO. 8.6

PURCHASE ORDER NO.	NAME OF SELLER	DATE P.O. SENT TO A.P.C. FOR SIGNING	DATE SIGNED P.O. RET'D FROM A.P.C. & ISSUED TO SELLER	DATE COUNTER-SIGNED COPY OF P.O. REC'D FROM SELLER	SIGNED COPY OF P.O. SENT TO A.P.C.	GUARANTEE'S			REMARKS
						PERFORMANCE GUARANTEE FOR 10%	BANK GUARANTEE FOR 15%	BANK GUARANTEE FOR 25%	
08-1875-40-6	Worthington-Simpson Ltd.	3.5.1979	9.5.1979	18.5.1979	29.6.1979				
08-1875-58-2	Ward Brothers (Sherburn) Ltd.	9.7.1979	25.7.1979	8.8.1979	23.8.1979				
Amendment 2	Ward Brothers.	Signed in Dublin Office 11.01.'80	** mailed 16.1.'80	25.01.1980	28.01.1980				Mailed to AF
Amendment 3	Ward Brothers	5.11.1980 Courier	* 12.1.1981 ** 13.1.1981	2.2.1981	3.2.1981				
08-1875-64-15	Foxboro-Yoxall Ltd.	22.6.1979	(1) 25.7.1979 (2) 20.8.1979	21.9.1979	21.9.1979				
08-1875-64-15 Amendment 2	Foxboro-Yoxall Ltd.,	14.11.80 Courier	* 23.11.1980 **25.11.1980 Hand Carried	1.12.1980	1.12.1980 Courier				

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ATTACHMENT NO. 8.5

PURCHASE ORDER NO.	NAME OF SELLER	DATE P.O. SENT TO A.P.C. FOR SIGNING	DATE SIGNED P.O. RET'D FROM A.P.C. & ISSUED TO SELLER**	DATE COUNTER-SIGNED COPY OF P.O. REC'D FROM SELLER	SIGNED COPY OF P.O. SENT TO A.P.C.	GUARANTEE'S			REMARKS
						PERFORMANCE GUARANTEE FOR 10%	BANK GUARANTEE FOR 15%	BANK GUARANTEE FOR 25%	
08-1875-64-45	Fisher Controls Ltd.	9.7.1979	25.7.1979	2.01.1980					
Amendment 3	Fisher Controls	By Courier 13.11.1979	* 4.12.1979 Courier 4.12.79		2.01.'80 Courier				
Amendment 4	Fisher Controls	Signed in Dublin Office 11.01.'80	** mailed 16.1.'80						
Amendment 5	Fisher Controls	24.4.81 by Courier							
08-1875-65-4	Westinghouse Electric	By Courier 13.11.1979	* 4.12.1979 Courier 5.12.1979	10.1.1980	11.1.1980				
08-1875-65-4 Amendment 2	Westinghouse Electric	Signed in Dublin Office 10.1.1980	Signed in Dublin Office 10.1.80 **	10.1.1980	11.1.1980				
Amendment 3	Westinghouse Electric	By Courier 27.3.1980	* 9.4.1980 ** 11.4.1980	22.4.1981	25.4.1981				
Amendment 4	Westinghouse Electric	By Courier 26.9.1980	* 13.10.1980 **14.10.1980 Courier	22.4.1981	25.4.1981				
Amendment 5	Westinghouse Electric	25.11.1980 Courier	* 8.12.1980 ** 12.12.1980	22.4.1981	25.4.1981				

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ATTACHMENT NO. 8.6

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						PERFORMANCE GUARANTEE FOR 10%	BANK GUARANTEE FOR 15%	BANK GUARANTEE FOR 25%	
08-1875-23-3	Krebs Engineers Int	30.4.'80 by Courier	* 14.5.1980 ** 15.5.1980 By Courier	27.5.1980	28.6.1980				
08-1875-64-44	Telectron Instrumentation Systems Ltd.	9.5.1980 Courier.	* 23rd. May 1980 ** 29th.. May 1980	17th.June '80	18th.June 80				

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ATTACHMENT NO. 6

PURCHASE ORDER NO.	NAME OF SELLER	DATE P.O. SENT TO A.P.C. FOR SIGNING	DATE SIGNED P.O. RET'D FROM A.P.C. & ISSUED TO SELLER	DATE COUNTER- SIGNED COPY OF P.O. REC'D FROM SELLER	SIGNED COPY OF P.O. SENT TO A.P.C.	GUARANTEE'S			REMARKS
						PERFORMANCE GUARANTEE FOR 10%	BANK GUARANTEE FOR 15%	BANK GUARANTEE FOR 25%	
08-1875-39-4	Rahco Disc. Inc.	Signed in Amman Jordan 18.1.1981	Signed in Amman 18.1.1981		27.1.1981				
08-1875-39-4- 1	Rahco DISC Inc., Amendment No. 1	4.3.1981  2.4.1981	P.O. to Seller By Hand (KB) 26.2.1981 13.4.1981 by courier to Rahco same date.	11.3.1981	already issued				

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JACOBS INTERNATIONAL LIMITED

*Handwritten signature and initials*  
 (files)

To: Mr. Ali Khasawneh,  
 Chairman/General Manager,  
 The Arab Potash Company Ltd.,  
 P.O. Box 1470,  
 Amman,  
 JORDAN.

From: Mr. M. M. Frimodig,  
 Vice President &  
 Deputy Project Director,  
 Jacobs International Ltd.,  
 Merrion House,  
 Merrion Road,  
 Dublin 4, IRELAND.

On Project No. 08-1875

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 construction \_\_\_\_\_ purchase \_\_\_\_\_ approval \_\_\_\_\_ fabrication \_\_\_\_\_  
 design \_\_\_\_\_ your file XXX information XXXXX action \_\_\_\_\_

Enclosure	Rev	Description	Date	Pages
		MONTHLY PROGRESS REPORT  APRIL, 1981		

Remarks/Special Instructions:

<u>Copies to:</u>	<u>Client</u>	<u>Jacobs</u>	<u>Other Parties</u>
	AK(2)	JDB/JMcLa MMF MJE/KB JC/RJB H. Ritchie SLK/AF Psd. *FILE	IBRD AID KFAED Arab Fund Lybian Fund AID - Amman AGP