65-878

65.013
p 1 of 6
c 1 of 5

CONFIDENTIAL

[redacted]

9 March 1965

Please Reference:
A51-65-3193

Gentlemen:

We are pleased to provide the seventh in a series of monthly Progress Reports covering the effort expended on subject contract during the period February 2, 1965 to March 1, 1965. For the purpose of reporting, the Interim Report includes the first two weeks of February.

Clean Room Erection

25X1 A progress meeting was held at [redacted] premises on February 17, 1965,
25X1 between [redacted] representatives, on the occasion of the
25X1 replacement of [redacted] installation supervisor.

25X1 [redacted] explained that at this period [redacted] considered that full time supervision was unnecessary since erection of major components had been completed to the
25X1 clean-up stage. [redacted] site Foreman, would remain on the job full time and be available for discussion. 25X1

25X1 The [redacted] was asked to give a finishing date when function
25X1 checking could be started. [redacted] stated, the following items were incomplete.

1. Clean Room Controls. These are in process of installation. One control panel is available for mounting. The pressure switches for the various clean rooms are
25X1 not yet installed. After a discussion, [redacted] agreed that the compressor unit would be mounted in the control room.

At the end of this reporting period the control circuits had been completed except for the humidity control circuits for the photo evaluation and sensitometric exposure laboratories.

CONFIDENTIAL

(Continued)

65.013
p 2 of 6
c 1 of 5

CONFIDENTIAL

U. S. Government

9 March 1965
A51-65-3193

2. Electrical. Electrical wiring of the clean rooms is generally completed. A weather-proof cabinet is required on the roof to house the main switches for blowers and heaters. The clean room control pressure switches will also be mounted in this box. [redacted] stated that the construction and erection of this power cabinet would be top priority. 25X1

At the end of this reporting period the boxes had been provided, and all external wiring installed.

3. Vacuum System. All floor outlets have been fitted. The demand push switches have been installed in the wall above each outlet. The system drain has been relocated. The system has been run-up from each outlet switch, and operates satisfactorily.

25X1 4. Floor Grilles. [redacted] agreed to finish the floor grilles and to weld-on the frames on behalf of the air-conditioning sub-contractor.

At the end of this reporting period all floor grilles had been completed and installed.

25X1 5. West end Air Shower. [redacted] was informed that cover panels on the north end of the assembly had not been fitted, as promised by [redacted] 25X1
25X1 [redacted] agreed that the [redacted] would install this.

At the end of this reporting period these panels had been fitted.

6. Restoration of Ceiling. Large areas of the permanent ceiling were removed to permit
25X1 installation of the air showers. [redacted] agreed that the [redacted] would fill in 25X1
the open areas, keeping in mind the necessity of removing the filter units for replacement.

At the end of this reporting period, this work had not been commenced.

7. Floor Levelling. The subject of final levelling of the floor was raised. It was
25X1 explained to [redacted] that many of the floor supports had been moved when ducts and piping were installed, and that some supports were free under the floor. Mr.
25X1 [redacted] confirmed that he knew of this condition and that it would be corrected after the floor grilles were installed.

25X1 [redacted] Quality Control reports that the floor requires levelling in places.

8. Floor Drains. Sink type floor drains, manufactured from S.S. type 316, have been ordered and delivery is expected in one week's time. On receipt of the drains, three in number, installation will take place in locations approved by [redacted] 25X1

At the end of this reporting period no drains had been installed.

CONFIDENTIAL

65.013
p 3 of 6
c 1 of 5

U. S. Government

9 March 1965
A51-65-3193

9. Weather Roof over Air Conditioning Equipment.

25X1 [redacted] agreed that the requirement of a shed roof over the equipment would be met. After a detailed discussion it was agreed that galvanized metal roofs supported by angle iron attached to the mounting platforms would be acceptable. An overhang of 1 foot all round was agreed to.

At the end of this reporting period the roof had been installed.

10. Completion.

25X1 [redacted] gave a finishing date of March 3, 1965. [redacted] asked for a reduction in this time by the employment, if necessary, of more labor. 25X1

11. Acceptance.

25X1 A discussion was held on the acceptance procedure of the clean room.
25X1 [redacted] was informed that [redacted] Quality Control would inspect the clean room for compliance with the exhibit of the contract as a requisite for approval. Arrangements will be made with [redacted] Chief of Quality Control. 25X1

At the end of this reporting period Quality Control were inspecting the clean rooms for compliance with the exhibit, and for workmanship, materials furnished etc.

Summary.

Prior to test running of the complete clean room systems Quality Control inspection will be completed on the erection.

Area Preparation

All major work has been completed. Final finishing of floors, walls and ceilings are outstanding. Packing of equipment in the group's temporary quarters was started Monday, March 1, 1965, and the relocation was completed, and work on the program re-commenced on Monday, March 8, 1965.

(Continued)

65.013
p4of6
c 1of5

CONFIDENTIAL

U. S. Government

9 March 1965
A51-65-3193

Research Program

25X1

A visit was paid to [redacted] premises during the second week of February by the customer representative to discuss contract requirements. As a result of this visit, it was decided to issue an interim report on the research program covering the progress made to mid-February. This interim report covered in detail the content and progress made on all specific research assignments.

After completion of the interim report and relocation of equipment and staff, work was re-commenced on the following assignments.

25X1
25X1

1. Assignment [redacted] The film type 4400 test samples were tested for granularity. The [redacted] Image Quality Meter was completed, calibrated and used for conducting these tests. The Eastman Kodak data sheet shows that film type 4400 has an R.M.S. granularity of .052, which equals 2.2 granularity. The Eastman Kodak test sample was processed in D19 developer, at 68°F for 8 minutes. A 24U aperture was used to read the D_{net} = 1.0. The H.F. Image Quality Meter formula is expressed as -

$$\text{Granularity} = \sqrt{2A}\ (\Delta D)\ \text{RMS.}$$

An aperture of 22U is used.

The results were as follows.

Test	Temp. °F	Step #	Density	Granularity	[redacted] I.Q.M.
1	68	13	1.03	AV 2.56	Average of
2	78	14	.96	AV 2.56	9 readings
3	88	14	.97	AV 2.58	of each film
4	98	15	1.10	AV 2.72	sample.
5	108	13	1.12	AV 2.78	
6	118	14	1.07	AV 2.86	

25X1

From the above results, it will be seen that when increasing the processing temperature and decreasing the time, the granularity also increases. The maximum difference from the control 68°F at 8 minutes to 118°F at 15 seconds is 0.30. Whether this difference is of consequence in photographic interpretation has not yet been assessed.

A discussion held with S.A.C. Headquarters personnel on TDY at [redacted] suggests that the negative aerial film most commonly used by both Tactical Units and S.A.C. is type 4401, with an Exposure Index of 64-Daylight. This film is

25X1

CONFIDENTIAL

(Continued)

 65.013 p 5 of 6 c 1 of 5

U. S. Government

9 March 1965
A51-65-3193

generally used for high-altitude reconnaissance flights. It is processed by SAC to a gamma of 2.2 to 2.3 whereas TAC process to a gamma of 1.0. Developer 4DS at 75°F is used by both organizations.

No set processing method is apparent in the use of aerial duplicating film. SAC uses 228R processed to a gamma of 1.3., TAC uses type 5427 processed to a gamma of 1.0. Both organizations process these films in 16D at 70°F.

A further interesting opinion emerged, namely that the processing speed available of 15 FPM for negative film, and 25 FPM for duplicating film, is considered to be much too slow.

As a result of these discussions, an attempt will be made to obtain confirmation on this information. If this is obtained, the next film type to be run through the elevated temperature tests will be 4401 rather than type 4404 as stated in the interim report.

25X1 2. Assignment [redacted]

Tests to obtain the coefficient of friction of film and increasing velocities, were re-commenced. A suitable body of still water was located in [redacted] 25X1
25X1 [redacted] and permission obtained to use it for this purpose. All conditions here appeared satisfactory except for returning the film across the lake after a tow run. A pulley line is in course of erection which will enable the tests to be more rapidly concluded.

25X1 3. Assignment [redacted]

To enable a wider range of tests to be carried out, the bearing drive mechanism was removed for replacement with a higher H.P. drive motor. To accurately plot the pressure distribution on the film, a plastic dome with a clearance between the bearing surface, equivalent to a film cushion approximately 1/8 inches was formed and holes drilled and tapped at 1 inch centers over the 180 degrees of the bend radius. A pressure probe connected to an inclined manometer (Ref. Interim Report (Fig. 2-3a Sect. [redacted] will be used to 25X1
obtain the readings. The objective of this test series will be to determine the areas over which fluctuating pressures are generated, with the objective of eliminating these and thereby stabilizing the film path over the bearing. With the fitment of a higher H.P. drive motor, tests will be run on a film carrying loads beyond the 11 pounds carried previously, and amperage readings

(Cont'd)

65.012
P 6 of 6
01 of 5

CONFIDENTIAL

U. S. Government

9 March 1965
A51-65-3193

taken to determine a horse power curve. In the future, various modifications will be made to the pump to ascertain if more fluid can be moved through the bearing at lower R.P.M. by the addition of impellers, "cork screw" blades and etc. Tests will also be conducted with narrow width films, 35mm, 70mm 5 inch, 7 1/2 inches, etc. to determine the requirements for these, i.e. if any format changes such as adjustable edge guides or blanking off covers are required.

4. Work Program for March.

Work on the above programs will continue as specified. In addition, it is hoped to also continue work on the inter-tank air bearing described under Assignment [redacted] Sect. 2.1. of the Interim Report.

25X1

Very truly yours,

[redacted]

25X1

IGR/bls

CONFIDENTIAL

☐ SECRET ☒ CONFIDENTIAL 997604 ☐ UNCLASSIFIED

CONTRACT INSPECTION REPORT

CONTRACT NO. [redacted] | PROJECT NO.

TO:

ENGINEERING SECTION/CB/PD/OL

DATE: 2 March 1965

INSPECTION REPORT NO. *(If final, so state)*: 5

ESTIMATED COMPLETION DATE: 30 June 1965

25X1

NAME OF CONTRACTOR: [redacted]

TYPE OF COMMODITY OR SERVICE: Film Processor Development Program

THE CONTRACTOR IS ON SCHEDULE ☒ YES ☐ NO

PER CENT OF WORK COMPLETED - 50 %

PER CENT OF FUNDS EXPENDED - 65 %

THE CONTRACTOR WILL PROBABLY REMAIN WITHIN ALLOCATED FUNDS ☒ YES ☐ NO IF ANSWER IS "NO" ADVISE RECOMMENDATION AND/OR ACTION OF SPONSORING OFFICE, ON REVERSE HEREOF. IF KNOWN, INDICATE MAGNITUDE OF ADDITIONAL FUNDS INVOLVED.

HAS AN INTERIM REPORT, FINAL REPORT, PROTOTYPE, OR OTHER END ITEM BEEN RECEIVED FROM THE CONTRACTOR DURING THE PERIOD? ☒ YES ☐ NO *(If yes, give details on reverse side.)*

HAS GOVERNMENT-OWNED PROPERTY BEEN DELIVERED TO CONTRACTOR DURING THIS PERIOD? ☐ YES ☒ NO *(If yes, indicate items, quantity, and cost on reverse side.)*

INCENTIVES

IS THIS AN INCENTIVE CONTRACT ☐ YES ☒ NO

IF YES, CHECK TYPE

☐ COST ☐ PERFORMANCE ☐ DELIVERY

NOTE:
USE REVERSE SIDE FOR COMMENTS.
FINAL REPORT MUST CONTAIN INCENTIVE EVALUATION.

OVERALL PERFORMANCE OF CONTRACTOR

1. ☐ OUTSTANDING
2. ☐ EXCELLENT
3. ☐ ABOVE AVERAGE
4. ☒ AVERAGE
5. ☐ BELOW AVERAGE
6. ☐ BARELY ADEQUATE
7. ☐ UNSATISFACTORY

IF OVERALL PERFORMANCE OF CONTRACTOR IS UNSATISFACTORY OR BARELY ADEQUATE, INDICATE REASONS ON REVERSE SIDE.

RECOMMENDED ACTION

☒ CONTINUE AS PROGRAMMED

☐ WITHHOLD PAYMENT PENDING SATISFACTORY PERFORMANCE

☐ TERMINATE

☐ OTHER *(Specify)*

IF TERMINATION IS RECOMMENDED OR IF THIS IS A FINAL REPORT PUT COMMENTS ON REVERSE IN NARRATIVE FORM ON CONTRACTOR'S PERFORMANCE AND CERTIFY THAT ALL DELIVERABLE ITEMS UNDER THE CONTRACT HAVE BEEN RECEIVED. THESE INCLUDE, WHERE APPLICABLE, THE FOLLOWING:

ITEM	REC'D	DOES NOT APPLY	ITEM	REC'D	DOES NOT APPLY
PROTOTYPES			MANUALS	[redacted]	
DRAWINGS AND SPECIFICATIONS			FINAL REPORT		
PRODUCTION AND/OR OTHER END ITEMS			SPECIAL TOOLING		
			OTHER GOVERNMENT PROPERTY		

DATE OF LAST CONTACT WITH CONTRACTOR: 24 November 1964

25X1

SIGNATURE OF INSPECTOR: [redacted]

DIVISION: [redacted]

SIGNATURE OF APPROVER

FORM 10-64 1897 USE PREVIOUS EDITION

☐ UNCLASSIFIED ☒ CONFIDENTIAL ☐ SECRET (12-36)

☐ SECRET ☒ CONFIDENTIAL ☐ UNCLASSIFIED

NARRATIVE REPORT	☒ INTERIM	☐ FINAL

An interim report completely detailing all aspects of investigation to date has been received.

The contractor has submitted a proposal for a six-month, [redacted] continuation to carry through until 31 December 1965. In view of the investigation reported in the interim report, continuation of the program is recommended.

25X1

☐ UNCLASSIFIED ☒ CONFIDENTIAL ☐ SECRET