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ADULT EDUCATION

Final Report

- D.A. Conlin

ADULT EDUCATION

Aims The program of Adult Education in Poston has developed from the desire in the community for leisure time activities, for instruction in individual skills and handicrafts, and to a limited degree, for a more adequate knowledge of the English language. The growth of the program has been in response to these community wishes.

Activities The major community interests have been directed to the sewing schools and to the arts and crafts. Approximately ninety per cent of the adult education enrollment, somewhat over 3,600 participants at the peak of activity, has been in these departments. The study of English and American life, which might well be designated as the primary objective from the standpoint of the administration, has met with only a limited degree of interest from the evacuees. The extent and nature of the adult vocational courses have been discussed in the report on Vocational Education.

In addition to the factor of community interest, the matter of teacher availability has been very important in shaping the adult program. The teaching staff, with the exception of a few volunteers from the appointed staff who were able to give a small amount of time each week to the program, consisted entirely of evacuees. Since most of the people who had been trained to teach had been recruited for service in the elementary and high schools, there were left for the adult program only those individuals whose interests and skills were directed, not to the conventional pattern of American education, but to the activities and cultures of the older Japanese. In this group were the teachers of the California sewing schools, the flower arrangement schools, and the Japanese language schools. It was around these teachers and others gifted with the genius for handicraft, that the Adult Education program was permitted to develop.

The early program of Adult Education in Poston was under the direction of Dr. John Powell and Dr. Walter Balderston of Community Activities. From 1942, when the project was organized, to April 1, 1944, this section sponsored the development of many adult activities. In Camp I, five sewing schools were in operation. They were, Block 2, with Mrs. Chieno Kuroda in charge; Block 21, under Miss Sumiko Umeda; Block 12, with Mrs. Kazuye Asatani; Block 35, with Mrs. Chiye Fujikawa, and the tailoring school in Block 42 under the experienced leadership of Kesajiro Urata. There was one sewing school in Camp II with Miss Suyeko Yagura in charge. In Camp III, the sewing program was unorganized, private sewing was done in the blocks with the machines in charge of the block managers, while production was carried on by Community Industries. Mrs. Kayomi Yamanaka conducted a class in pattern drafting for a small group of women. Approximately 800 to 900 women attended the sewing schools in Camp I, and 250 in Camp II. Practically all of the teachers were trained in the Japanese sewing schools of California.

A large flower arrangement school had developed in Camp I under the experienced leadership of Mrs. Seiyo Kawaguchi. Approximately 375 women attended her classes many of which were held in the School in Block 5. In Camp II, about 200 women attended the classes taught by Mrs. Shijo Yamano. In Camp III, Mrs. Toyono Takeda had over 100 students.

Japanese language classes, known as Translation classes, were held in Camps I and II. The 300 students enrolled in these classes were Nisei, required, according to Project regulations, to be eighteen or over and able to speak English. In Camp III, the classes had been discontinued because of the objections of Miss Frances Cushman, Principal of the High School.

The teaching material in the Translation classes was prepared by the instructors. Considerable time was taken in the preparation of this material and in mimeographing it in the Unit Adult Education offices. Later, the Naganuma texts were used and this reduced the amount of work spent on this activity. Mrs. Shizuko Takeda was the instructor in Camp I, Mrs. Kin Kadoike was the instructor in Camp II, and Mr. Naojiro Kita the instructor in Camp III. The last named was used as an English teacher after his Japanese classes had been discontinued. The teaching of Japanese to the Nisei was justified on the basis of preparation of translators for war needs, and in order to establish a better understanding between the Nisei and their parents by removing language barriers. These classes were finally discontinued during the post-exclusion period upon the recommendation of Mr. John Provinse, Chief of WRA Community Management.

Arts and Crafts classes had been organized and developed in Camps I and II. Mr. Roy Takahashi had promoted a flourishing school in Block 60, where about 200 older people were learning to make block prints, and to carve and paint birds for lapel pins. Mrs. Kimi Ooka had about 175 women in her classes in Camp I, where artificial flowers and other novelties were made. Mrs. Mutsa Takai conducted classes in artificial flower making in Camp II. This type of work was carried on by Community Industries in Camp III, and the products sold in the Mohave Room.

A number of English classes had been organized in the three camps. Four teachers were employed in Camp I, two in Camp II, and three in Camp III. With one exception the teachers were Issei whose ability to speak English was relatively limited. None of them had any experience or training in teaching. The method used by them was predominately the translation method. Reading was done from a second or third grade reader, the material translated by the teacher into Japanese and then discussed in the same language. Great emphasis was laid on grammar.

Assistance was being given in the English program by volunteer teachers from the appointed personnel. Miss Mary Jesse, Miss Alice Cheney, Miss Laura Patton, and Miss Bertha Starke, formerly teachers in Japan and conversant in the language, spent one to two hours a week either with a class of their own or in one of the classes taught by an evacuee. Miss Naomi Wood taught conversation one hour per week and Miss Mary Wiseman English grammar one hour per week, both in Camp I. Mrs. Mary Courage assisted one of the evacuee teachers in Camp II. Altogether, there were about 375 people in the three camps enrolled in the English program.

The Adult Education program also included a program of individual instrumental music instruction. Lessons were given to school children by evacuee piano and violin teachers at convenient hours. Use was made of church pianos for instruction and practice.

On April 1, 1944, the Adult Education program was transferred from Community Activities to the Education Section. David A. Conlin, newly appointed Assistant Junior-Senior High School Principal was put in charge of the program, and later appointed Supervisor.

There were two very important needs of the program which required immediate attention. One was an improved English and Americanization program, the other was the necessity for adult vocational classes, especially shorthand, typewriting, and bookkeeping. The work done in this latter field has been described in the Vocational Education report.

The requirements of the English program were threefold. There was the need for better trained teachers, more and more of them; for a wider selection of teaching material on the adult interest level; and for the extension of the program so that more of evacuees would take part in the English and Americanization work.

Requests for teachers from the appointed personnel staff to teach English to the Issei on a full time basis could not be met. Apparently budget provisions and other administrative restrictions prevented the selection or appointment of qualified teachers for Adult Education in English and Americanization. Dr. N.E. Viles, Education Adviser, during his visit to the Project in May, approved the use of appointed full time teachers for this work. Miss Golda Van Buskirk, English Consultant, recommended the assignment of high school teachers for English classes in the Adult Program. Dr. Lester K. Ade, WRA Director of Education, after his visit in October stated in his report letter of October 17, 1944, addressed to Mr. John H. Provinse, "Relative to personnel, it is suggested that the allocation of high school teachers for Poston be increased by one in order to have one person devote practically full time to Language instruction and be assigned as an assistant to Mr. Conlin, the Supervisor of Adult Education. This is in line with Dr. Van Buskirk's original recommendation".

Although there was no disagreement as to the need for trained teachers to carry out the objectives of adult education so that it might contribute to successful relocation, none were assigned to the program. The existing shortage of appointed high school teachers and the reluctance or inability to establish new positions prevented the assistance being given.

The need for better teaching material for the English classes was met by a budgetary allowance for the purchase of books and teaching aids. A careful survey of needs in all three camps was made. As a result of this, procurement of material was effected and adequate supplies of books and other reading matter were made available for all English classes. A bibliography of the material used for these classes is appended.

The expansion of the program was difficult without trained people. However, two of the appointed staff volunteered their services and made an important contribution to the work. They were, Mrs. Lillian Taylor, a high school English teacher, and Miss Eleanor Daugherty, Supervisor of Teacher Training. Mrs. Taylor organized an intermediate class in English, where for

the first time, a functional method of teaching was used. She had from 25 to 30 students in this class, and was able to continue her work with considerable success from June 1944 to Christmas. Miss Daugherty assisted in teaching in Camp II. She too, used the direct method of teaching English which proved to be very helpful in improving the language skills of her students. Later, Miss Daugherty was assigned, in addition to her other duties as supervisor of the nursery schools in Camps II and III, to assist in the training of the Adult English teachers.

During the summer vacation of 1944, two of the high school teachers in Camp I, Mrs. Lillian Taylor and Miss Edna Mae Thompson, were assigned to Adult Education for English teaching. They both organized and taught classes of their own, numbering from 25 to 30 students in each. They also substituted for volunteer teachers who were on vacation. In addition, Mrs. Taylor was asked to assist the Issei teachers with their classes. She planned to use the functional method in their classes and to have them observe her and then try to improve their own teaching by this experience. Unfortunately, although the idea seemed to be a good one, the evacuee teachers did not like the plan. They resisted her efforts very strongly and made emphatic representation to have this work discontinued. It had to be abandoned in the face of this lack of cooperation.

When Miss Daugherty was assigned to the training of the evacuee teachers, she tried to do this by means of conferences and group meetings. Several meetings were held and many questions were raised and discussed. However, there was great reluctance on the part of the Issei teachers to follow the suggestions made by Miss Daugherty. The whole plan had to be given up when it was realized that the teachers were unwilling to change their methods, and did not welcome the constructive suggestions that were being made.

After schools had reopened in September, conferences were held with each principal to determine the availability of teacher assistance for the adult program. Since all of the teachers were required for full time assignments in their own schools, assistance for the adult program could only be had on a volunteer basis.

In Camp I, Miss Naomi Wood, Miss Mary Wiseman, Mrs. Lillian Taylor, Miss Manila Smith, and Mrs. Vera Whitcomb volunteered to teach English one or two hours per week. Miss Alice Cheney of Family Welfare agreed to continue her assistance in this work. Since all of the teachers except Miss Smith had been helping with the work, her class was the only new group organized. A beginning class of thirty students was formed. Basic English material was used with considerable interest due partly to her skill as a teacher. Her class has held together well, she still has 25 students, and their progress has been excellent. Her aim has been to help the individual to develop a limited vocabulary and to use it effectively in real situations. Mrs. Theus Koltoff and Miss Louise Ness volunteered for commercial work in Unit I. Mrs. Koltoff left the Project soon after this, however. Miss Ness has taught her typewriting class for the full school year.

In Camp II, Mrs. Mary Courage and Miss Eleanor Daugherty agreed to

help the evacuee teachers in their English classes. In this camp, the cooperation of the evacuee teachers was excellent. Mrs. Kazue Kozeni, who has been the Assistant Adult Education Supervisor in Unit II and has taught English in the program since 1942, and Mr. Mitsuhiro Endo, a Nisei, welcomed the assistance of the Caucasian teachers. The enrollment of their classes grew from 90 to 110 students. The effectiveness of the English instruction increased. On the whole a good job has been done in Camp II in the English field, as far as public interest and teacher availability would permit.

In Camp III, Miss Jeanetta Linfield of the high school staff volunteered to teach an intermediate group in English. She could only continue for one month, however, as her daily work was very heavy. Miss Bertha Starkey of the Relocation Section volunteered for a beginners class again, and has taught her group all of the year.

Mention should be made of other activities carried on by volunteer appointed teachers. Besides the work done in the Commercial field, two other efforts deserve comment. One was the excellent work done by Miss Martha Jacquette, head teacher of Home Economics. In Camp I, during 1944, she addressed weekly meetings of the women in different quads on table etiquette. She also gave talks to departing groups of evacuees at dinners arranged by the Women's Club, on good manners. In Camp III, she organized and taught two evening courses in home making for a full term. The attendance at these classes was very large.

In Camp I, Miss Anne Peavy of Family Welfare, organized and taught a group of women on the subject of Child Development. This was arranged with the cooperation of the Women's Club. It had been hoped that a short course could be arranged for each quad, but pressure of daily work prevented Miss Peavy from continuing her teaching.

A course in farming was arranged, and highly publicized. Mr. Ralph Shapley, head teacher of Agriculture in Camp I High School, volunteered for the work. However, in spite of active promotion methods only eight enrolled for the course, and after two or three meetings, the work was given up. There seemed to be a definite lack of interest in the community in the study of farming in spite of the large agricultural population.

Accomplishments The arts and crafts work of the Japanese people in Poston has been highly developed. Many exhibits of this work have been held from time to time. Wood carving included vases and bases of iron wood and mesquite, plaques, trays, carved animals, Buddhas, chess men, canes, and miniature figures. The carving of birds from soft wood for lapel pins has become a very extensive hobby. Many types of birds are carved and painted to simulate real life, then lacquered for gloss and preservation. Roy Takahashi and Kinichi Itaya started the work in a small way in separate shops in Camp I. Now, literally thousands of lapel pins are being made currently in the three camps. Highly developed skill is displayed in some of the carvings.

Flower making from crepe paper has been done very extensively. This skill has also been very highly developed. All funeral and wedding flowers

have been made in this way. Students in the flower making classes have also made hairpin containers, vases, tie racks, and other novelties from twisted paper and cardboard. Miniature dogs, cats, roosters, etc., were made from twisted wire and chenille. Corsages for Easter were made from the same material. Mrs. Kimi Ooka in Camp I has instructed hundreds of ladies in these skills.

Besides woodcarving and paper handicraft, the evacuees have cut and polished stones which they have found in the desert. Agates, quartzes, petrified wood, and turquoise have been used for ornaments, book ends, pendants, rings, earrings, and bracelets. The silver settings have been wrought by hand.

Embroidery and knitting have also been widely practiced. Mrs. Yoshino Miwa has conducted an embroidery school in Camp I where some very skillful work has been turned out. The ladies have made bureau scarves, table cloths, luncheon sets, and bed spreads. Mrs. Shizue Sakurai in Camp II and Mrs. Mai Watanabe in Camp III have conducted knitting classes. Suits, sweaters, skirts, and baby clothes have been made.

Drawing and painting has been done in the three camps. Water colors, and sketches of camp life and desert scenes have been frequently displayed in the libraries and mess halls. Samples of this art have been sent to the Yale University Library and also to Leland Stanford.

The toy shop in Camp I, operated by Mr. Jitsuo Kurishima has made its contribution to the play life of the children. Scooters, kiddy cars, toy trains, animals, aeroplanes, and countless other wooden toys have been made here. Besides, repairs to broken toys have been made for the children who would bring them to the shop. The toy shop has always cooperated with the nursery schools in supplying and repairing play material.

The sewing schools and the tailoring school have made an important contribution to the life of Poston. They have provided an opportunity for the women to learn how to make clothing for the members of their families economically and efficiently. They have instructed the ladies in pattern drafting which has helped them to fit their clothing better than with standard patterns. They have provided a social medium and meeting place for the women of the community which has developed better understanding among them and has helped in building morale. They have helped to provide a leisure time activity that has served to prevent boredom and neurosis. The newcomer to Poston has seldom failed to comment on the attractive personal appearance of the women, both young and old. This is due in no small measure to the care and skill with which their clothing has been made.

The English program has been effective as far as it was able to go. The Issei teachers, working very conscientiously, although using a very slow and painful method, have taught some vocabulary, a certain amount of grammar, and have improved the reading ability of their students. Above all they have done a kind of missionary work in the community, promoting the study of English, preparing the field for more adequate instruction by the volunteer teachers of the appointed personnel.

The volunteer teachers have done an heroic job. Working a full forty eight hours in their own jobs, they have willingly contributed some of their free time in meeting the great need for English teaching. They have helped hundreds of people in the three camps improve their language habits. They have taught them to read books and newspapers, and how to write letters to their sons in service. They have taught American History and have tried to interpret American idealism to the Japanese people.

It is probably true that a great opportunity has been missed in Poston and possibly in the other Centers. In this community of 17,000 people of Japanese birth or ancestry, where life moved slowly and time was of no great consequence, there existed a rare opportunity for an educational program to help these people understand America and to use its language more skillfully. That not one trained American teacher was appointed to do this for the Issei who needed this help so badly, is evidence that this opportunity was neglected. The major part of the adult English program had to be conducted by people born in Japan.

The need for full time English and Americanization teachers was repeatedly expressed by the Supervisor. It was recognized by the Superintendent of Education. Recommendations to partially meet this need were made by the Education Adviser, Dr. N.E. Viles, by the English Consultant, Dr. Golda Van Buskirk, and by the WRA Director of Education, Dr. Lester K. Ade. But not one appointment was ever made.

The WRA Superintendents of Education in the Washington Conference, March 20-25, 1944, listed as the major aim of the adult program, the preparation for relocation. Quoting from their report, "This involves the training for relocation, Americanization, or adaptation to living conditions in outside communities. Courses for training in the use of English, study of community habits and possibilities, and preparation for the life of the evacuee in the new community are of this type." The accomplishment of this aim required the work of a skilled and trained staff of teachers, and could not be done by evacuees with a background of training in sewing schools, flower arrangement schools, arts and crafts, and Japanese language schools, with the limited assistance of a few Caucasian volunteers.

The Adult Education program in Poston had to develop in accordance with the interests of the people of the community and with the availability of teachers. It could not expand in conformance with the expressed objectives of WRA, except to a very limited degree.

The contribution, however, of the arts and crafts, of the sewing schools, of the flower arrangement schools to the morale and well being of the community was important. These activities provided the community with interests and leisure time activities which greatly relieved the monotony which the extreme isolation and the nature of the Relocation Center created. The development and expansion of these activities, their importance in the community bear witness to this fact. Thousands of men and women have enjoyed participation in them. Many of the skills developed here will be of value in the later life of these people.

Camp I

ASSISTANT TEACHERS

Name	Activity
Amano, Sachiko	Music
Asatani, Kazuye	Sewing
Etow, Eizo	English
Fujiwara, Helen	Sewing
Fujikawa, Chiye	Sewing
Hamagiwa, Johnny	English
Hayashi, Masataro	Toy Shop
Itaya, Kinichi	Arts & Crafts
Ito, Onoye	Flower Arrangement
Kamiya, Tazu	Sewing
Kawaguchi, Seiyo	Flower Arrangement
Kurishima, Jitsuo	Toy Shop
Kuroda, Chieno	Sewing
Kuroda, Fred	Toy Shop
Matsumoto, Bunso	Utai
Matsumoto, Kimiko	Sewing
Miwa, Yoshino	Handicrafts
Niino, Tsumeko	Sewing
Nishimoto, Haruye	Sewing
Ooka, Kimi	Flower Making
Sumioka, Shuichi	English
Suzuki, Kay	Music
Takahashi, Nobuko	Arts & Crafts
Takahashi, Roy	Arts & Crafts
Takeda, Shizuko	Japanese L.
Tanaka, Alice	Music
Tanaka, Mitsuko	Clerk Steno
Tanaka, Tsunezo	English
Tanesaki, Shigeiko	Sewing
Umeda, Sumiko	Sewing
Urata, Kesajiro	Sewing
Yamada, Albert	Arts & Crafts
Okamoto, Minoru	Japanese L.

ASSISTANT TEACHERS

Camp II

Name	Activity
Endo, Mitsuhiro	English
Hamamoto, Betty	Typing
Ichikawa, Toshiye	Music
Iida, Frances	Music
Kadoike, Kin	Japanese L.
Kozeni, Kazue	English
Machida, Kameko	Flower Making
Matsunaga, Shima	Knitting
Nakagawa, Gus	Art
Osumi, Fumiko	Sewing
Sakurai, Shizue	Knitting
Shigemoto, Toshiko	Clerk Steno
Takeda, Yoshiye	Music
Takeshita, Masamoto	Sewing
Watari, Kazue	Knitting
Yagura, Suyeko	Sewing
Yamano, Shijo	Flower Arrangement
Yokoyama, Tatsuichi	Arts & Crafts
Yoshizumi, Harry	Art

Camp III

Name	Activity
Hibi, Mabel	Music
Kita, Naojiro	English
Kitahata, Kintaro	Arts & Crafts
Shiosaki, Hisaye	Sewing
Takahashi, Rosie	Music
Takeda, Fukuko	Music
Takeda, Toyono	Flower Arrangement
Tashiro, Yasuko	Clerk Steno
Watanabe, Mai	Knitting
Watari, Hisaye	English
Yamanaka, Kayomi	English

Volunteer Teachers

Name	Activity
Camp I	
Cheney, Alice	English
Hess, Virginia	Cosmetology
Jesse, Mary	English
Ness, Louise	Typewriting
Patton, Laura	English
Smith, Manila	English
Taylor, Lillian	English
Whitcomb, Vera	English
Wiseman, Mary	English
Wood, Naomi	English
Camp II	
Courage, Mary	English
Daugherty, Eleanor	English
Kerber, Viola	Arts & Crafts
Camp III	
Grube, Alice	English
Jacquette, Martha	Home Making
Mongomery, Robert	Auto Maintenance
Starkey, Bertha	English

Summary - Adult Education Program,
November 1944

A. English and Americanization Program

Number of classes	27
Enrollment	
Unit I	228
Unit II	109
Unit III	72
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Total	409
Teachers	
Evacuee	9
Caucasian (vol.)	11
	<hr/>
Total	20

B. Vocational & Retraining Program

Number of classes	
Shorthand	5
Typewriting	3
Auto Maintenance	1
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Total	9
Enrollment	
Shorthand	90
Typewriting	73
Auto Maintenance	20
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Total	183
Teachers	
Evacuee	1
Evacuee (volunteer)	1
Caucasian	4
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Total	6

C. Personal Skills & Leisure Time Activities

Enrollment	
Sewing Schools	1040
Flower Arrangement	676
Arts & Crafts	405
Flower Making	267
Knitting	179
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Total	2567

Teachers	
Evacuee	21
Caucasian (volunteer)	1
	<hr/>
Total	22

D. Music Instruction

Individual Students	
Unit I	90
Unit II	59
Unit III	61
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Total	210

Teachers	
Evacuee	8
Evacuee (volunteer)	1
	<hr/>
Total	9

E. Miscellaneous

Enrollment	
Japanese Language	270
Utai	56
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Total	326

Teachers	
Evacuee	5

SUMMARY

Enrollment

Unit I	1956
Unit II	1286
Unit III	453
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Total	3695

Teachers

Evacuee (employed)	44
Evacuee (volunteer)	2
Caucasian (volunteer)	16
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Total	62

B I B L I O G R A P H Y

English and Americanization

- Americana Corporation, "Building America - Aviation," 2 W. 45th Street,
New York, N.Y.
- Americana Corporation, "Building America - Chemistry At Work," 2 W. 45th St
Street, New York, N.Y.
- Americana Corporation, "Building America - Communication," 2 W. 45th Street,
New York, N.Y.
- Americana Corporation, "Building America - News," 2 W. 45th Street, New
York, N.Y.
- Americana Corporation, "Building American Men and Mechanics," 2 W. 45th
Street, New York, N.Y.
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New York, N.Y.
- American Education Press, Inc., "Current Events," 400 S. Front Street, Colum-
bus, Ohio.
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609 Mission Street, San Francisco, California.
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New York, N.Y.
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New York, N.Y.
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Street, New York, N.Y.
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18th Street, New York, N.Y.
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Street, New York, N.Y.
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Street, New York, N.Y.
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York, N.Y.
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venue 18th Street, New York, N.Y.
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- Phelan, M., "Our Changing Times - Fireside Stories," Barnes & Noble, 5th Avenue 18th Street, New York, N.Y.
- Rand, H., "Better Sentence Builder," Scott, Foresman & Co., Chicago, Illinois.
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VOCATIONAL TRAINING

Final Report

- D.A. Conlin

IV

VOCATIONAL EDUCATION TRAINING

Aims The Vocational Training program in Poston developed in response to the recognized need of the evacuees for assistance in the acquisition of occupational skills and techniques which would be helpful to them in finding employment after relocation. The necessity for trained workers to maintain the essential services of the Project also contributed to the active promotion of the program. The unique opportunities for such training in the Relocation Center served to stimulate the formulation of plans for this vocational education.

Activities The laboratories for the Vocational Training program in Poston have been the garage, the machine shop, the print shop, the offices, the utility maintenance section, the shoe repair shops, the dressmaking and tailoring schools, the beauty shops, the hospital, the farms, the radio repair shop, and to a limited degree, the classrooms. Practical training in many occupations has been given to those who availed themselves of the opportunity, by evacuee and Caucasian instructors in trade courses and learnership programs.

In this report, the activities discussed will be those which might be called out-of-school activities. That part of the Vocational program included in the high school curriculum will be discussed in the section dealing with the high school program.

The first efforts in Poston in the organization of a planned training program were made by Mr. Eugene C. Paine who was appointed Vocational Training Supervisor in September, 1943. Through his efforts, an apprenticeship training program was initiated and approved, and the cooperation of the various Division and Section heads in its administration was pledged.

The training program was started in the machine shop where experience was offered in the use of lathes, the drill press, shaper, milling machine, in arc and acetylene welding, cutting and brazing. Instruction in blacksmithing was also given. The motor pool sponsored the training of drivers of busses, trucks, and lighter vehicles in the operation and maintenance of equipment, as well as in Project rules and regulations for driving. Apprentice training was next begun in the shoe repair shops operated by Community Enterprises. The beginner was instructed in the basic operations in heel work, stitching, sole work, welts, nailing, patching, and the complete repair job. Experience was acquired on the Landis #36 McKay Stitcher, Singer sewing machine, Durkopp sewing machine, Super Cyclone finisher #256, Straight Stitcher, Landis Stitcher, Landis Line Finisher, Landis Leather Cutter, American Leather Cutter, and the American Edger.

Besides the apprenticeship training program, a beginning was made in the organization of adult vocational classes. Commercial classes were organized in the three camps with 325 students enrolled. The offerings included elementary, intermediate, and advanced typewriting, elementary, intermediate, and advanced shorthand, and elementary and advanced bookkeeping.

A class in basic elementary electricity as related to electrical refrigeration was started in Camp I. The course was designed particularly for workers in the maintenance section to give them a theoretical knowledge of electricity applicable to their everyday practical work. A radio code class was organized in Camp III where keys and oscillators were available for this purpose. Mr. John Burdick, Camp III steward, instructed a group at the slaughter house in butchering and meat cutting. This training has proved very useful as the hog farm developed.

It was at this time that efforts were made to secure state aid for O.S.Y.A. courses and war production training. These efforts were not successful.

Arrangements were completed to secure the transfer of surplus radio equipment of the N.Y.A. at the warehouse in Tempe, Arizona to Poston. Auto mechanics hand tools and wood working hand tools were also secured from this source.

Upon the resignation of Mr. Paine in January, 1944, Mr. George M. Ohi supervised the Vocational program until he relocated at the end of March. During this time, the apprenticeship training program was extended. Instruction in auto repair was begun in the garage. This included all of the regular service, maintenance, and overhaul operations, as well as body repair. A group of twenty high school boys from Camp II were organized as an apprentice group on the hog ranch working four hours a day under the supervision of the agriculture section. This activity continued less than a month, however, due to difficulties of administration. An office training program was initiated and girls from the Secretarial Training course of the Poston^{work} High School on a half time basis in various offices for practical experience. This experience included dictation and transcription of letters and memoranda, typewriting, filing, clerical work, and some bookkeeping. The girls were rotated on a definite schedule from office to office to get diversified experience. A rating sheet was maintained by each employer and given to the high school teacher at the end of each month.

It was at this time that difficulty was first met in securing teachers for vocational classes. "Our greatest concern is the problem of teacher replacement", wrote Mr. Ohi in his January report. "Our turnover is quite great. Teachers also relocate. We believe that the teacher replacement problem will be greatly simplified if they are given compensation of some sort, possibly compensatory time off during the day for the hours devoted by them to night teaching, or change in status of the \$16 employees to a \$19 basis." Again in the February report, "Vocational teacher shortage situation is becoming very acute due to relocation and the change of policy by the Selective Service Board regarding the drafting of persons of Japanese ancestry."

There was a drop in attendance in the evening classes in the commercial classes at this time. This was attributed partly to the teacher problem and also to the fact that many young people were relocating, at

From April 1 to August 31, 1944, the Vocational Training program was included in the work of the Adult Education supervisor, David A. Conlin, in the absence of a regularly appointed supervisor.

Mr. Alfred T. Ploeser was appointed full time Vocational Training Supervisor and assumed his duties on September 1. He served in this capacity until January 15, 1945. His efforts were directed to a careful and constructive supervision of the high school shops, to an improved documentation of the program, and to an expansion of learnership opportunities.

A system of weekly record report cards for learners was inaugurated. Progression charts have been kept showing the detailed accomplishments of the learners, the machines and special tools used, and the hours of experience accumulated. Certificates were now given to students completing their apprenticeship training. Job analyses were detailed for the various learnership programs.

The new courses begun at this time included radio repair, electrical maintenance, printing, dressmaking and tailoring. The radio repair course included experience in the identification and construction of radio parts, study of color codes, preparing and splicing wires, soldering, tube testing, testing circuits, and general servicing defective radios. The course was given in the Radio Repair Shop of Community Enterprises, located in Camp II. Electrical maintenance included work in installation, maintenance, and repair of line equipment, and overhaul work in the shop. In the Print Shop, practical experience was obtained in work on the make-up and printing of the project newspaper and in job printing. The dressmaking and tailoring courses were organized in schools already in operation in the Adult Education program. Learners were recruited from experienced students. They have been instructed in the various skills in dressmaking and tailoring, they have assisted in the production program, and have helped in the work of instruction in the sewing program of Adult Education.

In Camp III, a program of practical agricultural training was organized in cooperation with the Agriculture Section and the high school. The work was supervised by Mr. F.J. Ketchum, the Agriculture teacher. Difficulties were encountered from the beginning. There was insufficient transportation facilities for the students to the fields. There were inadequacies of supervision because the teacher had so much ground to cover. There was lack of farm equipment for school use. There was lack of interest on the part of the students. Finally, the project was given up on December 1.

The learnership program in the garage and the machine shop were promoted actively. Mr. Arthur Fisher, vocational teacher in the Auto Shop in the Camp I High School helped in the supervision of the learners working in the two shops.

Early in January, Mr. Ploeser was notified verbally by the shop foreman that the learnership program in the garage was to be terminated immediately. The reason given was, that the Army required specific job specialization rather than diversified experience on the part of the worker. Apparently, this policy was inconsistent with prevailing educational practice. However, no written explanation of the termination was ever given to the Vocational Training Supervisor. The training in auto repair was, therefore, interrupted and was not resumed until February, when the Auto Shop in the new Camp I high school was opened. Approximately half the boys resumed their training in the regular high school program.

After the departure of Mr. Ploeser in January, the Vocational Training and Adult Education programs were combined under one supervisor, David A. Conlin, in accordance with suggestions for the post-exclusion program. Emphasis had been re-directed toward preparation for occupational efficiency consistent with the aims of the relocation program. Approximately 140 learners are now being trained in the program. Certificates and letters of recommendation are given to the students as they leave the project.

Since February, learners in the tailoring course have given their assistance in meeting certain project needs. Patients' gowns, hot water bottle covers, ice bag covers have been made for the hospital; heavy canvas seat covers have been made for the newly acquired project bus. In the sewing school, the dressmaking learners have assisted in making clothing for families recommended by Family Welfare on the basis of need, or where in large families, mothers are too busy, or lack the skill to do their own sewing.

Accomplishments It is difficult to appraise the results of the Poston Vocational program. An attempt has been made to follow up the activities of former students who have gone out, but with little return. A few letters have come back telling of the work now being done by some of these people in libraries, garages, and in beauty shops. Time alone will determine for each individual how well his Poston vocational experiences have helped him in readjustment to normal community life and economic security.

The assistance which has been given to project operation as a result of the Vocational program is more readily observable. Many of the workers in the machine and auto repair shops have been trained in the program. Much of the ordinary repair work on project equipment has been done by learners. Beauty shops and shoe repair shops have been kept in operation as a result of the training program. The nurse aid training has made a considerable contribution to the operation of the Poston General Hospital. Libraries have recruited their employees from the group of trainees. Dressmaking and tailoring learners have worked on projects of considerable community importance. Former trainees now occupy positions of responsibility in all of our administrative offices as secretaries, stenographers, typists, clerks, etc. Justification of the Vocational Training program on the basis of its contribution to project operation is probably valid.

Improvement in the program could have been made by an earlier recognition of its importance and the consequent recruitment of a permanent supervisor with an adequate staff of instructors trained for the work. Much of the work of instruction has been done by volunteers who were willing enough but untrained in teaching skills and who were besides, occupied with a full time position of their own. A great deal more could have been done in the commercial field for post high school boys and girls if trained teachers had been available for the work. The lack of success in agricultural training has been a surprising fact. The chief reason for it is the lack of interest in it on the part of the younger men, and the unwillingness on the part of the older men to branch out into new unknown types of agriculture alien to the practices of California.

Appended to this report, are two tables, one showing a summary of the activities of the program during the periods of operation, and the other showing the enrollments in the learnership courses and the adult vocational courses each month. A list of teachers who have worked in the program is also given.

An effort was made to renew the interest and activity in the evening program. Courses in shorthand and typewriting were organized in Camps II and III where teachers for this purpose were available. Most of the students in these courses had had some experience in these studies in high school and wanted to review and complete their work. Much beneficial training was obtained by them in the next few months. A course in elementary drafting was also begun in Camp III.

Apprenticeship training was also expanded. Experience was offered in the Engineering Section to young men in the calculation of land areas and volumes, in drafting, and in field work in surveying. In May, a training program in cosmetology was begun in the Beauty Shops of Camps I, II, and III. The standards and rules set by the California State Board of Cosmetology were used as a basis for the practice here. The Public Health Section agreed to provide monthly lectures for the trainees in Sanitation, sterilization, and skin and scalp diseases. These lectures have been given since the course started and have been very valuable to the learners. The Sanitation Section has cooperated in providing periodic inspections for the maintenance of sanitary standards in the Beauty Shops. The learners have been given experience in the various types of shampoos, rinses, permanent waves, curling, wet waving, bleaches, cutting, dyeing, scalp treatments, facials, make-up, arches, colorings, and manicures. Miss Virginia Hess, a licensed operator and a teacher in the elementary school here, has given weekly lectures to the girls on the theory pertaining to their work, in order to help them prepare for later state examinations.

The growth of the apprentice training program was steady and in June, 83 persons were taking part in the various phases of the work. A twelve weeks course in library training was offered at this time, and fourteen girls availed themselves of the opportunity. The course included two hours instruction per day in library clerical work, cataloging, and reference duties. It was under the direction of Miss Ethel Manning, Project Librarian. Besides, the learners spent four hours a day doing practical work in the school and public libraries of the three camps.

The visit of Mr. Richard B. Johnson, National Supervisor of Vocational Training, to Poston in August greatly helped project interest in the Vocational Training program. During the time he spent in Poston, August 1 - 7, he visited all of the training centers in the three camps. He explored new possibilities in learnerships. He conferred with leaders and administrators of the center on the problems involved in the promotion of an active vocational training program. He met with the Vocational Training Committee. He addressed the Staff meeting. His visit was altogether dynamic and stimulating. His recommendations were extremely helpful in improving and expanding the program.

At this time, the Public Health section invited the cooperation of the Vocational Training section in the recruitment of nurse aids for the hospital. An intensive publicity program was worked out. Dramatizations of the work of the Poston General Hospital and its benefit to the community were given in all three units. Public interest in nurse aid service was stimulated. A new class in nurse aid training was organized.

SUMMARY OF COURSES

Year	Apprentice Training	Enrollment	Adult Vocational Classes	Enrollment
1943				
Sept-Dec	Machine Shop	15	Shorthand	125
	Driver Training	20	Typeing	100
	Shoe Repair	10	Bookkeeping	25
	Butchering & Meat Cutting	8	Electricity	10
1944				
Jan-Dec	Machine Shop		Shorthand	
	Auto Repair		Typewriting	
	Shoe Repair		Bookkeeping	
	Farming		Mechanical Drawing	
	Hog Raising		Auto Maintenance	
	Library Training-		Cosmetology	
	Office Practice		Agriculture	
	Printing			
	Electical Maintenance			
	Radio Repair			
	Dressmaking & Tailoring			
	Beauty Shop			

MONTHLY ENROLLMENTS
LEARNERSHIP PROGRAMS

	1944												1945			
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Machine Shop	8	6	5	8	8	15	22	21	13	10	10	9	7	8	7	7
Auto Repair			2	3	4	20	12	7	10	20	21	20				
Shoe Repair	3	3	3	5	8	13	12	12	14	14	15	14	11	9	9	1
Farming										24	22					
Hog Raising	20															
Library Training						14	15	13	3				3	11	11	8
Office		19	18	19	14	7	5	2	7	13	17	22	25	25	34	32
Bookkeepers					2	2	3	3	3							
Beauty Shop					9	9	10	10	13	14	17	17	14	14	14	11
Printing										2	2	4	6	7	9	7
Electric Maintenance										2	4	4	4	4	4	4
Radio Repair									2	2	2	2	2	2	2	-
Nurse-Aids								48	40	40	46	41	49	40	35	35
Dressmaking & Tailoring												25	25	29	26	27

ADULT - VOCATIONAL COURSES

[illegible]

VOCATIONAL INSTRUCTORS

Machine Shop-	Jacob Ottem Shigeru Yamaguchi George Nakanishi	Volunteer Volunteer Volunteer
Auto Shop-	A. W. Beller G. L. Stewart Arthur Fisher Robert Montgomery	Volunteer Volunteer Paid Paid
Shoe Repair-	Gunjiro Mitsuhashi Roy Taguchi Eichi Endo	Paid Paid Paid
Printing-	Koryo Shindo	Paid
Electrical Maintenance-	T. Matsuda	Volunteer
Radio Repair-	Kazu Oshima	Volunteer
Beauty Shop-	Blanche Nakamoto Kikumi Oda Ruth Watanabe	Volunteer Volunteer Volunteer
Dressmaking & Tailoring-	Sumiko Umeda Kesajiro Urata	Paid Paid
Office Work-	Eugenia Snelson Doris Leanhard	Paid Volunteer
Stenography-	Eugenia Snelson Haruye Nishita Sachiko Gyotoku Frances Cushman David Conlin	Paid Volunteer Volunteer Volunteer Volunteer
Typewriting-	Eugenia Snelson Haruye Nishita Betty Hamamoto Asa Ikeda Louise Ness	Paid Volunteer Paid Paid Volunteer
Book-keeping-	Hideo Tsuchiyama	Paid
Drafting-	H. Yada	Volunteer
Homemaking-	M. Jacquette	Volunteer
Auto Maintenance-	Robert Montgomery	Volunteer
Cosmetology-	Virginia Hess	Volunteer
Vocational Assistant-	Nobutaro Nishino	Paid

WAR RELOCATION AUTHORITY
Colorado River Relocation Center
Poston, Arizona

FINAL REPORT
OPERATIONS DIVISION
(March 31, 1945)

R. H. Rupkey
Assistant Project Director

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Early Objectives of Center

The objectives of the Colorado River Relocation Center during the first few months of its existence were quite different than its ultimate objectives.

At the beginning the plans for the center were based on retaining 20,000 or more persons of Japanese ancestry in the center until the end of the war. There was no plan to relocate the evacuees before the end of the war and therefore the Army encouraged plans to provide a large amount of useful work for the evacuees to do during a period of several years. The plans proposed the construction of an irrigation system, the leveling of approximately 20,000 acres of land and the production of crops for consumption outside the center as well as for food for evacuees residing in the Center. School buildings of permanent construction were to be built for use by evacuees during the war and to be turned over to the Indian Service after the war. A hard surface highway was to be constructed from the railhead at Parker to the center, and gravel surfaced roads were to be constructed in the farm area. At the request of the Army, and with these objectives in mind a large construction program was laid out.

The Army urged as much speed as possible, within wartime restrictions. The Quartermaster Corps of the Army procured much of the equipment and materials to be used in the construction program. The Indian Service was in full accord with these early objectives for development of lands, and building of roads and schools, as this work would greatly advance its plans towards preparation of the Colorado River Reservation for colonization by needy Indians. At the time the relocation center was established the Indian Service was completing the first three miles of main canal from the recently completed Headgate Rock Dam at the upper end of the valley. This fact made possible the early delivery of irrigation water to the relocation center, and the resulting improvement in living conditions.

Construction of Camps and Facilities

The first indication of possible use of the Colorado River Indian Reservation as a location for a relocation center came during the first week in March, 1942, in connection with a visit to the Colorado River Indian Agency by a group of persons from the War Department. The group included Col. Evans of Washington, D. C., and Lt. Col. W. B. Higgins, Mr. Jobes, and Mr. Klien of the U. S. Engineer Office in Los Angeles.

On March 9, a conference concerning engineering feature of the proposed center was held in the U. S. Engineer Office in Los Angeles. At this conference the location of camp sites, the availability of irrigation and domestic water, source of electrical power, proposed roads, irrigation, flood control and drainage works were discussed. Lt. Col. Higgins, Major Huntington, Mr. Jobes, Mr. Klien, and others from the U. S. Engineer Office and Assistant Director of Irrigation H. V. Clotts, Agricultural Economist A. L. Walker, and Project Engineer R. H. Rupkey of the Indian Service attended the conference. The plans of the Indian Service for development of the project were discussed and the Army representatives indicated their desire to locate the proposed camps and to carry on the construction of the camp in such a manner as to avoid interference with the plans, and to further the plans as much as would be feasible, particularly to provide irrigated land for use by the evacuees.

On March 19 the location of Camp I in Section 35, T. 8 N., R 21 W was agreed to by Mr. McCaskill, Assistant Commissioner of Indian Affairs, who had arrived in Parker that day.

On March 22 the first material for construction of the camps arrived. Del E. Webb Construction Co. had been awarded the general contract for construction of the first camp, later known as Unit I.

On March 27, a company of the 54th Signal Corps Battalion arrived to install four telephone circuits from Camp I to Blythe and one to the Parker exchange.

On March 29 the location of the second camp in Sections 15 and 22, and the third camp in Sections 32 and 33, T. 7 N., R 21 W, was agreed to by Superintendent C. H. Gensler, Colorado River Indian Agency, Mr. Tom Allen, Area Engineer, U. S. Engineers Office and Mr. R. H. Rupkey. The second and third camps were to be constructed initially for 5000 persons each, with the possibility of later expanding each camp to 10,000 each.

On April 4 possible sites for a railroad siding were inspected by Mr. Baker, Mr. McDonald and Mr. Conway of the A. T. & S. F. Railroad Company and Mr. Rupkey. The site finally was agreed upon in Los Angeles on April 20. The U. S. Engineer Office prepared the plans for the siding and warehouse buildings. The rail siding was constructed by the A. T. & S. F. Railway Company and paid for by the U. S. Engineer Office. The warehouse buildings were built by Del E. Webb Construction Co. for the U. S. Engineer Office. Fuel tanks and piping were installed by WRA. Gravel surfacing in the warehouse area was placed by WRA forces, the gravel coming from canal widening operations.

On April 26 a convoy of Indian Service trucks brought twelve or more buildings from a CCC camp near Safford, Arizona, to Parker for setting up a camp for WRA skilled labor and foremen. These buildings were of a "knock down" type, built in sections easily carried on trucks. Most of them were set up just north of the Military Police Quarters and the group of buildings became known as Green Village, due to the green paint which coated them.

The general contractor for the construction of the buildings of the camps and the warehouses at the railhead was Del E. Webb Construction Co. of Phoenix. Various sub-contractors were employed on features of the work, such as the electric, water and sewage systems.

The designs of the buildings were made by the U. S. Engineers Office in Los Angeles. The designs were in accordance with the Army's "Theater of Operations" standards. The engineering firm of W. C. Hammat Co. of Los Angeles was employed by the Engineers Office to design the domestic water, sewage and electric systems of Camp I.

The firm of Koebig and Koebig of Los Angeles was employed to design the domestic water, sewage and electric systems of Camps II and III.

The source of electrical power for the center was Boulder and Parker Dam Power plants. The 33,000 volt, twenty-three miles long, transmission line of the Indian Service, connecting to the Metropolitan Water District Power system, was extended from the Indian School to the three camps, a distance of approximately thirteen miles. The conductors on the Indian Service line were number 4 size and not sufficiently large to carry the load for the relocation centers. It was necessary for the Army to install size 00 stranded copper conductor, on poles already placed by the Indian Service. The firm of Newbery Electric Corporation, Los Angeles, was contractor for this work. The transmission line was completed as far as Camp I and energized on May 1, 1942.

Electrical power was furnished in the center by the Indian Service under a contract between the U. S. Engineer Office and the Commissioner of Indian Affairs, approved by the Secretary of War and the Secretary of the Interior. The monthly cost of power under this contract was based upon the maximum demand rate and the amount of energy used. The cost averaged less than four and a half mills per kilowatt hour..

For a source of domestic water, the Engineer Office contracted the drilling of five wells in Camp I, and three wells in each of the other two camps. The first well drilled, No. 1 in Camp I, was abandoned because a string of drilling tools was lost in the well,

preventing further drilling. One well in each of the other camps was abandoned because of poor quality of water. The remaining four wells in Camp I and two each in Camps II and III provided ample water. The water was somewhat hard, but satisfactory.

The domestic water consumption rate increased each year because of increased use of evaporative coolers during the warm months, increased use of domestic water instead of irrigation water for lawns, flowers, and vegetable gardens around the barracks, and the need for small fish ponds. For the months of October, November and December the average per capita rate of use per day was 138 gallons in 1942, 188 gallons in 1943 and 232 gallons in 1944. The daily per capita usage from May first to September thirtieth was 245 gallons in 1943 and 372 gallons in 1944. The peak daily usage was 280 gallons per capita in August 1943, and 432 gallons per capita in August 1944. No records for the summer of 1942 are available, as the contractor was operating the pumps and drilling wells during this period. The intake of evacuees was taking place during this period also.

Each of the three camps was equipped with a modern sewage treatment plant. The plants are of the activated-sludge type, with clarifier basins equipped with Dorr classifiers for sludge removal. Effluent is chlorinated and discharged into ponds where it is dissipated through evaporation and seepage. The plants have functioned very well. The only serious difficulty experienced was in the inadequate original capacities of the effluent ponds. This was solved by extension of the ponding areas by the War Relocation Authority.

The original valve arrangement between the clarifier and the sludge pump in the Unit I plant was unsatisfactory and the U. S. Engineer Office contracted the necessary alteration work several months after the plants were placed in operation.

The electric distribution system in each camp operated at 2300 volts. Power was brought to each camp at 33,000 volts and transformed to 2300 volts by a bank of three 333 KVA transformers at Camp I and three 250 KVA transformers at each of the other two camps. The electric system gave very little trouble during the existence of the center. Frequent requests to the residents were necessary to keep down the use of hot plates, electric heaters, and other appliances. Use of electric irons was authorized. Use of too many appliances caused burning of transformer fuses in the local low voltage bank, leaving the local block of barracks without electricity until the electrical crew could be summoned to replace the fuses. The evacuees soon learned to hold the use of appliances within the capacities of the local transformers and to distribute the use of different types of equipment through the day.

The Signal Corps of the Army installed three additional telephone circuits on the Indian Service line from Poston to Blythe, California, and the War Relocation Authority installed five additional circuits on the Indian Service line between Parker and Poston. The Signal Corps used a company of troops on the portion of the work from Poston to Blythe. The War Relocation Authority used a crew of Indians on the work between Parker and Poston. The telephone distribution systems within the camps were installed by a small group of Signal Corps men with the aid of the center's telephone crew of an appointed foreman and several evacuees.

Roads and Highways

Previous to the establishment of the Relocation Center the Indian Service had constructed a network of section line roads in the irrigated portion of the reservation. Most of these roads were lightly surfaced with gravel. A section of road from State Highway 72 in the town of Parker, to a point five miles south and west was oil surfaced.

Camp One site was three miles south of the end of the gravel road and Camp Three site was seven miles farther. A rough bladed dirt road along the telephone line connected the new camps to the end of the gravel road.

The weather was dry during construction of the camps and the roads started to turn into dust within a few days after heavy trucking started. The U. S. Engineer Office made arrangements for sending tank trucks, from Los Angeles and three water tank trucks, a tractor and pull blade, four pumps, four dump trucks and a half yard shovel were borrowed from a CCC camp near Parker Dam. CCC enrollees operated the equipment. The Indian Service furnished one tank truck and Del Webb Construction Co. furnished a tank truck. With four to six large tank trucks working two shifts the access roads were maintained in a passable condition. In June the CCC camp was closed and its equipment withdrawn. Early in July the Engineer Office turned over the maintenance of the road to Parker to WRA. Three large sprinkler trucks were rented by WRA and several Indian Service trucks were equipped with tanks. Six motor patrols were received in July from the Army Quartermaster Department, four of which were placed on road maintenance and two on road construction. The sprinkler trucks worked from midnight to noon during the heat of the summer. Evaporation was so rapid during the afternoons that watering at that time was not efficient.

During construction of the barracks buildings the contractor kept the roads passable by the use of sprinkler trucks. There was a space of time during May, June and July when the contractor completed

sections of barracks and stopped his maintenance work in those areas. Before the WRA sprinkling program got started these areas became almost unbearable because of the dust.

Sprinkling and blading the many miles of roads within the camps and the twenty-four miles of road to Parker was a never-ending expensive operation, and construction of a better road system was started as soon as equipment could be made available. First the ten miles of trail from Camp III to the end of the Indian Service gravel road was graded and gravel surfaced by WRA forces. This section was paved with oil-cake by WRA in June, 1943. Special equipment was rented from Arizona Refining and Mfg. Co. of Phoenix. The seal coat was applied in July, 1944 under a contract with Wallace and Wallace Company of Phoenix.

The U. S. Engineer Office contracted the gravelling of the principal roads within the units. This work was done during the spring of 1943, and afterwards a WRA crew of evacuees placed a dust palliative oil coat over the gravel. This eliminated sprinkling the principal roads. Only occasional sprinkling of other roads in the units was necessary thereafter.

Work on a new, direct highway to the railhead, to by-pass the inadequate, light duty gravel roads in the Indian farm area was carried on by WRA forces during 1943 and 1944. This work involved a bridge over the Indian Service drainage canal three miles south of the Indian School, a bridge across a natural drainage channel, a bridge across the main irrigation canal and several irrigation lateral culverts. Four miles of Indian Service gravelled road were incorporated into the new highway. This portion of the highway was widened and paved by WRA forces for which the special equipment was again rented from Arizona Refining and Manufacturing Company, in January, 1944. The gravel aggregate for the paving was crushed, hauled and windrowed on the roadway by WRA forces.

At a point one mile north of the Indian School the Indian Service road was left and a new highway constructed through the woods and brush west of the farmed area, then across the farmed area on the north boundary of Section 14, T. 9 N. R. 20 W., then across the mesa south of the town of Parker to the railroad siding and WRA warehouses. Grading on this eight mile section was performed by WRA forces, gravel base course and gravel oil cake aggregate was processed and hauled by WRA and Indian Service forces cooperatively. The oil application and mixing was performed with equipment rented from the Gardner-Burns Company of Redlands, California in September, 1944. The seal coat for this eight mile section and the four mile section of improved Indian Service road passing the Indian School was placed by the Phoenix Tempe Stone Company, of Phoenix, in December, 1944, thus completing the oil surfaced highway to the railhead.

Other road work by WRA included one mile of gravel surfaced road and four miles of dirt roads to agricultural lands, the gravel surfaced road, with dust palliative treatment, around the appointed personnel quarters, and the gravel surfaced roads and yards, with dust palliative treatment, around the shop area, motor pool, military police road, and part of the warehouse area in Camp I.

Irrigation

The principal reason for the selection of the Colorado River Reservation by the Army for one of the first and the largest relocation center was the availability of irrigable land and water. The representatives of the Army who first visited the project stressed the importance of rapidly completing the irrigation works to the center, and the employment of evacuees in land clearing and levelling and in farming operations.

When the group of Army officers and engineers visited the project during the first week of March, 1942, they stated that speed in construction would be necessary, and thought that sufficient men and equipment should be secured to complete the main canal to the proposed center within a period of a year at the most and six months if possible.

Preliminary discussions with the Army representatives indicated a possible development of all the land in townships 5, 6 and 7 amounting to 37,000 acres. The area later decided upon was 20,000 acres, practically all in Township 7, with some in Township 8. It was agreed to construct the main canal for a capacity of 1000 c.f.s., unlined, with possibility of increasing the capacity to approximately 2000 c.f.s. when finally lined with concrete.

In Fiscal Year 1942 the Colorado River Indian Irrigation Project was engaged in construction of three miles of canal, leading from Headgate Rock Dam to the center of Section 11, T. 9 N., R. 20 W., where the old irrigation distribution system was to be furnished water from the dam. The program called for completion of the three miles of canal, including a 400 foot concrete lined tunnel under the A. T. & S. F. R. R. and Arizona State Highway 72, and a wasteway, in May or June. By early April all excavation on the canal had been completed, except for short plugs left as coffer dams, and the tunnel construction was proceeding satisfactorily. Five tractors with carry-all scrapers had been moved to the Valley School to level a 100 acre tract of school land and a Lorraine $1\frac{1}{2}$ cu. yd. dragline excavator was idle, having completed its work on the canal. When construction of the buildings for the center started during the last week of March there was a great demand for labor at high wages. Many workers left the tunnel and wasteway work, and final completion

of these features was delayed until June 27 when water was turned through the tunnel for the first time. The next day, June 28, the last coffer dam was removed, connecting the new canal to the old irrigation laterals, and the pumps which had supplied the system for thirty-one years were shut down.

The capacity of the old pumping plant was just enough to supply the irrigation needs of the Indian land in cultivation before the evacuation of Japanese from the Pacific Coast. The fact that Headgate Rock Dam had been completed, and the first three mile section of main canal, with its deep cuts, tunnel, wasteway, bridges, and other structures was nearly completed, made possible the promise of quick delivery of irrigation water to the Relocation Center.

As soon as it was definitely determined that an extension of the irrigation system would be made to the relocation center, efforts were begun to assemble men and equipment for the job. Most of the engineers and supervisory personnel were detailed from Indian Service units throughout the country. The first men assigned to the work were engineers, construction superintendents, foremen and survey parties from the Colorado River Indian Irrigation Project, for whom the work was continuation of their former duties. On April 10 Mr. A. R. Barbour, Associate Engineer, arrived from the Billings, Montana office of the Indian Irrigation Service on April 13, Mr. E. L. Decker, Engineer, and Mr. John Keysor, Junior Engineer, arrived from the Billings office, and Mr. William Miller, Associate Engineer arrived from the San Francisco office of the Indian Irrigation Service. On April 21 Mr. Paul F. Henderson, Senior Engineer in the Los Angeles office of the Indian Irrigation Service, began the design of the concrete checks and drops to be constructed in the main canal. Helping Mr. Henderson were Mr. John Brooks and Mr. LeRoy Russell, Assistant Engineers. Construction foremen were detailed from various Indian Agencies and work was well under way in May.

A Lorraine $1\frac{1}{2}$ yard, and a Byer $3/4$ yard dragline excavator, six tractors with carryalls or bulldozers, about twenty trucks, pickups and passenger cars and other equipment of the Indian Irrigation Project, plus a Northwest $1/2$ yard shovel and several dump trucks belonging to the Colorado River Agency were put to work on the canal before the end of April. At the same time arrangements were being made for additional equipment to hurry up progress. A Byers $3/4$ yard dragline was transferred from the San Carlos Indian Irrigation Project in May, a Northwest $1\frac{1}{2}$ yard dragline was transferred from the Flathead Project in Montana, arriving June 16, a Lorraine $1/2$ yard dragline was transferred from the Pueblos Agency. A Ruth Dredge purchased by the Office of Emergency Management arrived from Stockton, California on June 11, a General $1/2$ yard shovel was transferred from the Hualapai Indian Agency, a P & H $3/8$ yard shovel was transferred from the Mescalero Reservation and a second hand Northwest $1\frac{1}{2}$ yard dragline was purchased from a machinery dealer in Los Angeles in December.

The equipment on the job in April was put to work constructing approximately one and one half miles of the main canal in Section 19, T. 8 N., R. 20 W., and Section 24, T. 8 N., R. 21 W., Northeast of the Highway crossing north of Camp I, and two miles of lateral from the main canal to Camp I. By means of this construction it was possible to take approximately sixty c.f.s. of water from the ends of the Leivas Lateral and another lateral of the old Indian Service system and deliver it to Camp I on July 1, 1942. While the quantity of water available in this manner was not sufficient for the planned needs of the center it was sufficient to care for center needs until the main canal was completed in April 1944. The coming of irrigation water on July 1, with its use on the following days, was hailed with gratitude by the evacuees and appointed personnel alike, as the dust had been terrible and water was needed to settle it, and to start the growth of vegetation.

Construction of the lateral system was carried on at the same time as was the construction of the main canal, the highway and secondary roads, land leveling and other construction work.

By July 1, 1942, 1.5 miles of main canal, involving 136,447 cubic yards of excavation; 2.4 miles of lateral, involving 122,280 cubic yards of excavation; and 5.18 miles of farm laterals involving 896 cubic yards of excavation had been constructed. Also constructed before July 1, 1942 in the laterals were three 36" double concrete pipe culverts, 14 timber division boxes and 12 timber turnouts.

In January, 1943 Lateral A-73-2 was completed to the south boundary of Camp II, making water available in Camp II. To June 30, 1943, 10.05 miles of main canal, involving 874,369 cubic yards of excavation, 28,752 cubic yards of compacted fill, 7,740 cubic yards of stripping, and 236 acres of clearing had been completed. To June 30, 1943, 11.95 miles of laterals and 14.46 miles of farm ditches, involving 387,815 cubic yards and 7,320 cubic yards respectively had been completed. Also constructed on the canal and laterals were 13 concrete and 8 timber checks, 40 concrete and 22 timber turnouts, 60 concrete and 3 timber culverts, 4 concrete and 2 timber drops, 7 bridges, one wasteway and 5 division boxes. Materials involved in these 165 irrigation structures were 11,223 cu. yds. of sand and gravel, 37,970 sacks of cement, used in 6,718 cubic yards of concrete, 916 lineal feet of 36 inch concrete pipe, 314 lineal feet of 24 inch, 748 lineal feet of 18 inch, and 764 lineal feet of 12 inch concrete pipe; 146,186 pounds of reinforcing steel, including used rails; 179,611 board feet of lumber; 8440 lineal feet of timber piling; and 13 steel turnout gates.

April, 1944 saw the completion of the main canal, to station 890 west of Camp I, a length of 17 miles from Headgate Rock Dam, 14 miles of which were constructed by WRA with assistance of Indian

Irrigation funds for part of the labor. In the main canal are two concrete check structures, two concrete drop and check structures, two concrete drain under crossings, five timber bridges and eighteen concrete turnouts, not including the structures in the first three miles of canal, all of which were built by the Indian Irrigation Project. The main canal required approximately 1,100,000 cubic yards of earth excavation, 1000 cubic yards of rock excavation, 50,000 cubic yards of compacted fill, 7,740 cubic yards of stripping, 236 acres of clearing.

In addition to completion of the main canal, approximately 21 miles of laterals and 24 miles of farm ditches had been constructed by June 30, 1944, involving approximately 570,000 cubic yards and 18,000 cubic yards respectively.

In building of approximately 260 structures in the main canal and laterals the following quantities of materials and work were expended up to June 30, 1944: 14,160 cubic yards of sand and gravel, 50,900 sacks of cement, used in 8,800 cubic yards of concrete, 1452 lineal feet of 36 inch concrete pipe, 2016 lineal feet of 24 inch, 2368 lineal feet of 18 inch, and 1286 lineal feet of 12 inch concrete pipe and 514 concrete field turnouts; 220,000 lbs of reinforcing steel and rail; 200,000 board feet of lumber; 8440 lineal feet of timber piling; and 45 steel turnout gates.

From July 1, 1944 to December 1, 1944 no irrigation construction work was done. The efforts of the construction forces were directed towards completion of the Highway to Parker, completion of poultry plant and hog farm buildings, and the construction of additional ponding areas for sewage effluent disposal. About December 1, 1944 excavation of additional laterals to serve land which had been leveled previously was begun. Lateral A-73-27 was extended from the southwest corner of NW 1/4 of Section 22, T. 7 N., R. 21 W., to the NW 1/4 of Section 33, T. 7 N., R. 21 W., a distance of $2\frac{1}{4}$ miles to serve 280 acres in Section 28, T. 7 N., R. 21 W. One bank of approximately one mile of this lateral had been built during leveling operations in fiscal year 1944. Also one quarter mile of Lateral A89 was constructed to serve 160 acres in Section 33, T. 8 N., R. 21 W.

Several additional concrete checks, drops, turnouts, and one wasteway were constructed in these two laterals. The work was finished March 31, 1945, but an estimate of quantities involved is not available at this time. The portion of the final report to be prepared by Engineering Section will give this information.

Within a year after the relocation centers were established the policy of encouraging the evacuees to leave the centers to work

in the Middle and Eastern States was formed. This meant that less agricultural land would be required and the irrigation program was accordingly reduced, particularly in regard to construction of laterals. The main canal construction was not carried as far as originally contemplated but the portion constructed was built as originally planned.

In general, evacuee labor was used wherever possible. All labor on lateral structures and farm ditch structures was performed by evacuees. All the labor performed on the structures in the first eight miles of main canal was performed by Caucasians and Indians. All except a minor part of the labor on structures in the lower section of the main canal was performed by evacuees. All dragline and shovel operators engaged on the work were Caucasian or Indian. Also most of the tractor operators were Caucasians or Indian. This was because the evacuees could not be persuaded to work a full eight hours on the job. They felt that the \$19.00 per month plus subsistence was not adequate pay for heavy construction work. Rather than have equipment operated part time, Caucasian drivers were used during the early period of construction when speed was necessary.

Drainage

The original plans for drainage of the lands of the center provided for construction of approximately sixty miles of drainage canals requiring an estimated 3,100,000 cubic yards of excavation.

Under the date of October 14, 1942 a contract was entered into with J. M. S. Company, (Jones, Marshall, Stacey) of Concord, California, providing for construction of a drainage system of approximately sixty miles of open drains, requiring approximately 3,100,000 cubic yards of excavation. The War Production Board assigned a Preference Rating of AA-3 for this work, but limited the amount of work to 16 miles of drain only, including a maximum of 1,000,000 cubic yards of excavation.

The contractor agreed to the reduction in yardage with no change in unit price, which was \$0.089 per cubic yard.

Work under the contract began in May, 1943 and was completed, December 31, 1943. A total of 820,369 cubic yards of excavation was performed at a cost of \$73,012.87. Extra work items for clearing right of way and scarifying brought the total cost to 79,261.87. Approximately $4\frac{1}{2}$ miles of slough or old river channel was utilized in the drain system. This channel was slightly improved by center force account work.

Structure work required for this drain consisted of three 36-inch concrete pipe inlets, two timber inlets, and one concrete culvert crossing under station 813 of the main canal. Quantities involved in these structures were 1412 cubic yards of sand and gravel, 5724 sacks of cement for 980 cubic yards of concrete and 218 square yards of paving; 4280 pounds of reinforcing steel; 51,850 board feet of lumber; 236 lineal feet of 36" concrete pipe and 3238 cubic yards of rolled backfill.

The lower end of the drain is in a slough at the southeast corner of Section 25, T. 8 N., R 22 W. The slough winds down the valley into La Paz Lake. The upper end of the drain connects to

the old Indian Service drain near the south quarter corner of Section 13, T. 8 N., R. 21 W.

The construction of this drain provided a release for surplus irrigation water, for seepage water from irrigated lands, and for storm water. In general the water table before farming operations began in the center was approximately twelve feet below ground surface. As irrigation is provided surplus water passing into the ground will raise the water table until the drainage system becomes a factor in holding it down.

Subjugation

There was no cultivated land whatever within the boundary of the relocation center when it was established. Since agriculture was to be the principal occupation of the evacuees during their residence at the center, rapid development of farm land was desired. A crew of evacuees were employed in May, 1942 to clear mesquite trees, arrow-weed, and other brush from land. There was but little heavy equipment available for leveling until late in June when the office of Emergency Management purchased twenty crawler type tractors of a variety of sizes and types, together with scrapers, fuel tanks, plows, disk harrows, etc., from Jack Kleck, a farm work contractor at Phoenix. The tractors included one caterpillar RD-8 and several RD-7's and RD-6's. The remainder were International TD-14's and TD-18's. The equipment was mostly hydraulic operated.

Also in June sixty-five Ford-Ferguson tractors were procured by the Quartermaster Corps, with one yard scrapers, trailers, and farm equipment. About forty of these were immediately put to leveling around the barracks and in the firebreaks.

Considerable difficulty was encountered in securing evacuee tractor operators who would work more than five hours per day. The dust often became so objectionable to them that they took consider-

able time off. Since it was impossible to pay the evacuees more than \$19 per month, and they would not use the equipment to full advantage it became necessary to use a few Caucasian operators on the crawler type tractors, to the extent they were available.

By December 31, 1942, 827 acres had been cleared, 332 acres had been leveled within the camp sites and 229 acres had been leveled in the farm area outside the camp sites, involving the moving of 211,078 cubic yards within the camps and 153,338 cubic yards outside the camp sites.

This progress was not considered rapid enough so a contract was made with W. M. and L. N. Tenney of Phoenix, to level approximately 300 acres of land, with excavation quantities not to exceed 140,000 cubic yards at \$0.20 $\frac{1}{2}$ per yard. Work under the contract was begun March 10, 1943. When approximately 200 acres of land had been leveled the authorized 140,000 cubic yards of excavation had nearly been completed. It was necessary to secure authority to increase quantities by 80,000 cubic yards in order to get 300 acres leveled. The contractor finished leveling 301 acres in June, 1943 with 196,389 cubic yards of material moved, at a cost to the Government of \$40,259.74. This was at the rate of 652.4 cubic yards per acre and \$133.75 per acre for the cost of leveling.

Another contract was entered into with O. A. Lindberg of Phoenix to level approximately 1000 acres of land, at \$0.24 per cubic yard of excavation, the total amount not to exceed 400,000 cubic yards. Work on this contract was started on June 20 and completed on October 1, 1943. The total area leveled was 620 acres and 400,424 cubic yards of material were moved, costing the Government \$96,101.76. This was at the rate of 645.8 cubic yards per acre, and \$155.00 per acre for the cost of leveling.

The third and last contract for leveling land was with Lewis Construction Company of Los Angeles, for leveling approximately 1000 acres of land with not to exceed 500,000 cubic yards of excavation at \$0.238 per cubic yard. Work on this contract was started November 23, 1943 and completed on May 20, 1944. The total area leveled was 631 acres, and 449,892 cubic yards of material were moved, costing the Government \$107,074.30. This was at the rate of 713 cubic yards per acre, and \$169.70 per acre for the cost of leveling.

The total area leveled by contract was 1552 acres, and 1,046,705 cubic yards of earth were moved in the process, or an average of 713 cubic yards per acre. The cost to the Government was \$243,435.80, or an average of \$157.50 per acre.

Center forces leveled 847 acres of land, most of which is within the townsite areas, such as in the firebreaks and within the blocks, and for building sites for schools, personnel quarters, shops and equipment yards, etc. No exact figures of quantities or costs are available covering this work.

The evacuees were anxious to begin growing vegetables. As soon as the land was ready and the weather became cool enough to germinate seeds in the fall of 1942 they planted. Many vegetables were produced in the firebreaks and around the barracks during the winter season of 1942-43. Due to the lack of leveled land, a 100-acre tract of land at the Valley Indian School was rented from October, 1942 to July, 1944. Bumper crops of vegetables were produced on this piece of land. A small amount of finish leveling was done by center forces to prepare the soil for vegetable planting.

In general, the evacuees were anxious to produce all the vegetables required by the center, as far as the seasons would permit. Also, cooperation was good in producing field crops, such as alfalfa, barley, wheat, and maize. No land went idle very long after it was leveled and furnished with irrigation ditches.

Flood Protection

In the beginning the construction plans included a levee along the east bank of the Colorado River and also some levee work at the mouth of the Bouse Arroyo to prevent flood damage to the main canal and to the center.

Bids for construction of the river side levee were opened on September 20, 1943 and a contract was awarded to Bressi and Bevanda Construction Company to do the work for \$210,000. However, due to a change in policy, and the determination of the War Relocation Authority to close the center as soon as possible, funds were not allotted for the construction, and the contract was cancelled.

A part of the protective levee work for the main canal, at the mouth of the Bouse Arroyo was done by WRA forces. More levee work was later done by the Indian Service to prevent damage to the canal by arroyo flood water.

Building Construction

As stated at the beginning of this report, the buildings and facilities for the center were constructed by Del E. Webb Construction Company, and sub-contractors working under the direction of the U. S. Engineer Office.

In addition, the War Relocation Authority undertook the construction of quarters for its appointed personnel, school buildings, shop buildings, agricultural buildings and miscellaneous other minor building projects. Eighty units of the personnel quarters were constructed under contract, but all other WRA building construction was by evacuee force account labor, except for a few carpenters engaged for a short time at the beginning of the construction program to expedite setting up the CCC buildings for Caucasian skilled labor and revamping part of them to serve as family residences. A more detailed description of the building construction program will be given in the Engineering Section's portion of this report.

May 1, 1945

TO: Dr. Arthur L. Harris, Superintendent of Education
FROM: Elma Rood, Guidance Counselor
SUBJ: Final Report on School Health Program.

The following report is a summary of steps taken in the development of the health program in the W.R.A. schools of Poston, Arizona, and an enumeration of results obtained from May, 1942 to April 15, 1945.

The school population in the fall of 1942, was 5192, and the teaching staff number 289. By April 1945, the school population had fallen to 3234, and the teaching staff to 152.

The ages of children included in this report range from 3 to 18 inclusive. The age at which a child first reported for a health service was used in the enumeration. Statistics appended to this report are based upon the official records of the various departments.

The report contains the following items:

- I. A statement of some principles underlying the development of the Poston School health program.
- II. A review of the facilities, services, and personnel by and through which, the program was developed.
- III. A short review of steps taken in discovering the health needs of the pupils.
- IV. A description of the means by which constructive action on these needs was secured.
- V. A general and detailed statistical summary of the results obtained.

Note: This report does not include the very significant activities associated with health which have been carried on in individual class rooms. These will be included in teachers' summaries of grade work.

I

A Statement of Some Principles Underlying the Development of the Poston School Health Program

1. One of the primary objectives of the education department in Poston has been to bring about improvement in the health of children.
2. The health program has been based upon the needs of the pupils.
3. The discovery of these needs was the initial step taken.
4. Constant observation of children and reviews of health histories have disclosed the needs which arose from day to day.
5. Important health problems have been recorded so that cooperative effort might be directed toward their solution.
6. Child health records have been made increasingly available to everyone having any responsibility for the health of children.
7. In solving its health problems, Poston schools have utilized to the fullest, health services, special resources and personnel available in the community.
8. All constructive changes brought about have been on a voluntary and educational basis.
9. The most effective health teaching has been carried on when the need arose and the problem was recognized.
10. The health program has represented to a considerable extent, the cooperative effort of the health staff, the hospital and clinics, and the home, school and community.
11. The final health record of each child will be available to school authorities on the outside, as a means of helping each child to reach his fullest development.

II

A Review of Facilities, Services and Personnel by and Through Which the Health Program was Developed.

During the past three years, the following facilities and services have been utilized in carrying on the school health program in the three units:

1. A general hospital of approximately 220 beds and the following personnel and services:
 - a. A medical, surgical and nursing staff, one or more members of which have from time to time been detailed to take responsibility for public health, communicable disease control and health examinations of school children.
(Supplementary health services outside of Poston have been drawn upon as needed. The Arizona Crippled Children's Commission has given service to Poston children in the same way as to other children throughout the state.)
 - b. An isolation ward, enabling a patient to be cared for outside his home, thus releasing other family members to carry on their work without an extended quarantine period.
(Due to scarcity of nursing help, this ward was closed November 1, 1944. Since then patients have been quarantined in their homes.)
 - c. An x-ray department
 - d. Surgery and emergency room
 - e. Clinic/Laboratory
 - f. Ambulance service

2. A sanitation department

The following facilities and services have been available in each unit of the center:

- a. Medical clinic
- b. Dental clinic
- c. Optometry clinic
- d. Pharmacy

The following facilities have been available to teachers in carrying on their health programs:

1. Classroom equipment
2. Science laboratories
3. Homemaking classes
4. Libraries
5. Play grounds and play equipment

The following personnel have been intimately associated with the development of school health:

1. The professional staff, both evacuee and appointed, in the hospital and clinics has given service of a very high order in promoting the health of children. Evacuee workers have given effective assistance in the hospital, in the clinics, and in all special services.
2. Teachers and pupils, supervisors and administrators have given invaluable cooperation in discovering the needs of children, in securing constructive action and in utilizing day by day happenings in educational ways.
3. Parents have been unusually responsive, after the particular service and its purpose have been understood, by them.
4. The Women's Club of Unit I, and the Health Education Committee of Units II and III have sponsored community programs related to school health problems.
5. Block managers and unit administrators have given practical assistance on such measures as - surveys to discover handicapping conditions; means of controlling communicable diseases; prevention of rabies by immunization of dogs, and campaigns to promote better sanitation in the community.
6. The Sanitation Department and personnel have given assistance and advice on all environmental problems of the schools.

IV

Means by Which Constructive Action was Secured

1. Frequent reviews of all health records have been made, and major defects have been underscored in red.

2. In the fall of 1944 the elementary school of Unit I arranged a series of eight meetings in which the aims of the entire school program including health were presented. Approximately 450 parents attended. This brought about a better understanding and increased cooperation between the homes and the schools.

3. Surveys were made at intervals to discover the immunity status of children, and constant educational work was carried on to encourage parents to bring children to the clinic for needed immunity treatments. A final survey for vaccination scars was made in April 1945 and a total of 52 children who showed no visible scars were scheduled for re-vaccination. Protection against diphtheria, small pox, and typhoid is, in May 1945, 100% complete.

4. Each school arranged an appointment schedule for individual parent interviews with the health counselor to interpret each child's special health needs and 456 such interviews were held throughout the three units during 1944-45 with excellent responses from parents.

5. A series of nine group meetings was arranged by the Woman's Club of Poston I for explanations of child health problems. Discussions on dental care, tuberculosis and infantile paralysis were carried on both in English and in Japanese, with the aid of exhibits and other visual materials. A total of 360 mothers attended these meetings.

6. Results of all individual and group conferences were recorded on the children's health cards. These were returned periodically to the teachers for review and comment.

7. All tonsil cases were checked at intervals in a special clinic and rated according to urgency. This list was used as a basis for dating tonsil operations. Directions for the post-operative care of children were prepared according to doctor's orders and placed in parents' hands at time of operation.

8. All corrections of defects were recorded on the health card with notations by teachers and parents with regard to resulting improvements.

9. Teachers' meetings were held in all units in the fall of 1944 to further cooperation in securing as many corrections as possible before families relocated. It was felt that to have all children in good physical condition would give parents increased confidence in their ability to care for them on the outside.

10. Discussions on tuberculosis were held in ten high school classes to emphasize the value of early discovery and of the x-ray as an important means of diagnosis. Two classroom presentations on malaria and one on dental hygiene were given in 1945.

11. The entire community including the children took part in programs which campaigned for the Christmas Seal sale, the infantile paralysis drive, and to prevent rabies by inoculation of dogs. Clean-up campaigns also enlisted the help of school children.

12. Adult English classes made use of simple reading lessons based on health problems of Poston. Special emphasis was given to methods of prevention and correction. ~~P~~So far as possible the educational approach has been used to bring about not only tangible results, but a better understanding and more cooperation on the part of parents.

A General Statistical Summary of Results Obtained

A general summary is presented here, followed by a more detailed analysis of results obtained between May 1942 and April 15, 1945.

878 children have had hospital care, varying from one day to several weeks or months.

955 children have been quarantined for communicable diseases either in the hospital or in their homes.

288 children have had surgical operations.

5057 x-rays have been made for children. The great majority of these (3226) were x-rays of the chest.

3354 children have had various types of dental care, including extractions, fillings, and treatments.

1293 children have had eyes tested by optometrists.

1042 children have had glasses fitted. In addition, several have had a second pair fitted, or have had frames adjusted, repaired, or replaced.

100% of all children have been immunized to diphtheria, small pox, and typhoid and have certificates to this effect.

2300 clinical laboratory services have been rendered to school children, including urinalysis, complete blood examinations, and tests for bleeding and clotting time.

4081 children have had services in the medical clinics, varying from one visit to 15 or 20 more.

460 first aid kits have been provided by the pharmacies for classroom use. In addition impetigo ointment and bandages have been available as needed.

20 children out of a total of 30 handicapped by some form of crippling, have recovered or have definitely improved.

456 individual conferences with parents on special health problems have been held during the past year.

12 deaths have occurred among school children between the ages of 3 and 18 since May 1942.

Note: All active reinfection cases of tuberculosis have been hospitalized and all primary cases are under medical supervision.

Details of Some Results Obtained
in Poston Schools

(by Age Groups)

From May 1942 to April 15, 1945

I. Hospital Services Rendered

Age Groups	Number given care
Pre-School (3-5 years)	170
Elementary (6-11)	372
High School (12-18)	336
Total	<u>878</u>

Communicable Diseases Reported

	<u>1942</u> July to December	<u>1943</u>	<u>1944</u>	<u>1945</u> Jan. to April 15.	<u>Total</u>
Chicken pox	307	196	3	37	543
Infantile Paralysis	---	11	---	---	11
Measles	135	28	16	1	180
Mumps	64	26	15	---	105
Scarlet Fever	10	26	6	11	53
Whooping Cough	16	12	11	---	39
Tuberculosis (communicable)	5	8	10	1	24
TOTAL	537	307	61	60	<u>955</u>

Surgical Services

Age Groups	Types of Operations						Total
	Appendectomy	Eye Operation	Fistula	Hernia	Open reduction of Fracture	Tonsil and Adenoid	
Pre-school (3-5)	0	1	-	5	-	26	32
Elementary (6-11)	13	3	-	14	-	108	138
High School (12-18)	39	9	2	12	1	55	118
TOTAL	52	13	2	31	1	189	<u>288</u>

X-ray Services

Age Groups	Types of x-ray Taken						Total
	Number of chest x-rays	No. of Fluoroscopes of chests	X-rays of Extremities (arms, legs, or portion thereof).	X-rays of Head (Jaw, sinuses, eye, mastoid, nose, skull)	X-rays of Body (heart, abdomen, pelvis, clavicle, sternum, ribs, spine)	Dental X-rays	
Pre-School (3-5)	219	7	93	5	6	36	366
Elementary (6-11)	811	19	139	20	17	130	1136
High School (12-18)	2196	228	312	58	67	694	3555
Total	3226	254	544	83	90	860	<u>5057</u>

Dental Services

Location of Clinic	Age Groups			Total
	Pre-School (3-5)	Elementary (6-11)	High School (12-18)	
Unit I	212	483	881	1576
Unit II	100	322	463	885
Unit III	140	246	507	893
TOTAL	452	1051	1851	<u>3354</u>

Optometry Services

Age Groups	Number of Refractions	Number fitted with glasses
Pre-School (3-5)	10	1
Elementary (6-11)	285	124
High School (12-18)	998	917
TOTAL	<u>1293</u>	<u>1042</u>

Note: Because children frequently were referred from one clinic to another, the unit in which the service was rendered is not given.

Clinical Laboratory Services

Type of Service	Number of Children
Urinalysis	1150
Complete Blood Count	961
Test for bleeding and clotting time	189
TOTAL	<u>2300</u>

Note: Every child scheduled for tonsillectomy was given a urinalysis and test for bleeding and clotting time.

Every child scheduled for a hernia or appendix operation, or for hospitalization was given a urinalysis and a complete blood count.

In recent months, children between ages of 9 and 18 have been given Kahn and Kline blood tests before leaving for relocation.

Medical Clinic Service

Location of Clinic	Age Groups			Total
	Pre-School (3-5)	Elementary (6-11)	High School (12-18)	
Unit I	387	754	1174	2315
Unit II	147	290	344	781
Unit III	167	274	544	985
TOTAL	701	1318	2062	<u>4081</u>

Pharmacy Services

Supplies for Schools	Number
First aid kits for class room use	460
Impetigo Ointment	35 containers
Bandages	60
Adhesive tape	10 rolls

Note: Each year fresh first aid supplies have been prepared and these have been replenished on request.

Handicapping Conditions

Crippling or Handicapping Condition	Total Number	Number Recovered	Improved	No Change	In hospital April 1, 1945	Moved away from Poston
Infantile Paralysis	8	4	1	3	-	-
Burns	3	-	1	1-	-	1
Rickets	9	-	9	(Treated over an extended period with cod liver oil.)		
Tuberculosis	2	-	-	-	1	1
Osteomyelitis	2	-	2	-	-	-
Congenital deformity	6	1	2	2	-	1
Cardiac defect	13	On restricted activities - 4 No restrictions 4 Under regular supervision -5				
Total blindness	1	This child is again attending the State School for Blind, California				
Total deafness	1	This child is still waiting for re- admittance to State School for Deaf, California.				
TOTAL	<u>45</u>					

Conferences held with
Individual Parents
on
Special Health Problems
School Year 1944-45

Location	Age Groups	Number of conferences
Unit I	Ages 3 to 11	135
Unit II	Ages 3 to 18	114
Unit III	Ages 3 to 18	207
TOTAL		<u>456</u>

Deaths Among School
Children

Age Groups	Cause								Total
	Asphyxia	Gastro Enteritis	Heart Failure	Infantile Paralysis	Pneumonia	Skull Fracture	Thymus Enlargement	Tuberculosis	
Pre-school (3-5)	1		1				1		3
Elementary (6-11)					1	1			2
High School (12-18)		1	1	1		1		3	7
TOTAL	1	1	2	1	1	2	1	3	<u>12</u>

WAR RELOCATION AUTHORITY
Colorado River Relocation Center
Poston, Arizona

Final Report
Sanitation Program
at Poston

Mr. Ora A. Dennis
Sanitarian

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I. GENERAL ORGANIZATION AND POLICY

Sanitation was organized as a division of the Public Health Department by Mr. George Kido, an entomologist. There was a bacteriologist in charge of water supply inspections and chlorination, milk supply and sewage disposal. There was a garbage crew, insect and rodent control crew and sanitary inspectors for mess halls, latrines and block sanitation. The entomologist and bacteriologist soon relocated leaving people with little scientific training in the division. When the writer arrived on the Project, February 24, 1944, the division of Sanitation had 26 employees including 6 garbage collectors who worked at Unit 3. There was a supervisor at each of the 3 camps. April 1, 1944 the staff was reduced to 11 sanitary inspectors and 3 clerk-typist. Three inspectors were assigned to Unit 2, three to Unit 3, and five to Unit 1. Another cut in September, 1944 reduced the total number of sanitary inspectors to 7 for all 3 units. Weekly inspections were made of all Project facilities. Sanitary inspectors made weekly reports which the writer used together with personal observations and inspections to make the Weekly Project Sanitation Report.

Mr. T. R. Nishimoto, supervisor of the division of sanitation for the period prior to February 24, 1944, stated that he maintained a large staff of sanitary inspectors in order that insanitary conditions could be corrected as soon as possible. He felt that there often was too much delay between recommendations and actual performance of minor corrective measures. According to the standard description for the position of sanitarian issued June 30, 1943 it was planned that the sanitarian should inform the proper division or department head of insanitary conditions and make recommendations necessary to correct such conditions. With few exceptions this became the policy in all sanitary matters after February 24, 1944. The assistant Project Director in charge of operations once expressed the opinion that he felt annual or bi-annual inspections would be sufficient. This is the policy of some state, county and city sanitation departments, but the War Relocation Authority no doubt realized that the use of untrained evacuee personnel would cause some haphazard maintenance, operation and construction.

Minimum United States Public Health Standards and the Arizona State Sanitary Code were used as criteria.

II. A REVIEW OF OBJECTIVES AND ACCOMPLISHMENTS

A. Water Supply

The objective was to maintain a safe water supply by inspecting water supply facilities for sources of contamination, collecting samples for bacteriological or chemical analysis and reviewing results of such tests, and making orthotolidine tests in order that proper and adequate chlorination could be maintained.

Unfortunately mains, wells and storage facilities were not sterilized prior to use and this may have contributed to the prevalence of diarrhea in the early days of the project. This lack of sterilization at least was responsible for many positive bacteriological tests. At Unit 1 results of bacteriological examinations were positive very frequent until February, 1944. At that time the mains, storage tanks and 3 of the 4 wells were sterilized using approximately 50 ppm of chlorine.

1. Inspecting Water Supply Facilities.

Inspections were made constantly to eliminate any possible source of contamination. Defects found by the writer included such items as wells which were not sealed, open vent holes in well pump bases, well pumps without elevated foundations (ie. pump on pumphouse floor) uncovered storage tanks at the slaughter house and at the Unit 1 poultry farm, back siphonage from uncovered storage tank to well due to inlet pipe 4 feet below top of tank and no check valve, and submerged inlets in fish ponds.

All defects were corrected with one exception. Pumps at seven wells were not placed on elevated foundations, but since they were already installed the writer did not recommend that changes be made. Recommendations were made to prevent surface water entering these wells in case of flooding. Such contamination by surface water had occurred during heavy rains at the W.R.A. Parker Warehouse well number 1. In a few instances from 2 to 6 months elapsed between the first recommendation to correct a defect and actual performances of the work. This was especially true of wells used exclusively by the agricultural department, and was due to an underestimation of the importance of these defects by some employees of the Operations Division. Gradually the writer found that Mr. Robert Parbell, senior engineer and later acting chief of the Operations Division, was very cooperative and saw that corrections were made as soon as possible.

2. Bacteriological and Chemical Examinations.

Samples were collected weekly for bacteriological examination. Between March 1, 1944 and June 2, 1945 a total of 652 samples were examined. Of this number 102 samples had one or more of the five 10 ml. portions confirmed for the Coli-aerogenes group of organisms. Samples were collected from each of the 12 wells once every weeks, and at least 2 samples were collected every week from distribution system at each unit. When a positive result was reported additional samples from the same source were examined until 2 consecutive negative reports were received on samples collected on different days.

A record of bacteriological examinations of each well were made. Only samples from the well at the slaughter house were consistently reported

not-potable bacteriologically. Samples collected from the Unit 1 poultry farm were potable after back siphonage from the uncovered storage tank was corrected and the well sterilized. However, samples collected from the distribution system were consistently non-potable bacteriologically. The storage tank was covered and sterilized but the mains were not sterilized as agricultural workers could not be convinced that this could be done without endangering the lives of the chickens. Water from this source was the only un-chlorinated water provided by the Colorado River Relocation Authority.

Of the 652 samples examined 464 were examined at the Poston General Hospital, 140 samples were sent to the Ninth Service Command Laboratory at Presidio of Monterey, California and 18 samples were sent to the Arizona State Laboratory at Phoenix, Arizona. Examination of water, milk and sewage at the center hospital laboratory was started during April 1944. A letter from the Chief Medical Officer in the Washington office dated February 23, 1944 stated that sanitary examinations would be made in the Health Section laboratory in order to avoid duplication and that, "the center sanitarian would take necessary samples, make arrangements for the test with the laboratory, and secure the laboratory report on water, milk and sewage." The chief laboratory technician refused to perform the sanitary examinations and was opposed to the sanitary examinations being made in what she called the clinical laboratory. She frankly stated this opposition to the W.R.A. Sanitary Engineer from the Washington office on March 1, 1944, and later to the Poston Principal Medical Officer. Since this technician was not a member of the appointed staff the Principal Medical Officer felt that nothing could be done about her attitude. Although the writer did train sanitary inspectors to perform examinations in the laboratory the full cooperation of the laboratory technician was not received. The two best workers trained quit because it was too unpleasant working in the laboratory. One, a college graduate, stated that the laboratory Technician was drunk with power. Considerable space has been devoted to this matter because agitation by this technician was a constant source of irritation, and the writer felt that this technician could have been replaced by someone more cooperative.

Chemical analysis was made on several samples from Unit 1 wells. The water was very hard (300 to 490 ppm. total hardness) and the dissolved solids were between 1100 ppm. and 1470 ppm.

3. Chlorination

At Units 2 and 3 Wallace and Tiernan gas chlorinators were always used. Similar chlorinators were not installed at Unit 1 until September 27, 1943. Prior to that date liquid hypochlorinators were used. It was difficult to maintain adequate residuals with the hypo-chlorinators and break downs were frequent. The hypo-chlorinators were maintained and

operated by the sanitary inspectors, but when gas chlorinators were installed the Utility-Maintenance Department took over the maintenance of all water supply facilities. The sanitary inspectors continued to make daily orthotolidine tests and notified the Maintenance Department if chlorine residuals were too high or too low. Prior to June, 1944 chlorination at Unit 1 was often inconsistent and inadequate and there were frequent complaints of excess chlorine in the water. During June, 1944 the Maintenance Department employed a man for water and sewage who conscientiously did his best to maintain adequate and consistent chlorination and who cooperated very well with the sanitation department.

Chlorination at the slaughter house became a controversial matter when the Project Veterinarian and an Assistant Farm Superintendent stated that chlorinated water was causing the death of swine. Large numbers of swine died during December, 1944 and January and February, 1945. With one exception chlorine residuals were less than 0.5 ppm. during the afore-mentioned period and the water was not chlorinated at all for half of that period. No written material could be found to substantiate the claims of the harmful effect of chlorination on swine and it was recommended that chlorination be resumed. The Project Veterinarian stated that if chlorination were resumed the death of all swine would be attributed to the chlorinated water. Chlorination was resumed on February 13, 1945 and property loss records prepared by the aforementioned Assistant Farm Superintendent for the period February 1 to 15 attributed the death of 39 swine to an overdose of chlorine in the water. Chlorine residuals were never excessive after chlorination was resumed and were not greater than 0.1 ppm. until April, 1945. In fact, it was April, 1945 before potable bacteriological reports were received as chlorination was inadequate. This demonstrates that education regarding chlorination of water supplies is still necessary.

B. Milk

The project was fortunate in having its milk supplied by a large Los Angeles Dairy. The milk contract provided for delivery of Type 2 pasteurized milk or in case of shortage for Type 3 pasteurized milk. Milk delivered was usually grade A, pasteurized and homogenized and in 1 quart containers. Project arrival temperatures were usually well under 50 degrees.F. After May 1, 1944 standard plate counts were made on 2 samples per week in the Health Section Laboratory.

Plate counts were less than 10,000 colonies per cubic centimeter except for a three weeks period during December, 1944. Due to a shortage of higher quality milk Type 3 milk in plain unlabeled cartons was delivered to the Project and also sold at the Community Enterprise store. Plate counts were taken 4 or 5 times a week during this period and counts were as high as 275,000 colonies per cc. Project officials were notified immediately of the high counts and informed that the retail sale of unlabeled milk at the store violated Arizona laws. The Project Steward phoned the dairy officials in Los Angeles several times during this period.

C. Sewage Disposal

Primary treatment of sewage was provided at each of the three units. Treatment facilities were similar in design at each unit and included bar screens, sedimentation with mechanical clarifier, two stage sludge digestion, sludge beds and lagooning of the effluent. Chlorine was added to the untreated sewage in the wet well and to the clarifier effluent for odor control purposes. Reductions were about average for primary treatment. Settleable solids were reduced 90 to 99 per cent, suspended solids 60 to 70 per cent and biochemical oxygen demand (B.O.D.) 30 to 60 percent. Reductions in B.O.D. were inconsistent due in part to laboratory technique.

Structural, design and operational defects in the plants were listed by Arnold Nesheim, Associate Sanitary Engineer of the U.S.E.D. after an inspection in March, 1943. Most structural and design defects were soon made. The last to be made was provision for sufficient ponding area for the effluent from the Unit 1 plant. Use of this new ponding area also eliminated complaints of sewage backing up from the plant wet well through block latrine floor drains during periods of power outage. Complaints of sewage backing up through the latrine drains were made to the Spanish Consul by the residents. The writer first noticed this condition during March, 1944 in blocks 37 and 54 and suggested the use of auxiliary gasoline driven pumps to keep the level of sewage down in the wet well. During such periods the wet well overflow could not handle the flow due to the height of the sewage in the ponding area.

The old ponding area was not cleared and was within one-fourth mile of the Southwest corner of Unit 1 and provided an odor and mosquito nuisance. Breaks in the dike allowed effluent to pond into roadbed ditches along the main highway between the center units during the spring of 1943. Other construction was usually considered more important than the construction of sewage ponds. However, the new ponding area was in use by the first week in September, 1944 and eliminated all ponding problems.

During the summer of 1944 small breaks in the dikes of the Unit 2 sewage plant lagoon allowed effluent to enter a near by irrigation waste water drain which continued down the Valley through some India a grazing land. The dilution factor was probably high, but it was constantly recommended that such breaks be repaired.

Defects in operation were constantly present due to inexperienced and untrained personnel, but in general results were as satisfactory as could be expected.

D. Garbage and Rubbish Disposal

Poston used the separate garbage system. Food wastes were separated into edible (for hogs) and non-edible garbage cans. Metal and glass were placed together and combustible material made another separation. Problems were constantly occurring such as; strikes of the collection crews, burying of food waste by kitchen crews within the blocks or fire breaks during such strikes; refusal of collection crews to provide service for Rainbow Village, the personnel housing area, and for the Community Enterprise market near Rainbow Village; dumping unedible garbage without providing for burial; and when trenches were provided for burial failure to cover or insufficient coverage of garbage for periods up to six weeks; and failure of residents, evacuee and appointed staff, to separate metal and glass and often food from combustible material burned within the blocks.

Disposal of non-edible garbage was the biggest difficulty. Trenches were provided for this garbage but adequate covering was a problem. Use of manual labor was not successful as it was impossible to keep workers and when workers were employed only 2 or 3 inches of earth was placed over the garbage. Covering with a bulldozer was the only alternative. This was expensive and as there was a shortage of equipment and operators, the Operations Division was reluctant to use this method. During the middle of August, 1944 these trenches were a mass of fly larvae and flies. Dr. Thompson, Chief Medical Officer from the Washington office, made a routine visit at this time and while on the Project spoke to the Project Director of this condition. Thereafter, adequate covering of garbage was usually provided once each week with mechanical equipment. Offal from the Project slaughter house was also dumped in the non-edible garbage trench. By the middle of May, 1945 all Project swine had been slaughtered and a private contractor began handling all waste foods reducing the non-edible garbage to one-tenth its former volume. With the reduced volume and without slaughter house wastes the once a week covering with mechanical equipment was sufficient.

Failure of residents to separate metal, glass and food from combustible material burned within the blocks varied with the esthetic and sanitary consciousness of the residents of each block. Some block managers stated that it was impossible to secure cooperation in this matter.

E. Food Handling and Storage

On the whole food handling and storage were good. The two exceptions were handling of fresh meat during delivery and refrigeration of fresh meats, especially Poston slaughtered pork. Sanitation reports prior to February, 1944 refer to a shortage of proper storage space, refrigeration and transportation facilities. Early reports also refer to an

infestation of flour and other grain products with weevils and beetles. This occurred in products which had remained in storage over 9 months.

Although the temperature was over 100 degrees F. each day for 4 or 5 months, meat was delivered in open trucks without refrigeration to each mess hall kitchen. Often this meat was handled carelessly. Carcasses were often placed directly on the uncovered floor of dirty trucks, stepped on by the delivery boys, thrown off trucks onto the mess hall loading platforms and no cover was provided while enroute between camps or between mess halls. The Project Veterinarian also complained of these conditions during October, 1944. The Stewards Department changed crews several times in obtaining better handling of meat.

Refrigeration problems were due to inability to chill meat and insufficient refrigeration storage space. It was necessary to condemn carcasses several times. Improvements were made in the chill room at the slaughter house, the practice of placing fresh pork in the same refrigeration with stired beef or other meat was corrected, and additional hooks were provided to discourage placing meat on refrigerator floors.

F. Farm Sanitation

Farm sanitation was generally good except at the piggery. Here disposal of unconsumed garbage from the feeding platforms, of dead swine and of manure was unsatisfactory the greater part of the time. Beginning in February, 1945 satisfactory disposal of unconsumed garbage, dead animals and manure was made daily until all Project swine were slaughtered about May 15, 1945. Piggery workers stated that satisfactory disposal was made as soon as suitable mechanical equipment and suitable burial trench were provided. It was necessary to make recommendations to the chief of the Operations Division and to point out in the field unsatisfactory conditions to the chief of the Agricultural section before results were obtained.

Sewage and waste water disposal from the piggery and slaughter house became a problem during the spring of 1945 when tile-gravel leaching beds became clogged. The writer felt that the sanitation department should have been consulted concerning the design and construction of these facilities as defects were found.

Each unit had a poultry project, and it was recommended that dead chickens be disposed of daily by incineration, that pens be cleaned weekly, that manure be placed in fly-proof bins until disposed of and that a sanitary privy be provided at each poultry farm. At Unit 3 the project was near an inhabited block and this may have caused

delay in the building of a privy. Complaints were constantly received from residents until a latrine was provided.

G. Insect and Rodent Control

As the first sanitarian was an entomologist insects in the region were thoroughly studied, and information was issued to the residents concerning these insects. The black widow spider was the only poisonous insect found in Poston although one poisonous type of scorpion was claimed to have been found during 1945 by a resident. One sanitary inspector was used as a pest controller working mainly in Unit 1 mess halls to control flies and cockroaches. During the summers of 1942 and 1943 several inspectors were used to kill flies in mess halls. With the reduction in staff this service was discontinued after April 1, 1944. The mosquito control crew of 3 was discontinued at the same time. Anopheles mosquitos were found breeding near Unit 1 by Dr. Reeves of the Hooper Foundation during 1942, but no further Anopheles were collected at any time after this one breeding place was eliminated. Fast type mosquitos were often numerous, and residents were asked to eliminate all stagnant water or to treat such water with oil.

The common house fly was the most important insect found in the kitchen. Where kitchen workers continuously used all the means at their disposal to kill adult flies condition were good. Unfortunately more than half the mess halls did little but complain of the flies. Food was often black with flies. The fly spray furnished was often of a poor quality. Screen doors all opened inward, and garbage stands outside the mess hall attracted flies. Inspectors constantly urged the kitchen workers to "Swat that Fly" and keep garbage stands clean.

Flies were more numerous at Unit 3 and it was here that the poliomyelitis epidemic began and where most cases occurred. Since the theory of fly transmission has not been disproved, screening of mess halls and latrines was continuously checked.

No control work was done with rodents except that a few mouse traps were issued to mess halls when complaints were received. Very few rats were reported and none in mess halls.

H. General Block Sanitation

Drainage, fish ponds, raising of fowl, control of dogs and cats and burning of rubbish were the main problems within the blocks.

Waste water from evaporative coolers and from faucets inside and outside the barracks caused a drainage problem as barracks were not provided with sewage connections. The Irrigation Department provided drainage ditches where ever possible, but in a few blocks and in Rainbow Village gradients were not sufficient to entirely eliminate this condition. As of April, 1944 there were 928 fish ponds of various sizes, and more were constructed later. Many were not cared for and became

mosquito breeding spots. Some were connected to the sewage system by the residents. In such cases traps were seldom used and complaints of escaping sewer gas were received. Block managers cooperated in requesting residents to eliminate such nuisances. Project regulations should have controlled the building of fish ponds and the installation of faucets within the barracks. Waste water containing food particles was often a nuisance.

Two community council regulations sponsored by sanitarians were passed. The first, during 1943, was an ordinance controlling dogs and cats by requiring licenses and that strays be destroyed. It was not enforced until the community had a rabies scare during September, 1944. The Project Veterinarian destroyed one dog as rabid, but the head was not examined for Negri bodies. About one week later residents suspected that another dog was rabid. This dog died and the writer sent the head to the Arizona State Laboratory for examination. The report was negative. The second ordinance prohibited the raising or keeping of fowl and rabbits within inhabited blocks and was passed during the spring of 1944. Enforcement of both ordinances was under the Internal Security Department. No one wanted the job of dog catcher, and one was employed only for about 2 weeks during the rabies scare.

1. Mess Hall Sanitation

Early reports stated that the mess halls were not complete when the evacuees first arrived in May, 1942 and that there were several deficiencies. The sanitary deficiencies were:

1. Inadequate refrigeration
2. Poor dishwashing facilities
3. Shortage of soaps, cleaner and disinfectant.
4. No floor covering, thus admitting dust through the cracks.
5. Lack on impervious cover on kitchen work tables.
6. Not enough garbage cans, and garbage stands next to the kitchen door attracting flies to the improperly hung screen doors.

Most defects had been corrected by February 24, 1944. Dishwashing remained unsatisfactory in some mess hall even though 3 compartment basins were installed. One reason was the haste of workers to complete their tasks and their failure to realize the importance of their job. Only at the hospital kitchen were proper facilities provided to disinfect dishes with hot water (170 degrees F, or hotter). Some mess halls attempted to disinfect with water as cool as 110 degrees F. although some type of chlorine disinfectant was provided.

It was noticed in 1942 that there was a great deal of difference in the sanitation of mess halls. Those whose chefs had restaurant experience before evacuation were usually very clean. In November,

1942 a weekly rating system was instituted for the mess halls. Later a monthly prize was given by the stewards department to the mess hall in each camp with the highest rating. This helped sanitary standards until competition became so keen that sanitary inspectors felt unwelcome in some mess halls. Inspection of mess halls was always a difficult job, and it was necessary to employ new inspectors every 6 or 8 weeks. At a meeting representatives of mess hall chefs recommended that Issei rather than Nisei be employed as mess hall inspectors. This did eliminate friction with the Issei kitchen workers, but it did not improve the sanitary standards.

Early reports stated that one death in the spring of 1943 was due to typhoid fever. This led to physical examinations or medical history statements for all mess hall workers. There was a monthly turnover of from 100 to 200 mess hall workers, but physical examinations or medical statements were not required of new workers until the fall of 1944. Tuberculosis in the community also made examinations desirable, but the medical staff was usually too small to care for such a program.

The educational film "Twist the Cup and the Lip" was obtained, but few of the 1500 mess hall workers saw the film. Only about 50 attended the special showing for Unit 1 mess hall workers and inclement weather or failure of operators to show the film resulted in only a small number seeing the film on regular movie nights in each Unit. A copy of the U.S. Public Health Service ordinance and code regulating eating and drinking establishments and a copy of the pamphlet "From Hand to Mouth" were given to all mess hall inspectors; however, all Issei Inspectors could not read English.

J. Block Latrine and Laundry Sanitation

In general the latrines and laundries were very well kept. There were some sanitary defects when the Project first opened but these were soon corrected. Screening of latrine windows in all units was provided in August, 1942. Unit 1 latrines were provided with screen doors.

Athlete's foot became very prevalent among the residents. Daily use of chlorine disinfectant was urged for cleaning shower room floors and for foot baths, also the wearing of gettas into the shower room. Unfortunately the usual practice was to remove the gettas before entering the shower room.

K. Miscellaneous Items

Swimming Pool and Community Enterprise stores, barber shops and beauty parlors were reported under miscellaneous items.

1. Swimming Pools

Flow-through type pools were built in an irrigation canal at both Units 1 and 2. During the summer of 1944 tests of samples of water collected from these pools consistently placed them in class C or D according to the United States Public Health standards. Portions containing 0.01 cc. of the sample were confirmed for B-coli and often a 0.001 dilution was confirmed. This B-coli was thought to be of animal origin, but the canals flowed through an inhabited Indian reservation and B-coli could have been of human origin. Ear and eye infections among swimmers lead the Division of Sanitation to post signs at all pools warning swimmers of the condition of the water. The public health nurse suggested that the Acting Principal Medical officer issue a warning in memorandum form. This was done, but signs and warnings were removed by unknown persons within 24 hours. The Red Cross, which sponsored swimming, opposed the posting of signs and warnings. However, it was gratifying in the spring of 1945 to have the Red Cross officials request that tests of the water be made because the water appeared very dirty and they wished to avoid ear infections similar to those occurring in 1944.

During July, 1944 Unit 3 opened a large concrete fill and draw type pool which was filled with water from the unit water supply system. Several sanitary defects were present and the pool did not meet U.S. Public Health or Arizona State Officials as required by law. Some defects were corrected, but disinfection was not provided. The bathing load of one day often polluted the water so that samples did not meet State bacteriological requirements. Recommendations that chlorination be provided were unheeded.

2. Community Enterprises

a. Stores

Only the soft drinks sold at stores were a source of complaint. A cigarette butt, a bottle cap, glass, sandpaper, newspaper, flies, mosquitoes and other foreign matter were found in several shipments. This first occurred in the fall of 1943. During April, 1944 one-fourth to one-half the bottles in 16 cases contained foreign matter. The plant in Parker was modern but bottles were not properly cleaned. It was also discovered that dark glass bottles were used to fill Poston orders only. The manager was shown some of the samples and some were sent to the Arizona State Laboratory for examination. The Laboratory reported all samples safe for human consumption, but since foreign matter indicated insanitary handling the writer recommended that Community Enterprises purchase soft drinks elsewhere if possible.

b. Barber and Beauty Shops

Few sanitary facilities were provided when shops first opened. This was gradually changed until all sanitary facilities found in city shops were provided.