

**OCCURRENCE AND DEVELOPMENT OF GROUND WATER IN THE LINN-FAYSVILLE AREA,  
HIDALGO COUNTY, TEXAS**

By

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# C O N T E N T S

|   | Page |
|---|------|
| Introduction .....                                  | 1    |
| Location of area and purpose of investigation ..... | 1    |
| Previous investigations and reports .....           | 1    |
| Irrigation development .....                        | 2    |
| Extent and progress of development .....            | 2    |
| The sprinkler method of irrigation .....            | 2    |
| Duty of water .....                                 | 4    |
| Geology and ground water .....                      | 6    |
| Rock formations .....                               | 6    |
| Ground-water recharge .....                         | 7    |
| Fluctuations of water level in shallow wells .....  | 7    |
| Quality of water .....                              | 8    |
| Conclusions .....                                   | 9    |

## ILLUSTRATIONS

Figure 1. Map showing wells and lands irrigated in the Linn-Faysville area, Hidalgo County, Texas

## TABLES

|   |    |
|---|----|
| Table 1. Records of wells in the Linn-Faysville area, Hidalgo County, Tex. ....   | 11 |
| 2. Irrigation from wells by the sprinkler method in the Linn-Faysville area, Hidalgo County, Tex., April 1-19, 1948 .....   | 23 |
| 3. Acreage under irrigation from wells in the Linn-Faysville area, Hidalgo County, Tex. in the spring of 1948 .....   | 25 |
| 4. Drillers' logs of wells in the Linn-Faysville area, Hidalgo County, Tex. ..  | 27 |
| 5. Chemical analyses, in parts per million, of water from wells in the Linn-Faysville area, Hidalgo County, Tex. ....   | 40 |
| 6. Electrical conductivity, dissolved solids, boron, chloride, and percent sodium in water from shallow wells in the Linn-Faysville area, Hidalgo County, Tex. .... | 44 |
| 7. Electrical conductivity, dissolved solids, boron, chloride, and percent sodium in water from deep wells in the Linn-Faysville area, Hidalgo County, Tex. ....    | 46 |
| 8. Measurements of water level in shallow wells in the Linn-Faysville area in Hidalgo County, Tex. ....   | 48 |

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## INTRODUCTION

### LOCATION OF AREA AND PURPOSE OF INVESTIGATION

The Linn-Faysville area, and adjacent territory as discussed in this report, occupies about 250 square miles in the north-central part of Hidalgo County in the Lower Rio Grande Valley, Tex. Irrigation from both shallow and deep wells has developed rapidly in this area during the last few years. The deep irrigation wells, most of which exceed 600 feet in depth, are widely distributed throughout the area, but nearly all the shallow irrigation wells are in an area of about 20 square miles west and south of Linn.

The principal purposes of the current investigation was to obtain data concerning the extent of the irrigation development, the availability of ground water, and the suitability of the ground water for long-term irrigation. The field work has included tests on 18 representative wells to determine the amount of water delivered to the crops under the sprinkler method of irrigation.

### PREVIOUS INVESTIGATIONS AND REPORTS

John T. Lonsdale, formerly of the A. and M. College of Texas and now Director of the Texas Bureau of Economic Geology, and S. S. Nye, formerly of the United States Geological Survey, started a ground-water investigation in Hidalgo County in the summer of 1933. That investigation, which included an inventory of water wells, was discontinued because of lack of funds, but work was resumed by Lonsdale in the summer of 1939. The well records obtained in 1933 were released in a manuscript report in 1934, although those records were combined with the well data obtained in 1939 and the whole was published in mimeograph form in 1941. 1/.

Brief reconnaissance investigations were made in the Linn area by G. H. Cromack, engineer with the Texas Board of Water Engineers, in the summer of 1945, and by W. O. George, geologist with the United States Geological Survey, in the summer of 1947; the results are described in mimeographed reports, which are available for distribution and for public reference in the open file of the Board of Water Engineers. The present report relates mostly to investigations made by C. R. Follett, engineer with the Board of Water Engineers, in the spring and early summer of 1948 and in April 1949.

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1/ Lonsdale, J. T., and Nye, S. S., Records of wells, drillers' logs, water analyses, and map showing location of wells in Hidalgo County, Tex.; Texas Board of Water Engineers. (Mimeographed), 1941.

**IRRIGATION DEVELOPMENT**  
**EXTENT AND PROGRESS OF DEVELOPMENT**

During the investigation in the spring of 1948, one hundred irrigation wells were visited and mapped. Seventy-nine of the wells are less than 100 feet deep, 2 are between 100 and 175 feet, 4 are between 900 and 1,000 feet, 13 are between 1,000 and 2,000 feet, and 2 are slightly more than 2,000 feet. In the discussion that follows, the wells that are less than 175 feet deep are classed as shallow wells and those of greater depth as deep wells. Sixty-eight of the shallow wells and 14 of the deep wells were used for irrigation during the spring of 1948, but the others were unused.

The well development has been rapid in recent years. Of the 87 wells for which the year of drilling is known, 70 were completed during the 3-year period 1945-47 and the early part of 1948. The progress of the development by years or groups of years is given below.

Number of irrigation wells drilled and equipped

| Year    | Shallow wells | Deep wells | Total |
|---------|---------------|------------|-------|
| 1929-38 | 10            | 0          | 10    |
| 1939-44 | 6             | 1          | 7     |
| 1945    | 15            | 7          | 22    |
| 1946    | 17            | 8          | 25    |
| 1947    | 14            | 3          | 17    |
| 1948    | 6             | 0          | 6     |
|         | 68            | 19         | 87    |

The oldest irrigation well recorded is no. 574, which is reported to have been put down in 1929; but only 5 wells were in operation when Lonsdale made his investigation in the summer of 1939. Descriptions of the irrigated wells, and of approximately 40 other wells used for domestic purposes and stock, small industrial supply, or which are unused, are given in the well tables on pages 11-22.

**THE SPRINKLER METHOD OF IRRIGATION**

On a few large holdings in the Linn-Faysville area, young citrus orchards are supplied from large tanks which are mounted on trucks and which deliver water through a hose to small depressions around each tree. Some tracts are irrigated by the furrow method. Most of the farmers, however, use sprinklers.

In the sprinkler method of irrigation, water is pumped from the well into a pipe line, or a series of pipe lines, and is delivered as a spray to the trees and growing plants through perforated pipe sections or rotating sprayers. The pipe conveyors are made of galvanized iron or aluminum and range from 4 inches to 10 inches in diameter. The pipe sections are 16 to 20 feet in length and are so equipped that they can be quickly assembled or taken apart. Usually a Y and two valves are inserted at the end of the main pipe line so that the stream can be readily switched from one line into another. With this arrangement a gang of men can be kept busy alternately taking up and relaying the sprinkler lines, and the pump can be kept in continuous operation. Some of the wells of largest yield are provided with fittings by which two pairs of parallel lines are kept in successive operation. The pressure required for delivering the water varies with the topography, the length of the pipe lines and sprayer section (or number of rotating sprayers), and, to some extent, the direction and rate of wind movement.

In March and April 1948, the pumpage from 18 typical irrigation wells through sprinkler systems was measured with a meter inserted into the main pipe line, which gave a continuous record of the discharge. The period of observation on the individual wells ranged from 1½ hours to about 12 hours, and averaged about 3½ hours. The sprinkler settings or runs that were made during the different tests ranged in number from 1 in well 784 to 11 in well 829. Most of the runs were from 30 to 60 minutes in length; a few lasted less than 30 minutes and a few more than 60 minutes. The strips sprinkled during the individual runs ranged from 20 to 60 feet in width, from 300 to 940 feet in length, and from 0.18 acre to 1.6 acres in area.

The results of the tests and the serial numbers of the wells that were tested are given in table 2 on pages 23-24. The mean discharge during the tests ranged from 157 to 650 gallons a minute for the 14 shallow wells and from 409 to 1,145 gallons a minute for the 4 deep wells. The over-all average was 344 gallons a minute for the shallow wells and 729 gallons a minute for the deep wells. The average discharge during successive tests of the same well varied considerably. The variation in rate of discharge was caused in part by the length of sprinkler pipe used and in part by the rate of speed at which the pump was operated.

The table below gives a summary of the average depth of water applied to different crops during the sprinkler runs.

| Well | Crop   | Average depth of water applied (inches) |
|------|--|---|
| 747  | Cotton   | 1.08                                    |
| 815  | Cotton   | 2.14                                    |
| 750  | Cotton and melons                                  | 1.13                                    |
| 824  | Tomatoes   | 1.70                                    |
| 753  | Tomatoes, corn, and Sudan grass                    | 1.86                                    |
| 755  | Tomatoes, corn, and melons                         | 0.66                                    |
| 773  | Tomatoes, between rows of young citrus trees       | 1.06                                    |
| 800  | Tomatoes, between rows of young citrus trees       | 1.85                                    |
| 764  | Potatoes, between rows of young peach trees        | 1.38                                    |
| 794  | Corn and peas                                      | 0.76                                    |
| 766  | Corn, between rows of young citrus trees           | 2.18                                    |
| 767  | Corn, between rows of young citrus trees           | 2.19                                    |
| 829  | Corn and melons between rows of young citrus trees | 2.75                                    |
| 840  | Cantaloupes  | 1.55                                    |
| 765  | Beans between rows of young peach trees            | 1.54                                    |
| 784  | Transplanted tomatoes                              | 1.26                                    |
| 786  | Citrus trees                                       | 2.14                                    |
| 818  | Sand love grass                                    | 2.66                                    |

#### DUTY OF WATER

So far as could be learned, no well operators have kept systematic records of the hours their pumps were operated during the irrigation season. It is reported that, in common with irrigation experience almost everywhere, the water requirements for any particular crop vary greatly depending upon weather conditions, especially the temperature, the rate of wind movement during the growing season, and the amount of rainfall before planting and during the growing season. Dry winds of high velocity and a high proportion of sunshine tend to increase irrigation requirements, and humid, cloudy weather tends to reduce irrigation requirements. Much depends upon the stage of growth of the vegetables and citrus trees. For example, small tomato plants require much less water than tomatoes that are bearing or about to bear, and citrus trees a few months to a few years old require far less water than mature trees which are producing fair to large quantities of fruit. At least one citrus orchard in the area has been brought to maturity without irrigation, but it produces a comparatively small amount of fruit.

The pumping tests gave accurate figures on the amount of water delivered to a variety of crops by the sprinkler method in one irrigation. The average depth in inches was remarkably small. If those irrigation runs represented an average for the season and the number of applications each season were known or could be predicted, an approximate figure on the current average duty might be reached. However, some of the measurements were made not long after heavy rains; in fact, in two or three fields the water was applied for the main purpose of saturating the topsoil, which had formed a crust after the rains. Also a considerable part of the irrigated vegetables were in the early stages of growth, having been replanted after frosts in March.

Statements were obtained from a considerable number of land owners, project superintendents, and foremen regarding the number of sprinkler applications ordinarily required for the different crops. These statements are summarized in table 3 on pages 25 to 26. It is to be noted that the statements are not in very close agreement, and it is evident that much more information is needed before estimates of much value can be made regarding the average duty of water for the different crops in the Linn-Faysville area.

The cross-hatched areas on figure 1 shows the approximate location and extent of the lands that were irrigated from wells in the Linn-Faysville area during the spring and summer of 1948. The mapping of these areas was based on observations made in the field and on statements of well owners or their representatives. Table 3 gives the approximate number of acres irrigated from each well or group of wells. Where the information was inadequate the figures are followed by a question mark.

It is estimated that the area irrigated from wells during the period of observation was approximately 8,000 acres, of which 5,200 acres was irrigated from shallow wells and 2,800 acres from deep wells. Approximately 7,000 acres was in the vicinity of Linn as shown on figure 1; the remainder was more widely distributed in the surrounding territory. Of the 7,000 acres served near Linn approximately 4,900 acres was irrigated from shallow wells and 2,100 acres from deep wells. Some of the irrigators served their lands with a combination of waters from shallow and deep wells.

The writers do not feel competent to discuss the advantages and disadvantages of the sprinkler method. The available data tend to show that the method is notably economical in the use of water, but it calls for materially more pump power than the flooding or check-row method. It should be mentioned that only a small fraction of an acre-foot per annum, perhaps not more than 0.1 acre-foot per acre, delivered by the truck-tank method apparently satisfies the requirements of young trees.

## GEOLOGY AND GROUND WATER

### ROCK FORMATIONS

Most of the Linn-Faysville area is on the outcrop of the Goliad sand of Pliocene age, which covers most of the western half of Hidalgo County and the eastern half of Starr County. The Goliad sand is underlain by a great thickness of Miocene deposits consisting, in downward sequence, of the Oakville sandstone and the Catahoula tuff. In the eastern part of the area the Goliad sand is overlain by a varying thickness of sediments belonging to the Lissie formation of Pleistocene age. The Goliad sand, Oakville sandstone, and Catahoula tuff consist of alternating layers of clay or shale and sand, the clay and shale predominating. The Lissie formation in this area consists mostly of clay.

The Oakville sandstone does not crop out in this part of Texas and may be overlapped by the Goliad sand. The other formations mentioned appear at the surface in north-south-trending outcrop belts, from which the beds dip eastward beneath the younger formations. The outcrop area of the oldest, the Catahoula tuff, is in the western part of Starr County, 40 miles or more west of Linn.

Caliche, a secondary deposit of calcium carbonate, is commonly present in the outcrops of both the Goliad sand and the Lissie formation. Nearly all the wells penetrate a few feet to more than 100 feet of caliche between the land surface and a depth of about 150 feet. The shallow wells of the Linn district usually pass through 20 to 40 feet of caliche and considerable clay before reaching the shallow water-bearing sands.

Drillers' logs of 30 wells in the Linn-Faysville area are given in table 4, on pages 27-35. These records and the electrical logs of a few wells indicate that, although the individual sand layers are irregularly bedded both laterally and vertically, certain sandy zones and thick beds of clay can be correlated between deep wells that are several miles apart. From this correlation it is estimated that the beds dip eastward at the rate of 30 to 50 feet to the mile. The logs of some of the deeper wells show that the sands and sandy zones aggregate several hundred feet in thickness.

In the vicinity of Linn, the uppermost beds of the Goliad sand are exceptionally sandy and most of the water used for irrigation is obtained from wells that are less than 100 feet deep. The water-bearing sands in these wells range in thickness from about 30 to about 60 feet; they tend to pinch out laterally, however, and in parts of the area they are absent or too thin to yield much water. Frequently a "dry hole" is drilled within a few hundred feet of a good well. It is reported that on one large holding in the district nine "dry holes" were drilled in an exploratory program during which six good wells were developed.



## GROUND-WATER RECHARGE

The deep sands penetrated by the wells of the Linn-Faysville area are replenished by rainfall and seepage from streams on their outcrop areas, which lie to the west, the deeper sands cropping out at successively greater distances westward. Although the individual beds of sand tend to pinch out, zones that are predominantly sandy are believed to persist for long distances from the outcrop down the dip and to provide a conduit for the ground water along more or less tortuous paths. The rate of movement probably does not exceed a few hundred feet a year, but the total quantity of water moving down the dip probably is large.

The shallow sands of the Linn area are recharged by rainfall in the area itself. Most of the surficial material is sandy, some of it very sandy, and most of the rainfall is absorbed by the soil. However, caliche apparently is present beneath the entire area at shallow depths, and in some places it appears at the surface. The caliche is used as a road metal, and several pits are operated in the district to obtain it for that purpose. Observation of the sides of these pits and of railroad and highway cuts and study of the logs of shallow wells suggest that, in the greater part of the district, the caliche impedes the downward movement of water from the soil to the underlying water-bearing sands. On the other hand, sinks occur here and there which presumably were formed by collapse of the caliche beds resulting from the solutinal action of water. Possibly recharge to the underlying beds is accomplished largely through these sinks and through solution channels or rocks in the caliche.

The sinks are evidence that recharge does occur in some parts of the district. The only known method of computing the magnitude of the recharge is to correlate the fluctuation of water levels in wells with known amounts of pumpage during a period of several years.

## FLUCTUATIONS OF WATER LEVEL IN SHALLOW WELLS

Table 8, on pages 48 to 50 gives results of a series of two to five measurements of water levels in each of 39 shallow wells in the Linn district. Most of these measurements were made in 1947, 1948, and 1949, but a few were made in 1939. On the whole the record shows that the shallow reservoir has not yet been materially depleted as a result of the irrigation pumping, which thus far has been comparatively light. One of the most interesting features of the measurements is the rise in water levels shown in several wells between the period January-March and December 1948. This rise is believed to have been due, in part, to recharge from heavy rains in September 1948, which totaled 10.97 inches at Edinburg, about 20 miles south of Linn, 13.19 inches at Engleman Gardens, about 13 miles southeast of Linn. Measurements in 1949 indicate no significant changes in water levels. Periodic measurements of water levels in the observation wells are to be continued.

### QUALITY OF WATER

The chemical character of the well waters used for irrigation in the Linn-Faysville area is shown by the analyses in tables 5 to 7. These analyses were made by methods commonly used by the Geological Survey, and are reported in parts of dissolved substance by weight in a million parts of solution. For convenience, the shallow wells, most of which are less than 100 feet deep, are tabulated separately from the deep wells.

In most of the analyses calcium and magnesium were determined and the hardness calculated from the chemical equivalents, but in some of the earlier analyses hardness was determined by the soap method. Sodium and potassium were not determined but were calculated as sodium by difference in the chemical equivalents. Percent sodium is the result obtained by dividing the equivalents per million of sodium by the equivalents per million of calcium, magnesium, sodium and potassium. Boron is reported as parts per million of the element, rather than as some specific ion such as borate, because it probably appears in several forms in natural waters. Boron was not determined on the samples collected prior to 1948.

The suitability of water for irrigation depends upon the chemical character of the water, the amount of water used, rainfall, drainage, the character of the soil and subsoil, and the crops grown. In a few places, though so far as is known not in the Linn-Faysville area, the irrigation water may contain enough salts to be harmful to plants in a single application. More commonly, the less acceptable waters are harmful because, where drainage is poor, salts are accumulated in the soil and the dissolved salts disperse the soil colloids and make the soils impemeable.

In irrigation waters a high proportion of sodium salts is usually considered most undesirable, whereas magnesium salts in high concentrations are toxic to many crops, most plants are relatively tolerant to calcium salts. Similarly, bicarbonates may be considered more harmful than chlorides and nitrates, whereas sulfates are considered least harmful. Trace amounts of boron are beneficial to plant growth, although the element seems to be harmful when present in relatively small quantities.

The appraisal of waters for irrigation use is outside the field of the Geological Survey. However, the following table condensed from Magistad and Christiansen 2/ may be used as a guide:

Standards for irrigation waters

| Water class          | Dissolved solids | Sodium (percent) | Boron (p.p.m.) |
|----------------------|------------------|------------------|----------------|
| Class 1 <sup>a</sup> | 700              | 60               | 0.5            |
| Class 2 <sup>b</sup> | 700 to 2,000     | 60 to 75         | 0.5 to 2.0     |
| Class 3 <sup>c</sup> | 2,000            | 75               | 2.0            |

a/ Excellent to good; suitable for most plants under most condition.

b/ Good to injurious; probably harmful to more sensitive crops.

c/ Injurious to unsatisfactory; probably harmful to most crops and unsatisfactory for all but the most tolerant.

2/ Magistad, O. C., and Christiansen, J. E., Saline soils, their nature and management: U. S. Dept. Agr. Circ. 707, p. 9, 1944.

The foregoing standards when applied to the well waters in the Linn-Faysville area indicate that the waters from the shallow wells are generally preferable to those from the deeper wells. However, because of the comparatively high rainfall and small amounts of water applied by the sprinkler method, harmful effects due to poor quality of any of the waters used might not be evident until application of the water had been continued for several years.

In 42 irrigation wells of the Linn-Faysville area, ranging from 76 to 100 feet in depth, the analyses show boron in the water ranging from 0.78 to 3.6 and averaging 1.6 parts per million. In 26 wells, ranging from 631 to 2,050 feet in depth, the boron ranged from 0.2 to 8.7 and averaged 4.0 parts per million. In most of the deep wells and some of the shallow wells the boron exceeded the safe limits for citrus trees indicated by investigations in California by the Bureau of Plant Industry of the U. S. Department of Agriculture where, however, the rainfall is less than it is in the lower Rio Grande Valley and soil and subsoil conditions may be essentially different. Nevertheless, in a reconnaissance made by two of the writers in December 1948, evidence of material damage to young citrus trees by boron was found in three orchards that were watered from deep wells, the boron amounting to 3.9 parts per million in one of the wells, 7.5 parts per million in another, and 4.9 parts per million in a third.

Both the shallow and the deep wells supply water of generally higher mineral content than that preferred for domestic supplies. However, if no other supply were available most of the waters could be used without harm. All the shallow well waters and most of the deep well waters would be more satisfactory for home use if softened.

The current program of cooperative investigations of the quality of water, both surface and underground, in the lower Rio Grande Valley is to be continued. Extensive investigations, including studies of damage by boron with special reference to citrus orchards, are being planned by various agricultural agencies, also, including the U. S. Bureau of Plant Industry and the A. and M. College of Texas.

## CONCLUSIONS

The total number of irrigation wells in the Linn-Faysville area was about 100 in the spring of 1948. During the summer and fall of 1948 a few additional wells were put down, and the total number at the end of the year was about 110, of which about 88 are shallow and the remainder are between 600 and 2,050 feet deep. The total area irrigated by water from wells during the spring and early summer of 1948 was approximately 8,000 acres of which 5,200 acres were irrigated from shallow wells and 2,800 acres from deep wells.

Nearly all the shallow wells are less than 100 feet deep. The individual sand beds from which they draw are discontinuous or irregular and in parts of the area yield comparatively little water. Experience has shown that poor wells, usually classed as "dry holes", may be brought in within a few hundred feet of a good well. The area in which the shallow sands are productive and yield water of fairly good quality probably does not exceed about 20 square miles; the proved territory is much smaller. In some localities the sands are rather permeable and yields of several hundred gallons a minute are not uncommon.

Up to April 1949, the shallow ground-water reservoir has shown practically no evidence of depletion. In fact, the water levels in some of the observation wells in the area were higher in December 1948 than they were in the spring of the same year or in the summer of 1945 or 1947. This was due in part to recharge from heavy rains during September 1948. However, the total pumpage from shallow wells thus far is slight in comparison to the pumpage in some other irrigated areas in Texas. More than half the area supplied by these wells is planted in young citrus trees which require very little water. During 1948 serious frosts occurred in the early spring and late fall, and these caused so much damage that the amount of water pumped for tomatoes and other vegetables was reduced materially.

Most of the shallow wells are in the Linn area. Approximately 48 wells are spaced within areas aggregating about 6 square miles in that area, or about 8 wells to the square mile; such spacing is ordinarily considered too close even in localities where the water-bearing beds are thicker and the ground-water reservoir is more extensive than is the case in the Linn area. It would seem advisable, therefore, that further development of shallow water in the district be limited to more adequately spaced wells outside the present areas of close spacing. In some of the shallow wells the water is rather high in total dissolved solids and in chloride and in a few it is moderately high in boron. In most of the wells, however, the mineralization is moderate and the water apparently is suitable for most crops. Three orange orchards that have been brought to maturity with shallow well water containing 1.2 to 1.6 parts per million of boron are productive and show no damage from that element, so far as could be determined by the writers.

The deep wells penetrate, on the average, a much greater thickness of water-bearing sands than do the shallow wells, and some of them yield more than 500 gallons a minute when pumped. The sands penetrated by the deep wells likewise show no material signs of depletion. However, in general the deep ground water has a high percentage of sodium and contains excessive quantities of boron and, in some of the wells, of chloride. Evidence of material damage to young citrus trees by boron was found in three orchards watered from deep wells. A few of the deep wells yield water relatively low in boron. The ultimate success of irrigation from most of the deep wells, however, is open to some question, the answer to which further investigations now in progress, and proposed, should determine. It is understood that large-scale investigations of the damaging effect of boron and other chemical constituents are being planned by the A. and M. College of Texas and the U. S. Bureau of Plant Industry.

Table 1.- Records of wells in the Linn-Faysville area, Hidalgo County, Texas

Method of lift: A, air lift; C, cylinder; E, electric; G, gasoline; J, jet; T, turbine; W, windmill. Number indicates horsepower.

Use of water: D, domestic; Ind, industrial; Irr, irrigation; N, not use; RR, railroad; S, stock.

| Well | Distance from Linn | Owner                                | Drifter          | Date completed | Depth of well (ft.) | Diameter of well (in.) | Depth to which well is cased (ft.) | Water level                               |                     | Method of lift | Use of water | Acres irrigated spring 1948 (reported) | Remarks  |
|------|--------------------|--------------------------------------|------------------|----------------|---------------------|------------------------|------------------------------------|---|---------------------|----------------|--------------|--|--|
|      |                    |                                      |                  |                |                     |                        |                                    | Above (+) or below (-) land surface (ft.) | Date of measurement |                |              |  |  |
| 126  | ½ mile northwest   | A. Guerra                            | --               | --             | 90                  | 4                      | --                                 | -30                                       | June 25, 1933       | C, W           | D, S         | --                                     |  |
| 127  | ¼ mile north       | do.                                  | --               | --             | 115                 | 4                      | --                                 | -30                                       | do.                 | C, W           | D, S         | --                                     |  |
| 128  | In Linn            | do.                                  | --               | 1925           | 173                 | 5                      | --                                 | -30                                       | do.                 | C, W           | D, S         | --                                     |  |
| 130  | do.                | S.P. R.R. Co.                        | J. W. Jackson    | 1927           | 765                 | 6                      | 765                                | +10                                       | do.                 | Flows<br>C, G  | RR           | --                                     | Yield in 1933:<br>Flow, 10 gpm;<br>pump, 250 gpm.<br>Screens at 461<br>to 521 and 703<br>to 745 feet.<br>See log.  |
| 198  | 12 miles southeast | Edinburg Independent School District | A. L. Willingham | 1932           | 870                 | 6                      | 840                                | -10                                       | --                  | --             | D, S         | --                                     | Other sands at 40<br>to 60, 320 to 335,<br>620 to 650, and<br>760 to 775 feet; all<br>reported to contain<br>salty water. Yield<br>reported 40 gpm in<br>1933. |
| 550  | 11 miles northwest | McAllen Ranch                        | E. Rupp          | 1938           | 684                 | 5-<br>3/16             | 643                                | ±30                                       | Aug. 5, 1939        | Flows          | S            | --                                     | Flow, 5 gpm in 1939.<br>See log.   |
| 551  | 12 miles northwest | do.                                  | A. D. Killinger  | 1938           | 246                 | 5-<br>3/16             | 216                                | -60                                       | Aug. 15, 1939       | C, W           | S            | --                                     | See log.   |
| 554  | 12 miles west      | Wood Christian                       | do.              | 1939           | 947                 | 4                      | 947                                | +0.1                                      | Aug. 3, 1939        | Flows          | S            | --                                     | Flow, 1 gpm in 1939.<br>See log.   |
| 555  | 4½ miles north     | Richard King                         | E. Rupp          | 1938           | 780                 | 6                      | 760                                | --  | Aug. 5, 1939        | Flows          | S            | --                                     | Flow, 5 gpm in 1939.<br>See log.   |
| 556  | 5 miles north      | W. M. Doughty Well 1                 | Garland Johnson  | --             | 3,009               | --                     | --                                 | --  | --                  | --             | --           | --                                     | Oil test. See log.   |
| 557  | 6½ miles north     | D. Guerra & Sons                     | E. Rupp          | 1938           | 834                 | 5                      | 701                                | --  | Aug. 12, 1939       | Flows          | S            | --                                     | Plugged back to 737<br>feet. Flow, 18 gpm<br>in 1939. See log.   |
| 570  | 11½ miles west     | --                                   | --               | --             | 1,302               | --                     | --                                 | --  | --                  | --             | --           | --                                     | Schlumberger core<br>hole. See log.  |
| 571  | 10 miles west      | McAllen Ranch                        | E. Rupp          | 1938           | 756                 | 5                      | 730                                | +15                                       | Aug. 3, 1939        | Flows          | S            | --                                     | Flow, 9 gpm in<br>1939. See log.   |
| 572  | 8½ miles west      | do.                                  | do.              | 1938           | 800                 | 5                      | 766                                | +15                                       | do.                 | Flows          | S            | --                                     | Do.  |

Table 1. Records of wells in the Linn-Faysville area, Hidalgo County--Continued

| Well | Distance from Linn | Owner               | Driller            | Date completed | Depth of well (ft.) | Diameter of well (in.) | Depth to which well is cased (ft.) | Water level                               |   | Method of lift | Use of water | Acres irrigated spring 1948 (reported) | Remarks   |
|------|--------------------|---------------------|--------------------|----------------|---------------------|------------------------|------------------------------------|---|---|----------------|--------------|--|---|
|      |                    |                     |                    |                |                     |                        |                                    | Above (+) or below (-) land surface (ft.) | Date of measurement                             |                |              |  |   |
| 573  | 4 miles southwest  | J. E. Garrett       | B. M. Roard        | 1938           | 88                  | 14                     | --                                 | -51<br>-44.0                              | Sept. 1, 1939<br>Apr. 15, 1948                  | --             | N            | --                                     | Formerly used for irrigation.   |
| 574  | 3½ miles southwest | Ivan A. White       | do.                | 1929           | 85                  | 11                     | --                                 | -50<br>-45<br>-34.9                       | Aug. 7, 1933<br>Sept. 2, 1939<br>June 21, 1945  | None           | N            | --                                     | Formerly used for irrigation. Abandoned and replaced with well 818.                                     |
| 575  | 2½ miles southwest | A. W. Beaurline     | do.                | 1938           | 78                  | 12                     | --                                 | -32<br>-33.7<br>-32.2                     | Sept. 2, 1939<br>Jan. 23, 1948<br>Mar. 20, 1948 | T, G           | Irr          | 70                                     | Sand from 40 to 78 feet. Citrus orchard irrigated from this well and well 806. Temp. 79°F.              |
| 576  | 2¼ miles southwest | A. K. Polis         | do.                | 1938           | 78                  | 36                     | --                                 | -30<br>-36.1<br>-29.4                     | Sept. 2, 1939<br>Jan. 23, 1948<br>Mar. 20, 1948 | T, G           | Irr          | 900                                    | Citrus trees and vegetables irrigated from this well and wells 737, 738, 742, 744, and 775. Temp. 78°F. |
| 577  | 2 miles southwest  | Southern Floral Co. | A. D. Killinger    | 1937           | 88                  | 12                     | 0                                  | -30.5<br>-41.6<br>-39.8                   | Aug. 15, 1939<br>June 7, 1947<br>Mar. 21, 1948  | T, G           | Irr          | 98                                     | Flowers and field crops irrigated from this well and well 776.  |
| 578  | ½ mile southeast   | W. M. Doughty       | King-Woods Oil Co. | 1935           | 5,012               | --                     | --                                 | --  | --  | --             | --           | --                                     | Oil test. See log.  |
| 579  | 1¼ miles east      | M. Chapa            | E. Rupp            | 1938           | 471                 | 4                      | 431                                | --  | --  | A, G           | Ind          | --                                     | Reported yield, 60,000 gpd. See log.  |
| 581  | 3½ miles east      | Juanline Garza      | A. D. Killinger    | 1937           | 705                 | 4½                     | 705                                | + 1.5                                     | Aug. 10, 1939                                   | Flows          | D, S         | --                                     | Flow, 4 gpm in 1939. Salt-water sands reported at 134 and 156 feet. See log.                            |
| 582  | 4 miles east       | P. C. Zamora        | E. Rupp            | 1937           | 631                 | 4                      | 499                                | - 8                                       | do.   | C, W           | D, S         | --                                     | Bottom 11 feet of casing perforated. See log.   |
| 583  | 3 miles east       | Richard King        | do.                | 1938           | 625                 | 5                      | 602                                | -37                                       | do.   | C, W           | S            | --                                     | See log.  |
| 584  | 5½ miles east      | Geo. H. Coates      | A. D. Killinger    | 1939           | 782                 | 5                      | 725                                | - 6                                       | do.   | C, W           | D, S         | --                                     | Do.   |
| 585  | 7 miles east       | -- Corbit           | E. Rupp            | 1939           | 762                 | 5                      | 728                                | + 5                                       | do.   | Flows          | S            | --                                     | Flow, 2 gpm in 1939. See log.   |
| 598  | 12 miles southwest | Hammond Bros.       | A. D. Killinger    | 1939           | 564                 | 5-<br>3/16             | 564                                | -53                                       | Aug. 14, 1939                                   | C, W           | S            | --                                     | Bottom 36 feet of casing perforated. See log.   |

Table 1. Records of wells in the Linn-Fayetteville area, Hidalgo County--Continued

| Well | Distance from Linn              | Owner         | Driller                | Date completed | Depth of well (ft.) | Diameter of well (in.) | Depth to which well is cased (ft.) | Water level                               |   | Method of lift | Use of water | Acres irrigated, spring 1948 (reported) | Remarks   |
|------|---------------------------------|---------------|------------------------|----------------|---------------------|------------------------|------------------------------------|---|---|----------------|--------------|---|---|
|      |                                 |               |                        |                |                     |                        |                                    | Above (+) or below (-) land surface (ft.) | Date of measurement   |                |              |   |   |
| 599  | 13 miles southeast              | J. de la Vina | Pan American Prod. Co. | 1939           | 8,123               | 10 $\frac{1}{2}$       | --                                 | --  | --  | --             | --           | --                                      | Oil test. See log.  |
| 734  | 2 $\frac{1}{2}$ miles northeast | Guerra Bros.  | E. Rupp                | 1944           | 1,020?              | 5 $\frac{1}{2}$        | --                                 | +19                                       | --  | Flows C, W     | S            | --                                      | Flow 3 gpm 4 feet above ground. Present depth not known as well was deepened below original depth of 1,020 feet. Temp. 89°F. See log.     |
| 735  | 3 miles northwest               | Jesse Gaston  | --                     | --             | 95                  | 12                     | 75                                 | -32.8                                     | June 10, 1947   | T, G           | Irr          | 8                                       | Measured yield, 134 gpm on Mar. 21, 1948. Irrigates ferns.  |
| 736  | 1 $\frac{1}{2}$ miles west      | Neal Tennis   | --                     | 1938?          | 85                  | 12                     | --                                 | -28.8                                     | Mar. 21, 1948   | T, G           | Irr          | --                                      | Irrigates 15 acres of citrus, and much larger acreage of vegetables. Temp. 80°F.  |
| 737  | 1 $\frac{1}{2}$ miles southwest | A. K. Polis   | --                     | 1946           | 85                  | 12                     | --                                 | -30.1                                     | June 9, 1947  | T, G           | Irr          | --                                      | Water is hauled in tanks to young citrus trees on most of this place.   |
| 738  | 1 $\frac{1}{2}$ miles southwest | do.           | --                     | 1946           | 85                  | 12                     | --                                 | -30.8<br>-30.2<br>-29.1                   | June 9, 1947<br>Jan. 23, 1948<br>Mar. 20, 1948                  | T, G           | Irr          | --                                      | Do.   |
| 739  | 6 $\frac{1}{2}$ miles east      | H. L. McBride | Glenda Oil Co.         | 1945           | 1,710               | 8                      | --                                 | --  | June 16, 1945   | T, G           | Irr          | --                                      | Estimated flow, 25 gpm in 1945. Electric log available at Austin office. Temp. 96°F.  |
| 740  | 1 $\frac{1}{2}$ miles south     | W. M. Doughty | --                     | 1939           | 910                 | 5-<br>3/15             | --                                 | --  | --  | Flows          | S            | --                                      | Estimated flow, 25 gpm in 1945; measured flow, 13.3 gpm on Apr. 20, 1948. Had a small flow from 800 foot sand. Temp. 91 $\frac{1}{2}$ °F. |
| 741  | 1 $\frac{1}{2}$ miles southwest | A. K. Polis   | --                     | 1945           | 80                  | 10                     | 10                                 | -33.0<br>-35.7<br>-35.2                   | June 9, 1947<br>Jan. 23, 1948<br>Mar. 20, 1948                  | None           | N            | --                                      | Formerly used for irrigation.   |
| 742  | 2 miles southwest               | do.           | --                     | 1945           | 80                  | 10                     | 10                                 | -29.6<br>-30.5                            | June 21, 1945<br>June 9, 1947                                   | T, G           | Irr          | --                                      | See remarks re well 576.  |
| 744  | 2 $\frac{1}{2}$ miles southwest | do.           | --                     | --             | 80                  | 36                     | --                                 | -31.5<br>-35.9<br>-33.5<br>-31.8          | June 21, 1945<br>Jan. 9, 1947<br>Jan. 23, 1948<br>Mar. 20, 1948 | T, G           | Irr          | --                                      | Do.   |

Table 1. Records of wells in the Linn-Fayetteville area, Hidalgo County--Continued

| Well | Distance from Linn | Owner                 | Driller        | Date completed | Depth of well (ft.) | Diameter of well (in.) | Depth to which well is cased (ft.) | Water level                          |   | Method of lift | Use of water | Acres irrigated, 1948 (reported) | Remarks   |
|------|--------------------|-----------------------|----------------|----------------|---------------------|------------------------|------------------------------------|--------------------------------------|---|----------------|--------------|----------------------------------|---|
|      |                    |                       |                |                |                     |                        |                                    | Above (+) or below (-) surface (ft.) | Date of measurement                             |                |              |                                  |   |
| 745  | 2½ miles southwest | Southern Floral Co.   | Royal Stephens | 1945           | 76                  | 12                     | 0                                  | -29.3<br>-38.0<br>-38.9              | June 21, 1945<br>Jan. 23, 1948<br>Mar. 22, 1948 | T, G           | Irr          | 120                              | Flowers and field crops irrigated from this well and well 807.  |
| 747  | do.                | F. W. Boreman         | do.            | 1944           | 85                  | 12                     | --                                 | --                                   | --  | T, G           | Irr          | 50                               | Measured yield ranged from 175 to 250 gpm through sprinkler system on Apr. 15, 1948. Irrigates cotton and tomatoes.   |
| 748  | 2 miles southwest  | Rio Grande Floral Co. | --             | 1940           | 78                  | 12                     | 10                                 | -27.7<br>-31.5<br>-31.6<br>-30.6     | June 20, 1945<br>June 8, 1948<br>Jan. 23, 1948  | T, G           | Irr          | 12                               | Measured yield, 300 gpm on Apr. 20, 1948. Waters ferns. Temp. 78½°F.  |
| 749  | 3 miles southwest  | J. P. Cruise          | Glenda Oil Co. | 1945           | 1,404               | 6                      | 890                                | --                                   | --  | Flows A, G     | Irr          | 190                              | Cased to 890 feet. Measured flow, 300 gpm in 1945; measured yield while pumping, 431 gpm in 1948. Electric log available at Austin office. Young citrus trees, with tomatoes and cotton between, irrigated from this well and wells 799 and 800. Temp. 92½°F. |
| 750  | 2½ miles southwest | Juan Medina           | Royal Stephens | 1945           | 80                  | 12                     | --                                 | -26.9<br>-32.5                       | June 21, 1945<br>Mar. 22, 1948                  | T, G           | Irr          | 56                               | Measured yield ranged from 200 to 288 gpm through sprinkler system on Apr. 15, 1948. Irrigates tomatoes, cotton, and melons.  |
| 751  | 3½ miles southwest | O. J. Blau            | --             | 1931           | 80                  | 10                     | 4                                  | -38<br>-36.2                         | Aug. 7, 1933<br>June 9, 1947                    | T, G           | Irr          | 60                               | Irrigates young citrus trees, field crops and pasture. Temp. 79°F.  |
| 752  | 4½ miles southwest | Reynaldo Vela         | Royal Stephens | 1945           | 92                  | 10                     | --                                 | -42.7<br>-54.0                       | June 21, 1945<br>Mar. 22, 1948                  | T, G           | Irr          | 100                              | Sand reported from 48 to 92 feet. Irrigates tomatoes, melons, and cotton.   |
| 753  | 3½ miles south     | Frank Gross           | do.            | 1945           | 88                  | 13                     | 88                                 | -35.0<br>-32.0<br>-30.1              | Jan. 9, 1947<br>Jan. 24, 1948<br>Mar. 19, 1948  | T, G           | Irr          | 240                              | Measured yield ranged from 636 to 756 gpm through sprinkler system on Apr. 2, 1948. Irrigates citrus trees and mixed vegetables. Temp. 79°F.  |
| 754  | 4 miles south      | Fred Mischler         | --             | --             | 90                  | 10                     | --                                 | -35.1                                | June 9, 1947                                    | T, G           | Irr          | 30                               | Irrigates citrus trees and mixed vegetables.  |



Table 1.- Records of wells in the Linn-Faysville area, Hidalgo County--Continued

| Well | Distance from Linn | Owner          | Driller        | Date completed | Depth of well (ft.) | Diameter of well (in.) | Depth to which well is cased (ft.) | Water level                               |   | Method of lift | Use of water | Acres irrigated, spring 1948 (reported) | Remarks  |
|------|--------------------|----------------|----------------|----------------|---------------------|------------------------|------------------------------------|---|---|----------------|--------------|---|--|
|      |                    |                |                |                |                     |                        |                                    | Above (+) or below (-) land surface (ft.) | Date of measurement                             |                |              |   |  |
| 755  | 4 miles south      | W. H. Fowler   | Royal Stephens | 1946           | 90                  | 12                     | 30                                 | -37.2<br>-35.2<br>-34.8                   | June 9, 1947<br>Jan. 24, 1948<br>Mar. 22, 1948  | T, G           | Irr          | 85                                      | Measured yield ranged from 144 to 304 gpm through sprinkler system on Apr. 2, 1948. Sand and sandstone from 45 to 90 feet.   |
| 756  | do.                | do.            | do.            | 1945           | 128                 | 10                     | 20                                 | -55.1                                     | May 12, 1945                                    | None           | N            | --                                      | Well abandoned. New well 100 feet north.   |
| 757  | 2½ miles southwest | S. L. Turner   | --             | 1936           | 80                  | --                     | --                                 | -31.2<br>-29.9<br>-28.0                   | June 10, 1947<br>Jan. 23, 1948<br>Mar. 20, 1948 | T, G           | Irr          | 83                                      | Irrigates citrus trees and vegetables.   |
| 759  | 11½ miles south    | L. A. Gannaway | --             | 1946           | 1,430               | 7                      | 1,300                              | +23                                       | June 10, 1947                                   | Flows T, G     | Irr          | 300                                     | Reported flow, 275 gpm; pumps 750 gpm. Irrigates citrus trees and mixed vegetables. Plugged at 1,125 feet. Gun-perforated from 910 to 1,020 feet. Electric log available at Austin office. |
| 761  | 2 miles west       | W. P. Hauser   | Royal Stephen  | 1947           | 87                  | 12                     | 0                                  | --  | --  | T, G           | Irr          | 300?                                    | Vegetables irrigated from this well and wells 762 and 763.   |
| 762  | do.                | do.            | do.            | 1948           | 87                  | 12                     | 0                                  | --  | --  | T, G           | Irr          | --                                      | Vegetables irrigated from this well and wells 761 and 763.   |
| 763  | 2 miles southwest  | do.            | do.            | 1947           | 78                  | 12                     | 0                                  | --  | --  | T, G           | Irr          | --                                      | Vegetables irrigated from this well and wells 761 and 762.   |
| 764  | 3 miles southwest  | -- Bolar       | A. G. Steele   | 1948           | 90                  | 14                     | 0                                  | -34.0                                     | Mar. 23, 1948                                   | T, G           | Irr          | 100                                     | Measured yield ranged from 150 to 163 gpm through sprinkler system on Apr. 18, 1948. Irrigates peaches, cotton, and vegetables.  |
| 765  | do.                | W. R. Allen    | Royal Stephens | 1945           | 89                  | 14                     | 0                                  | -34.1                                     | do.   | T, G           | Irr          | 100                                     | Measured yield ranged from 303 to 333 gpm through sprinkler system on Apr. 18, 1948. Irrigates flowers, peaches, cotton and hydra.   |

Table 1.- Records of wells in the Linn-Faysville area, Hidalgo County--Continued

| Well | Distance from Linn | Owner               | Driller        | Date completed | Depth of well (ft.) | Diameter of well (in.) | Depth to which well is cased (ft.) | Water level                               |                                | Date of measurement            | Method of lift | Use of water | Acres irrigated, spring 1948 (reported) | Remarks   |
|------|--------------------|---------------------|----------------|----------------|---------------------|------------------------|------------------------------------|---|--------------------------------|--------------------------------|----------------|--------------|---|---|
|      |                    |                     |                |                |                     |                        |                                    | Above (+) or below (-) land surface (ft.) |                                |                                |                |              |   |   |
| 766  | 3 miles southwest  | A. J. Ehlers        | Royal Stephens | 1945           | 80                  | 12                     | 0                                  | --  | --                             | --                             | T,G            | Irr          | 125                                     | Measured yield ranged from 263 to 305 gpm through sprinkler system on Apr. 14, 1948. Young citrus trees with vegetables between rows irrigated from this well and well 767. |
| 767  | do.                | do.                 | do.            | 1946           | 86                  | 12                     | 3                                  | -32.4                                     | Mar. 23, 1948                  | Mar. 23, 1948                  | T,G            | Irr          | --                                      | Measured yield ranged from 287 to 312 gpm through sprinkler system on Apr. 19, 1948. See log.   |
| 768  | do.                | A. W. Beurline      | --             | 1946           | 85                  | 14                     | 0                                  | -32.1                                     | do.                            | do.                            | T,G            | Irr          | 220?                                    | Young citrus trees and vegetables between rows irrigated from this well and wells 769, 770, 771, and 772.   |
| 769  | 3½ miles southwest | do.                 | --             | 1946           | 503                 | 10, 8                  | 1,500                              | --  | do.                            | do.                            | Flows          | Irr          | --                                      | Casing perforated at 1,000 to 1,100 and 1,200 to 1,500 feet. Temp. 97½°F.   |
| 770  | 3 miles southwest  | do.                 | --             | 1945           | 85                  | 14                     | 0                                  | -34.3                                     | do.                            | do.                            | T,G            | Irr          | --                                      |   |
| 771  | do.                | do.                 | --             | 1946           | 85                  | 14                     | 0                                  | -35.5                                     | do.                            | do.                            | T,G            | Irr          | --                                      |   |
| 772  | do.                | do.                 | --             | 1946           | 85                  | 14                     | 0                                  | -34.7                                     | do.                            | do.                            | T,G            | Irr          | --                                      |   |
| 773  | do.                | H. H. Snyder        | Royal Stephens | 1947           | 85                  | 12                     | 0                                  | --  | --                             | --                             | T,G            | Irr          | 100                                     | Measured yield ranged from 180 to 221 gpm through sprinkler system on Apr. 6, 1948. Irrigates young citrus trees and vegetables.  |
| 774  | 2½ miles southwest | R. King             | A. G. Steele   | 1948           | 95                  | 12                     | --                                 | --  | --                             | --                             | T,G            | Irr          | --                                      | Not used up to Apr. 21, 1948. See log.  |
| 775  | 2 miles southwest  | A. K. Polis         | --             | 1946           | 80                  | 12                     | --                                 | -31.5                                     | Mar. 20, 1948                  | Mar. 20, 1948                  | T,G            | Irr          | --                                      | See remarks re well 576.  |
| 776  | 1½ miles southwest | Southern Floral Co. | Royal Stephens | 1944           | 87                  | 14                     | 0                                  | --  | --                             | --                             | T,G            | Irr          | --                                      | See remarks re well 577.  |
| 777  | 1 mile southwest   | A. K. Polis         | --             | Old            | 80?                 | 6                      | --                                 | -24.6<br>-24.0                            | Jan. 23, 1948<br>Mar. 20, 1948 | Jan. 23, 1948<br>Mar. 20, 1948 | None           | N            | --                                      | Formerly used for stock.  |
| 778  | 1½ miles northwest | Joe W. Lebow        | --             | --             | 90                  | 12                     | 10                                 | -28.9<br>-29.0                            | Jan. 22, 1948<br>Mar. 21, 1948 | Jan. 22, 1948<br>Mar. 21, 1948 | T,G            | Irr          | --                                      | Irrigates vegetables and field crops.   |

Table 1... Records of wells in the Linn-Fayetteville area, Hidalgo County--Continued

| Well | Distance from Linn    | Owner               | Driller      | Date completed | Depth of well (ft.) | Diameter of well (in.) | Depth to which well is cased (ft.) | Water level                               |                                | Method of lift | Use of water | Acres irrigated (reported) | Remarks  |
|------|-----------------------|---------------------|--------------|----------------|---------------------|------------------------|------------------------------------|---|--------------------------------|----------------|--------------|----------------------------|--|
|      |                       |                     |              |                |                     |                        |                                    | Above (+) or below (-) land surface (ft.) | Date of measurement            |                |              |                            |  |
| 779  | 1 mile northwest      | T. H. McClelland    | --           | 1945           | 80                  | --                     | --                                 | -31.1<br>-31.1                            | Jan. 22, 1948<br>Mar. 20, 1948 | T, G           | N            | --                         | Not used for year or more. Estimated yield 70 gpm on Jan. 22, 1948.  |
| 780  | 1/2 mile southeast    | Guerra Bros.        | Fred Fiedler | 1945           | 1,470               | 10 1/2                 | 1,470                              | +87.5                                     | Mar. 20, 1948                  | A, G           | N            | --                         | Casing gun-perforated with 213 shots between 1,215 and 1,325 feet. Reported flow 40 gpm. See log.  |
| 780a | 1 1/2 miles southeast | do.                 | -- Persley   | 1948           | 1,385               | 8                      | --                                 | --  | --                             | Flows          | Ind          | --                         | Estimated flow, 10 gpm on Dec. 9, 1948.  |
| 780b | 3 miles northeast     | D. V. Guerra        | do.          | 1948           | 1,500±              | 10                     | --                                 | --  | --                             | Flows          | Irr          | --                         | Estimated flow, 530 gpm on Dec. 9, 1948.   |
| 781  | 1/2 mile west         | Ranger Chemical Co. | --           | --             | 80?                 | 12                     | --                                 | -29.9<br>-29.9                            | Jan. 22, 1948<br>Mar. 20, 1948 | T, G           | Irr          | --                         |  |
| 782  | 1 1/2 miles southwest | do.                 | --           | --             | 80?                 | 13                     | --                                 | --  | --                             | T, G           | Irr          | --                         |  |
| 783  | 1 1/2 miles south     | do.                 | --           | --             | 90?                 | 12                     | --                                 | -30.5                                     | Apr. 20, 1948                  | None           | N            | --                         | Well never used.   |
| 784  | 2 1/2 miles southeast | Tom Brown           | Bob Johnson  | 1947           | 1,224               | 12, 10, 7              | 1,224                              | --  | --                             | Flows<br>T, G  | Irr          | 300                        | Casing perforated below 907 feet. Measured yield ranged from 702 to 804 gpm through sprinkler system on Apr. 6, 1948. Irrigates young citrus trees with vegetables between rows. Temp. 95°F.       |
| 785  | 3 miles southeast     | T. W. Lee           | --           | 1946           | 980                 | 8                      | 935                                | +4.51                                     | Mar. 20, 1948                  | Flows<br>T, G  | Irr          | ?                          | Cased to 935 feet, gun-perforated 915-935 feet. Water hauled for several hundred acres of young citrus trees. See log.   |
| 786  | 3 miles south         | Texas Produce       | Bob Johnson  | 1946           | 1,046               | 12                     | 1,046                              | ±44<br>+9.6                               | Apr. 15, 1946<br>Mar. 20, 1948 | Flows          | Irr          | 255                        | Casing perforated bottom 40 feet. In Apr. 1946 flowed 450 gpm and pumped 1,525 gpm after pumping 24 hours. Measured yield ranged from 1,097 to 1,205 gpm through sprinkler system on Apr. 5, 1948. |

Table 1.-- Records of wells in the Linn-Fayetteville area, Hidalgo County.--Continued

| Well | Distance from Linn | Owner            | Driller        | Date completed | Depth of well (ft.) | Diameter of well (in.) | Depth to which well is cased (ft.) | Water level                               |                     | Method of lift | Use of water | Acres irrigated, 1948 (reported) | Remarks   |
|------|--------------------|------------------|----------------|----------------|---------------------|------------------------|------------------------------------|---|---------------------|----------------|--------------|----------------------------------|---|
|      |                    |                  |                |                |                     |                        |                                    | Above (+) or below (-) land surface (ft.) | Date of measurement |                |              |                                  |   |
| 787  | 3 miles south      | G. B. Miller     | --             | 1947           | 90?                 | 12                     | --                                 | -39.2                                     | Apr. 4, 1948        | None           | N            | --                               | Well never used.  |
| 788  | 3½ miles south     | do.              | --             | 1947           | 90?                 | 12                     | --                                 | -43.7                                     | Jan. 24, 1948       | T, G           | Irr          | 80                               | Irrigates tomatoes and cotton.  |
| 789  | 4 miles south      | W. H. Fowler     | A. G. Steele   | 1948           | 91                  | 7-3/8                  | --                                 | -52.9                                     | Apr. 17, 1948       | None           | N            | --                               | Well just completed.  |
| 790  | do.                | C. E. Villarreal | do.            | 1947           | 80                  | 5, 4                   | 80                                 | --  | --                  | C, W           | D, S         | --                               | See log.  |
| 791  | do.                | do.              | --             | 1946           | 91                  | 12                     | --                                 | -29                                       | Sept. 1946          | T, G           | Irr          | 33                               | Irrigates vegetables. Temp. 79°F.   |
| 792  | 5 miles south      | Arturo Garza     | A. G. Steele   | 1947           | 96                  | 12                     | 48                                 | -26.8                                     | Mar. 20, 1948       | T, G           | Irr          | 55                               | Irrigates vegetables. Temp. 80°F. See log.  |
| 793  | 4½ miles south     | -- Kale          | Royal Stephens | --             | 91                  | 12                     | 3                                  | -22.8                                     | Mar. 22, 1948       | None           | N            | --                               | Formerly used for irrigation. To be used again.   |
| 794  | 4 miles south      | Taylor & Latham  | --             | --             | 90                  | 12                     | --                                 | -36.4                                     | do.                 | T, G           | Irr          | 165                              | Measured yield ranged from 255 to 348 gpm through sprinkler system on Apr. 2, 1948. Irrigates vegetables. |
| 795  | 3½ miles south     | Frank Gross      | --             | 1945           | 90?                 | 12                     | --                                 | -27.2                                     | Mar. 19, 1948       | None           | N            | --                               | Well sanded up and pump was moved to well 753.  |
| 796  | do.                | G. B. Miller     | --             | 1947           | 90?                 | 12                     | --                                 | --  | --                  | T, G           | Irr          | --                               | Well never used.  |
| 797  | 3 miles south      | do.              | --             | 1947           | 90?                 | 12                     | --                                 | -32.8                                     | Apr. 4, 1948        | None           | N            | --                               | Abandoned after testing at 250 gpm. See log.  |
| 798  | do.                | J. P. Cruise     | A. G. Steele   | 1946           | 100                 | 12                     | --                                 | --  | --                  | --             | --           | --                               | Measured yield ranged from 560 to 728 gpm through sprinkler system on Apr. 17, 1948.                      |
| 799  | do.                | do.              | do.            | 1947           | 134                 | 12                     | 35                                 | -19.9                                     | Jan. 23, 1948       | T, G           | Irr          | --                               | Measured 79 feet open hole on Jan. 23, 1948. See log.   |
| 799a | 2½ miles south     | W. P. Cruise     | --             | 1948           | 90±                 | 12                     | --                                 | --  | --                  | T, G           | Irr          | --                               | Measured yield ranged from 560 to 728 gpm through sprinkler system on Apr. 17, 1948.                      |
| 800  | 2½ miles south     | J. P. Cruise     | --             | 1943           | 100                 | 12                     | 31                                 | -27.9                                     | Jan. 23, 1948       | T, G           | Irr          | --                               | Measured yield ranged from 560 to 728 gpm through sprinkler system on Apr. 17, 1948.                      |
| 801  | do.                | W. P. Cruise     | Royal Stephens | 1946           | 112                 | 12                     | 35                                 | -34.3                                     | Apr. 17, 1948       | None           | Irr          | --                               | Pump not installed when visited.  |

Table 1.- Records of wells in the Linn-Fayville area, Hidalgo County--Continued

| Well | Distance from Linn | Owner                 | Driller                | Date completed | Depth of well (ft.) | Diameter of well (in.) | Depth to which well is cased (ft.) | Water level                               |                                | Method of lift | Use of water | Acres irrigated, 1948 (reported) | Remarks  |
|------|--------------------|-----------------------|------------------------|----------------|---------------------|------------------------|------------------------------------|---|--------------------------------|----------------|--------------|----------------------------------|--|
|      |                    |                       |                        |                |                     |                        |                                    | Above (+) or below (-) land surface (ft.) | Date of measurement            |                |              |                                  |  |
| 802  | 2½ miles southwest | D. C. Pollock         | --                     | 1934           | 90?                 | 12                     | 30                                 | -33.4<br>-32.2                            | Jan. 23, 1948<br>Mar. 21, 1948 | T, G           | Irr          | 200                              | Well used some when first drilled, then was idle until 1948.   |
| 803  | do.                | -- Bradburn           | A. G. Steele           | 1946           | 90?                 | 12                     | --                                 | -28.9                                     | Apr. 15, 1948                  | T, G           | Irr          | ?                                | Well used in 1947; has not been used in 1948.  |
| 804  | 2½ miles southwest | Rio Grande Floral Co. | Royal Stephens         | 1946           | 76                  | 12                     | 13                                 | --  | --                             | T, G           | Irr          | 30                               | Estimated yield, 200 gpm on Jan. 23, 1948. Temp. 79½°F.  |
| 805  | do.                | Hale Schaleben        | do.                    | 1946           | 75                  | 12                     | --                                 | -29.8<br>-28.8                            | Jan. 23, 1948<br>Mar. 20, 1948 | T, G           | Irr          | 45                               | Water hauled to irrigate young citrus trees.   |
| 806  | 2½ miles southwest | A. W. Beaurline       | --                     | 1945           | 88                  | 14                     | 0                                  | -34.2<br>-34.5                            | Mar. 20, 1948<br>Apr. 15, 1948 | T, G           | Irr          | --                               |  |
| 807  | 3 miles south      | Southern Floral Co.   | Royal Stephens         | 1945           | 86                  | 12                     | 0                                  | --  | --                             | T, G           | Irr          | --                               | See remarks re well 745.   |
| 808  | do.                | George D. Young       | --                     | 1945?          | 900?                | 6                      | --                                 | --  | Apr. 4, 1948                   | Flows          | N            | --                               | Formerly used for irrigation.  |
| 809  | 3½ miles southwest | do.                   | Dick Dean              | 1945           | 1,400?              | 10                     | --                                 | --  | do.                            | Flows          | N            | --                               | Do.  |
| 810  | 3 miles southwest  | do.                   | Pioneer Water Well Co. | 1947           | 95                  | 12                     | 9                                  | -34.2                                     | do.                            | T, G           | N            | --                               | Reported yield 200 gpm.  |
| 811  | do.                | do.                   | Dick Dean              | 1945?          | 900?                | 6                      | --                                 | --  | do.                            | Flows          | N            | --                               | Formerly used for irrigation.  |
| 812  | do.                | do.                   | Pioneer Water Well Co. | 1947           | 95                  | 12                     | 9                                  | -43.9                                     | do.                            | T, G           | Irr          | 170                              | Irrigates vegetables and cotton.   |
| 813  | do.                | do.                   | --                     | 1945?          | 900?                | 6                      | --                                 | --  | do.                            | Flows          | N            | --                               | Formerly used for irrigation.  |
| 814  | 2½ miles southwest | do.                   | --                     | 1945?          | 900?                | 6                      | --                                 | --  | do.                            | Flows          | N            | --                               | Do.  |
| 815  | 3 miles southwest  | R. J. West            | Manuel Villarreal      | 1946           | 90                  | 10                     | 0                                  | -28                                       | Apr. 1946                      | T, G           | Irr          | 40                               | Measured yield ranged from 197 to 265 gpm through sprinkler system on Apr. 14, 1948. Irrigates young citrus trees and vegetables.                              |
| 816  | do.                | WILSON                | Royal Stephens         | 1947           | 85                  | 12                     | 3                                  | -34.2                                     | Apr. 17, 1948                  | None           | N            | --                               | Well never used.   |
| 817  | 3½ miles southwest | Mrs. -- Veynard       | A. G. Steele           | 1946           | 90                  | 14                     | 0                                  | --  | --                             | T, G           | Irr          | 40                               | Irrigates tomatoes and cotton. See log.  |
| 818  | do.                | Ivan A. White         | Royal Stephens         | 1945           | 93                  | 14                     | 6                                  | -36.0                                     | Mar. 23, 1948                  | T, G           | Irr          | 120                              | Drilled to replace well 574. Measured yield ranged from 500 to 568 gpm through sprinkler system on Apr. 17, 1948. Irrigates citrus, cotton, corn, and pasture. |

Table 1.- Records of wells in the Linn-Faysville area, Hidalgo County--Continued

| Well | Distance from Linn | Owner                    | Driller        | Date completed | Depth of well (ft.) | Diameter of well (in.) | Depth to which well is cased (ft.) | Water level                               |                     | Method of lift | Use of water | Acres irrigated, spring 1948 (reported) | Remarks   |
|------|--------------------|--------------------------|----------------|----------------|---------------------|------------------------|------------------------------------|---|---------------------|----------------|--------------|---|---|
|      |                    |                          |                |                |                     |                        |                                    | Above (+) or below (-) land surface (ft.) | Date of measurement |                |              |   |   |
| 819  | 3½ miles southwest | Ivan A. White            | -- Wells       | 1928           | 85                  | 8                      | 60                                 | --  | --                  | C, W           | D, S         | --                                      |   |
| 820  | do.                | do.                      | Royal Stephens | 1945           | 85                  | 12, 11                 | 62                                 | --  | --                  | J, E           | D, S         | --                                      |   |
| 822  | 3 miles southwest  | L. V. Harpel, Sr., & Son | --             | 1947           | 80?                 | 12                     | 0                                  | -30.3                                     | Mar. 23, 1948       | T, G           | Irr          | 92                                      | Irrigates young citrus trees, vegetables, and cotton.   |
| 823  | do.                | L. V. Harpel, Jr.        | --             | 1948           | 75                  | 6                      | 0                                  | -33.1                                     | do.                 | None           | N            | --                                      | Well just completed.  |
| 824  | 3½ miles southwest | G. T. Harpel             | A. G. Steele   | 1948           | 90                  | 12                     | 50                                 | -38.9                                     | Mar. 22, 1948       | T, G           | Irr          | 100                                     | Measured yield ranged from 325 to 355 gpm through sprinkler system on Apr. 16, 1948. Irrigates tomatoes. See log.   |
| 825  | do.                | L. V. Harpel, Sr.        | --             | 1947           | 90                  | 12                     | 0                                  | -32.2                                     | do.                 | T, G           | Irr          | 95                                      | Irrigates tomatoes.   |
| 826  | 4 miles southwest  | --                       | --             | --             | 90?                 | 12                     | --                                 | -39.6                                     | Mar. 23, 1948       | T, G           | Irr          | 80?                                     | Irrigates mixed vegetables.   |
| 827  | do.                | Reynaldo Vela            | --             | 1945           | 80                  | 12                     | 6                                  | -34.3                                     | Mar. 22, 1948       | T, G           | Irr          | 75                                      | Irrigates vegetables and cotton.  |
| 828  | 4½ miles southwest | do.                      | --             | --             | 90                  | 12                     | --                                 | -44.6                                     | do.                 | T, G           | Irr          | 100                                     | Do.   |
| 829  | 3 miles northwest  | W. L. Goldston           | --             | 1947           | 2,050?              | 13                     | --                                 | --  | Jan. 22, 1948       | Flows T, G     | Irr          | 200                                     | Casing perforated opposite sands below 1,400 feet. Other water sands at about 70 to 100, 200 to 250, and 500 feet. Measured yield ranged from 554 to 600 gpm through sprinkler system on Apr. 18-19, 1948. Irrigates tomatoes. Temp. 106°F. |
| 830  | 5½ miles north     | do.                      | --             | 1947           | 2,050?              | 13                     | --                                 | --  | do.                 | Flows T, G     | Irr          | 260                                     | Casing perforated opposite sands below 1,400 feet. Temp. 105°F.   |
| 831  | 5 miles northeast  | Juanismo Garcia Heirs    | Sun Oil Co.    | 1943           | 6,030               | --                     | --                                 | --  | --                  | --             | --           | --                                      | Oil test. Electric log available at Austin office.  |
| 832  | 7 miles south      | G. D. Guerra             | A. G. Steele   | 1946           | 92                  | 12                     | --                                 | --  | --                  | T, G           | Irr          | 40                                      | See log.  |

Table 1.- Records of wells in the Linn-Faysville area, Hidalgo County--Continued

| Well | Distance from Linn | Owner                  | Driller                       | Date completed | Depth of well (ft.) | Diameter of well (in.) | Depth to which well is cased (ft.) | Water level                               |                     | Method of lift | Use of water | Acres irrigated, spring 1948 (reported) | Remarks   |
|------|--------------------|------------------------|-------------------------------|----------------|---------------------|------------------------|------------------------------------|---|---------------------|----------------|--------------|---|---|
|      |                    |                        |                               |                |                     |                        |                                    | Above (+) or below (-) land surface (ft.) | Date of measurement |                |              |   |   |
| 833  | 6½ miles southwest | G. D. Guerra           | A. G. Steele                  | 1948           | 81                  | 12                     | --                                 | -40.4                                     | Apr. 4, 1948        | None           | N            | --                                      | Well never used.  |
| 834  | 8 miles southwest  | R. G. Floyd            | --                            | 1940           | 60                  | 48                     | 5                                  | -34.3                                     | Mar. 22, 1948       | None           | N            | --                                      | This well and wells 835 and 836 formerly irrigated 6 acres. Well to be dug deeper.  |
| 835  | do.                | do.                    | --                            | 1940           | 97                  | 5                      | --                                 | -33.5                                     | do.                 | C,-            | N            | --                                      |   |
| 836  | do.                | do.                    | --                            | 1940           | 97                  | 5                      | --                                 | -34.3                                     | do.                 | C,-            | N            | --                                      |   |
| 837  | 7 miles south      | King Estate Well No. 1 | Baldrige-King-Nichols, et al. | 1944           | 7,516               | --                     | --                                 | --  | --                  | --             | --           | --                                      | Oil test. Electric log available at Austin office.  |
| 838  | 7½ miles south     | R. King Well No. 1     | Navarro Oil Co.               | 1944           | 7,210               | --                     | --                                 | --  | --                  | --             | --           | --                                      | Do.   |
| 839  | do.                | Pape & Allison         | --                            | 1946           | 1,464               | 12                     | --                                 | +16.3                                     | Mar. 20, 1948       | Flows T,G      | Irr          | 160                                     | Vegetables and cotton irrigated from this well and well 840.  |
| 840  | 8 miles south      | do.                    | --                            | 1946           | 1,105               | 8                      | --                                 | +19.3                                     | do.                 | Flows T,G      | Irr          | --                                      | Estimated flow, 200 gpm; measured pump yield ranged from 384 to 424 gpm through sprinkler system on Apr.1,1948. Temp. 94°F. |
| 841  | do.                | U. S. Army             | --                            | --             | 650?                | 8                      | --                                 | --  | Apr. 6, 1948        | Flows          | S            | --                                      | Estimated flow 5 gpm. At auxiliary airfield.  |
| 841a | 8½ miles southeast | -- Lee                 | --                            | 1948           | 1,000?              | 5                      | --                                 | --  | --                  | Flows          | Irr          | --                                      | Estimated flow, 60 gpm on Dec.10, 1948.   |
| 842  | 10½ miles south    | J. G. Turner           | Gus Commier                   | 1946           | 1,345               | 9                      | 1,250                              | --  | Apr. 5, 1948        | Flows T,G      | Irr          | --                                      | Casing perforated opposite sands below 1,140 feet. Electric log available at Austin office. Temp. 97°F.                     |
| 843  | 10 miles south     | do.                    | do.                           | 1946           | 1,300               | 10                     | 1,290                              | --  | do.                 | Flows          | Irr          | --                                      | Casing perforated opposite sands below 1,095 feet. Electric log available at Austin office. Temp. 97°F.                     |

Table 1. Records of wells in the Linn-Fayetteville area, Hidalgo County--Continued

| Well | Distance from Linn | Owner             | Driller           | Date completed | Depth of well (ft.) | Diameter of well (in) | Depth to which well is cased (ft.) | Water level                               |                     | Method of lift | Use of water | Acres irrigated, spring 1948 (reported) | Remarks   |
|------|--------------------|-------------------|-------------------|----------------|---------------------|-----------------------|------------------------------------|---|---------------------|----------------|--------------|---|---|
|      |                    |                   |                   |                |                     |                       |                                    | Above (+) or below (-) land surface (ft.) | Date of measurement |                |              |   |   |
| 844  | 9 miles southwest  | J. F. Shary No. 1 | King-Wood Oil Co. | 1945           | 8,100               | --                    | --                                 | --  | --                  | --             | --           | --                                      | Oil test. Electric log available at Austin office.  |
| 846  | 9½ miles southwest | J. G. Turner      | Shary & Maddox    | 1939           | 7,506               | 10                    | 917                                | --  | Apr. 14, 1948       | Flows T, G     | Irr          | ?                                       | Converted oil test. Hole cleaned out to about 1,175 feet in 1948. Water hauled to irrigate young citrus trees. Electric log available at Austin office. |
| 847  | do.                | do.               | do.               | 1939           | 400                 | 4                     | --                                 | -78.7                                     | Apr. 17, 1948       | None           | N            | --                                      | Drilled to furnish water for oil test, then used for stock well until recently, 279 foot open hole.   |

a/ Reported by owner or driller.



Table 2.- Irrigation from wells by the sprinkler method in the Linn-Faysville area, Hidalgo County, Texas,  
April 1-19, 1948

| Well | Depth of well (ft.) | Test-run number | Average rate of pumping (gpm) | Length of test (minutes) | Total amount pumped (gallons) | Size of strip watered (ft.) | Depth of water applied (in.) | Crop watered                                 |
|------|---------------------|-----------------|-------------------------------|--------------------------|-------------------------------|-----------------------------|------------------------------|--|
| 747  | 85                  | 1               | 190                           | 40                       | 7,600                         | 32 x 510                    | 0.74                         | Cotton.                                      |
|      |                     | 2               | 185                           | 52                       | 9,620                         | 25 x 510                    | 1.22                         |  |
|      |                     | 3               | 215                           | 55                       | 6,000                         | 32 x 510                    | 1.16                         |  |
|      |                     | 4               | 205                           | 50                       | 11,825                        | 25 x 510                    | 1.29                         |  |
|      |                     | 5               | 205                           | 45                       | 9,225                         | 32 x 510                    | 0.92                         |  |
|      |                     | 6               | 230                           | 40                       | 9,200                         | 25 x 510                    | 1.16                         |  |
| 750  | 80                  | 1               | 200                           | 50                       | 10,000                        | 30 x 430                    | 1.24                         | Cotton and melons.                           |
|      |                     | 2               | 207                           | 55                       | 11,400                        | 30 x 430                    | 1.41                         |  |
|      |                     | 3               | 200                           | 30                       | 6,000                         | 30 x 430                    | 0.75                         |  |
| 753  | 88                  | 1               | 672                           | 45                       | 32,000                        | 30 x 880                    | 1.95                         | Tomatoes, corn, and Sudan grass.             |
|      |                     | 2               | 636                           | 47                       | 29,000                        | 30 x 880                    | 1.77                         |  |
| 755  | 90                  | 1               | 240                           | 18                       | 4,300                         | 30 x 380                    | .61                          | Tomatoes, corn and melons.                   |
|      |                     | 2               | 200                           | 25                       | 5,000                         | 30 x 260                    | 1.03                         |  |
|      |                     | 3               | 208                           | 12                       | 2,500                         | 30 x 380                    | 0.35                         |  |
|      |                     | 4               | 216                           | 18                       | 3,890                         | 30 x 260                    | 0.80                         |  |
|      |                     | 5               | 144                           | 20                       | 2,880                         | 30 x 380                    | 0.41                         |  |
|      |                     | 6               | 144                           | 25                       | 3,600                         | 30 x 260                    | 0.74                         |  |
| 764  | 90                  | 1               | 155                           | 55                       | 8,520                         | 20 x 400                    | 0.70                         | Potatoes between rows of young peach trees.  |
|      |                     | 2               | 160                           | 65                       | 10,400                        | 20 x 400                    | 2.07                         |  |
| 765  | 89                  | 1               | 326                           | 60                       | 19,560                        | 30 x 660                    | 1.58                         | Beans between rows of young peach trees.     |
|      |                     | 2               | 307                           | 60                       | 18,420                        | 30 x 660                    | 1.49                         |  |
| 766  | 80                  | 1               | 287                           | 60                       | 17,220                        | 20 x 620                    | 2.24                         | Corn between rows of young citrus trees.     |
|      |                     | 2               | 268                           | 57                       | 15,270                        | 20 x 580                    | 2.12                         |  |
| 767  | 86                  | 1               | 290                           | 50                       | 14,500                        | 20 x 600                    | 1.94                         | Do.  |
|      |                     | 2               | 290                           | 58                       | 16,800                        | 20 x 600                    | 2.25                         |  |
|      |                     | 3               | 297                           | 55                       | 16,330                        | 20 x 600                    | 2.19                         |  |
| 773  | 85                  | 1               | 215                           | 45                       | 9,670                         | 30 x 440                    | 1.48                         | Tomatoes between rows of young citrus trees. |
|      |                     | 2               | 183                           | 30                       | 5,490                         | 30 x 360                    | 0.82                         |  |
|      |                     | 3               | 215                           | 40                       | 8,600                         | 30 x 440                    | 1.05                         |  |
|      |                     | 4               | 180                           | 33                       | 5,940                         | 30 x 360                    | 0.88                         |  |
|      |                     | 5               | 215                           | 40                       | 8,600                         | 30 x 440                    | 1.05                         |  |
| 784  | 1,224*              | 1               | 783                           | 90                       | 70,470                        | 48 x 1,860                  | 1.26                         | Transplanted tomatoes.                       |
| 786  | 1,046*              | 1               | 1,162                         | 60                       | 69,700                        | 60 x 940                    | 1.98                         | Citrus trees.                                |
|      |                     | 2               | 1,152                         | 60                       | 69,100                        | 60 x 880                    | 2.09                         |  |
|      |                     | 3               | 1,127                         | 63                       | 71,000                        | 60 x 940                    | 2.03                         |  |
|      |                     | 4               | 1,139                         | 70                       | 79,700                        | 60 x 880                    | 2.43                         |  |
| 794  | 90                  | 1               | 345                           | 30                       | 10,350                        | 30 x 740                    | 0.76                         | Corn and peas.                               |
|      |                     | 2               | 288                           | 30                       | 8,640                         | 30 x 540                    | 0.86                         |  |
|      |                     | 3               | 258                           | 25                       | 6,450                         | 30 x 740                    | 0.47                         |  |
|      |                     | 4               | 345                           | 20                       | 6,900                         | 30 x 540                    | 0.69                         |  |
|      |                     | 5               | 285                           | 50                       | 14,250                        | 30 x 740                    | 1.05                         |  |
|      |                     | 6               | 255                           | 25                       | 6,380                         | 30 x 540                    | 0.64                         |  |
|      |                     | 7               | 278                           | 20                       | 5,560                         | 30 x 740                    | 0.41                         |  |
|      |                     | 8               | 285                           | 35                       | 9,980                         | 30 x 540                    | 1.00                         |  |
| 800  | 100                 | 1               | 600                           | 45                       | 27,000                        | 30 x 840                    | 1.72                         | Tomatoes between rows of young citrus trees. |
|      |                     | 2               | 580                           | 45                       | 26,100                        | 30 x 840                    | 1.66                         |  |
|      |                     | 3               | 564                           | 45                       | 25,380                        | 30 x 840                    | 1.62                         |  |
|      |                     | 4               | 592                           | 45                       | 26,640                        | 30 x 840                    | 1.70                         |  |
|      |                     | 5               | 568                           | 45                       | 25,560                        | 30 x 840                    | 1.63                         |  |
|      |                     | 6               | 580                           | 70                       | 40,600                        | 30 x 840                    | 2.59                         |  |
|      |                     | 7               | 712                           | 45                       | 32,040                        | 30 x 840                    | 2.04                         |  |
| 815  | 90                  | 1               | 245                           | 60                       | 14,700                        | 20 x 440                    | 2.67                         | Cotton.                                      |
|      |                     | 2               | 197                           | 45                       | 8,860                         | 20 x 440                    | 1.61                         |  |

Table 2.- Irrigation from wells by the sprinkler method in the Linn-Faysville area, Hidalgo County,  
April 1-19, 1948--Continued

| Well | Depth of well (ft.) | Test-run number | Average rate of pumping (gpm) | Length of test (minutes) | Total amount pumped (gallons) | Size of strip watered (ft.) | Depth of water applied (in.) | Crop watered  |
|------|---------------------|-----------------|-------------------------------|--------------------------|-------------------------------|-----------------------------|------------------------------|---|
| 818  | 93                  | 1               | 552                           | 40                       | 22,100                        | 20 x 700                    | 2.53                         | Sand "love" grass.                                  |
|      |                     | 2               | 560                           | 35                       | 19,600                        | 20 x 700                    | 2.24                         |   |
|      |                     | 3               | 544                           | 45                       | 24,500                        | 20 x 700                    | 2.80                         |   |
|      |                     | 4               | 504                           | 45                       | 22,700                        | 20 x 700                    | 2.59                         |   |
|      |                     | 5               | 548                           | 45                       | 24,700                        | 20 x 700                    | 2.82                         |   |
|      |                     | 6               | 548                           | 45                       | 24,700                        | 20 x 700                    | 2.82                         |   |
|      |                     | 7               | 548                           | 45                       | 24,700                        | 20 x 700                    | 2.82                         |   |
| 824  | 90                  | 1               | 335                           | 40                       | 13,400                        | 20 x 550                    | 1.95                         | Tomatoes.   |
|      |                     | 2               | 337                           | 35                       | 11,800                        | 20 x 550                    | 1.72                         |   |
|      |                     | 3               | 337                           | 35                       | 11,800                        | 20 x 550                    | 1.72                         |   |
|      |                     | 4               | 335                           | 35                       | 11,720                        | 20 x 550                    | 1.70                         |   |
|      |                     | 5               | 330                           | 30                       | 9,900                         | 20 x 550                    | 1.44                         |   |
| 829  | 2,050*              | 1               | 600                           | 65                       | 39,000                        | 32 x 720                    | 2.73                         | Corn and melons between rows of young citrus trees. |
|      |                     | 2               | 558                           | 53                       | 29,570                        | 32 x 720                    | 2.07                         |   |
|      |                     | 3               | 558                           | 87                       | 48,550                        | 32 x 720                    | 3.40                         |   |
|      |                     | 4               | 582                           | 75                       | 43,650                        | 32 x 720                    | 3.06                         |   |
|      |                     | 5               | 576                           | 60                       | 34,560                        | 32 x 720                    | 2.40                         |   |
|      |                     | 6               | 582                           | 55                       | 32,000                        | 32 x 720                    | 2.22                         |   |
|      |                     | 7               | 588                           | 95                       | 55,860                        | 32 x 720                    | 3.88                         |   |
|      |                     | 8               | 588                           | 52                       | 30,580                        | 32 x 720                    | 2.13                         |   |
|      |                     | 9               | 588                           | 100                      | 58,800                        | 32 x 720                    | 4.09                         |   |
|      |                     | 10              | 594                           | 50                       | 29,700                        | 32 x 720                    | 2.07                         |   |
|      |                     | 11              | 564                           | 55                       | 31,000                        | 32 x 720                    | 2.16                         |   |
| 840  | 1,105               | 1               | 388                           | 30                       | 11,640                        | 40 x 300                    | 1.56                         | Cantaloupes.  |
|      |                     | 2               | 420                           | 30                       | 12,600                        | 40 x 300                    | 1.69                         |   |
|      |                     | 3               | 420                           | 25                       | 10,500                        | 40 x 300                    | 1.41                         |   |

\* Position of screens, in feet below land surface;

Well 784, from 907 to 1,224;

Well 786, from 1,006 to 1,046;

Well 829, from 1,400 to 2,050.

Table 3.- Acreage under irrigation from wells in the Linn-Faysville area, Hidalgo County, Texas, in the spring of 1948

| Wells used | Owner                 | Depth of well (feet) | Acres under irrigation 1948 | Crops irrigated  | Usual number of times watered to make crop                            |
|------------|-----------------------|----------------------|-----------------------------|--|---|
| 575        | A. W. Beaurline       | 78                   | 79                          | Citrus trees   | -   |
| 806        |                       | 88                   |                             |  |   |
| 576        | A. K. Polis           | 78                   |                             | Citrus trees (mostly young)                                      | -   |
| 737-8      |                       | 85                   | 900                         | and vegetables   |   |
| 742        |                       | 80                   |                             |  |   |
| 744        |                       | 80                   |                             |  |   |
| 775        |                       | 80                   |                             |  |   |
| 577        | Southern Floral Co.   | 88                   | 100                         | 50 acres of flowers  | 50 acres - 52 times   |
| 776        |                       | 87                   |                             | 50 acres field crops   | 50 acres - 12 times   |
| 735        | Jesse Gaston          | 95                   | 8                           | Ferns  | 52  |
| 736        | Neal Tennis           | 85                   | 100?                        | 15 acres of citrus, rest vegetables                              | -   |
| 739        | H. L. McBride         | 1,710                | 100?                        | -  | -   |
| 745        | Southern Floral Co.   | 76                   | 120                         | 30 acres flowers   | 30 acres - 52 times   |
| 807        |                       | 86                   |                             | 90 acres field crops   | 90 acres - 12 times   |
| 747        | F. W. Boreman         | 85                   | 50                          | 10 acres tomatoes, 40 acres cotton                               | 10 acres - 4-5 times<br>40 acres - 2 times                            |
| 748        | Rio Grande Floral Co. | 78                   | 12                          | Ferns  | 26 times  |
| 749        | J. P. Cruise          | 1,404                | 200                         | Young citrus trees with tomatoes and cotton between              | 3 times   |
| 799        |                       | 134                  |                             |  |   |
| 800        |                       | 100                  |                             |  |   |
| 750        | Juan Medina           | 80                   | 56                          | 12 acres tomatoes, 44 acres cotton and melons                    | 12 acres - 4-5 times<br>44 acres - 2 times                            |
| 751        | O. J. Blaue           | 80                   | 60                          | 54 acres of young citrus trees with field crops, 6 acres pasture | 6-7 times   |
| 752        | Reynaldo Vela         | 92                   | 100                         | Tomatoes, melons, cotton   | -   |
| 753        | Frank Gross           | 88                   | 240                         | 40 acres citrus trees, 200 acres mixed vegetables                | -   |
| 754        | Fred Mischler         | 90                   | 30                          | 10 acres citrus trees, 20 acres mixed vegetables                 | -   |
| 755        | W. H. Fowler          | 90                   | 85                          | 6 acres citrus trees, 79 acres mixed vegetables                  | -   |
| 757        | S. L. Turner          | 80                   | 83                          | Citrus and vegetables  | -   |
| 759        | L. A. Gannaway        | 1,430                | 300                         | 90 acres citrus trees, 210 acres mixed vegetables and cotton.    | 90 acres - 4 times<br>210 acres - 2-3 times                           |
| 761        | W. P. Hauser          | 87                   | 300?                        | Vegetables   | -   |
| 762        |                       | 87                   |                             |  |   |
| 763        |                       | 78                   |                             |  |   |
| 764        | -- Boler              | 90                   | 100                         | Peaches, cotton, and vegetables                                  | -   |
| 765        | W. R. Allen           | 89                   | 100                         | Peaches, flowers, melons, tomatoes, cotton, and hygera           | Flowers - 52 times<br>Tomatoes, beans - 3 times<br>Others - 1-2 times |

Table 3.- Acreage under irrigation from wells in the Linn-Faysville area, Hidalgo County, Texas, in the spring of 1948--Continued

| Wells used | Owner                       | Depth of well (feet) | Acres under irrigation 1948 | Crops irrigated  | Usual number of times watered to make crop                     |
|------------|-----------------------------|----------------------|-----------------------------|--|--|
| 766        | A. J. Ehlers                | 80                   | 125                         | Young citrus trees with vegetables between rows  | 3 times  |
| 767        |                             | 86                   |                             |  |  |
| 768        | A. W. Beaurline             | 85                   | 220?                        | Do.  | -  |
| 769        |                             | 1,503                |                             |  |  |
| 773        | H. H. Snyder                | 85                   | 100                         | Citrus trees and vegetables  |  |
| 778        | Joe W. Labow                | 90                   | 50?                         | Vegetables and field crops   | -  |
| 784        | Tom Brown                   | 1,224                | 300                         | Citrus trees, cotton, and vegetables   | -  |
| 785        | T. W. Lee                   | 980                  | 1,200?                      | Young citrus trees   | -  |
| 786        | Texas Produce Co.           | 1,046                | 255                         | 230 acres of citrus<br>25 acres of vegetables  | -  |
| 788        | G. B. Miller                | 90?                  | 80                          | Tomatoes and cotton  | -  |
| 791        | C. E. Villarreal            | 91                   | 33                          | Vegetables   | -  |
| 792        | Arturo Garza                | 96                   | 55                          | Do.  | -  |
| 794        | Taylor & Latham             | 90                   | 165                         | Do.  | 3 times  |
| 796        | G. B. Miller                | 90?                  | 120?                        | ?  | -  |
| 802        | D. C. Pollock               | 90?                  | 200                         | 100 acres citrus trees,<br>100 acres vegetables and cotton                                   | -  |
| 803        | do Bradburn                 | 90?                  | 100?                        | Citrus trees, vegetables,<br>and cotton  | -  |
| 804        | Rio Grande Floral Co.       | 76                   | 30                          | Flowers  | 14 times   |
| 805        | Hale Schaleben              | 75                   | 45                          | Citrus trees   | -  |
| 812        | George D. Young             | 95                   | 173                         | Vegetables and cotton  | -  |
| 815        | R. J. West                  | 90                   | 40                          | Citrus and vegetables  | 1-3 times  |
| 817        | Mrs. do Veynard             | 90                   | 40                          | 20 acres tomatoes,<br>20 acres cotton  | -  |
| 818        | Ivan A. White               | 93                   | 120                         | 16 acres citrus,<br>60 acres pasture,<br>44 acres cotton, corn                               | 16 acres - 6 times<br>60 acres - 3 times<br>44 acres - 2 times |
| 822        | L. V. Harpel, Sr.,<br>& Son | 80?                  | 92                          | Citrus, vegetables,<br>and corn  | -  |
| 824        | George T. Harpel            | 90                   | 100                         | Tomatoes   | -  |
| 825        | L. V. Harpel, Sr.           | 90                   | 95                          | Do.  | -  |
| 826        | do                          | 90?                  | 80?                         | Vegetables   | -  |
| 827        | Reynaldo Vela               | 80                   | 75                          | Vegetables and cotton  | -  |
| 828        | do.                         | 90                   | 100?                        | Do.  | -  |
| 829        | W. L. Goldston              | 2,050?               | 200                         | 100 acres young citrus trees,<br>with vegetables between rows,<br>100 acres crop and pasture | -  |
| 830        | do.                         | 2,050?               | 260                         | Pasture  | -  |
| 832        | G. D. Guerra                | 80                   | 40                          | Citrus and vegetables  | -  |
| 839        | Pape & Allison              | 1,464                | 160                         | Vegetables and cotton  | -  |
| 840        |                             | 1,105                |                             |  |  |
| 842        | J. G. Turner                | 1,345                | 100?                        | Cotton   | -  |
| 843        | do.                         | 1,300                | 10?                         | Citrus   | -  |
| 846        | do.                         | 1,175                | 20?                         | Do.  | -  |

Table 4.- Drillers' logs of wells in the Linn-Faysville area,  
Hidalgo County, Texas

|  | Thickness<br>(feet) | Depth<br>(feet) |                                | Thickness<br>(feet) | Depth<br>(feet) |
|--|---------------------|-----------------|--------------------------------|---------------------|-----------------|
| Well 130                                   |                     |                 |                                |                     |                 |
| Southern Pacific Railway Co., in Linn.     |                     |                 |                                |                     |                 |
| Surface sand .....                         | 3                   | 3               | Gumbo .....                    | 6                   | 528             |
| Caliche .....                              | 90                  | 93              | Sand .....                     | 6                   | 534             |
| Fine red sand .....                        | 12                  | 105             | Rock .....                     | 2                   | 536             |
| Gumbo .....                                | 11                  | 116             | Gumbo .....                    | 52                  | 588             |
| Sand .....                                 | 7                   | 123             | Sand .....                     | 8                   | 596             |
| Gumbo and shale .....                      | 46                  | 169             | Gumbo .....                    | 7                   | 603             |
| Caliche .....                              | 27                  | 196             | Hard sand-soft rock .....      | 7                   | 610             |
| Shale .....                                | 16                  | 212             | Gumbo .....                    | 7                   | 617             |
| Tough gumbo .....                          | 98                  | 310             | Sand and shale .....           | 23                  | 640             |
| Sand .....                                 | 20                  | 330             | Gumbo .....                    | 52                  | 692             |
| Gumbo .....                                | 72                  | 402             | Shale and sand .....           | 38                  | 730             |
| Sand .....                                 | 99                  | 501             | Sand .....                     | 14                  | 744             |
| Gumbo .....                                | 6                   | 507             | Shale, sand, and gumbo .....   | 21                  | 765             |
| Sand .....                                 | 15                  | 522             |                                |                     |                 |
| Well 550                                   |                     |                 |                                |                     |                 |
| McAllen Ranch, 11 miles northwest of Linn. |                     |                 |                                |                     |                 |
| Surface .....                              | 12                  | 12              | Gray clay .....                | 6                   | 471             |
| Caliche .....                              | 28                  | 40              | Sand .....                     | 4                   | 475             |
| Rock and clay .....                        | 40                  | 80              | Blue clay .....                | 5                   | 480             |
| Red clay and rock .....                    | 45                  | 125             | Sand .....                     | 14                  | 494             |
| White clay and rock .....                  | 9                   | 134             | Blue clay .....                | 16                  | 510             |
| No record .....                            | 84                  | 218             | Gray clay and rock .....       | 34                  | 544             |
| Sand .....                                 | 22                  | 240             | Blue and white clay and rock.. | 21                  | 565             |
| Clay .....                                 | 4                   | 244             | Sand .....                     | 24                  | 589             |
| Sand .....                                 | 18                  | 262             | Clay .....                     | 3                   | 592             |
| Clay and rock .....                        | 68                  | 330             | Sand .....                     | 6                   | 598             |
| Sand .....                                 | 35                  | 365             | Clay .....                     | 7                   | 605             |
| Red and white clay .....                   | 7                   | 372             | Soft red and yellow clay ..... | 10                  | 615             |
| White clay and rock .....                  | 6                   | 378             | Hard-packed sand rock .....    | 15                  | 630             |
| Sand .....                                 | 59                  | 437             | Soft yellow clay .....         | 13                  | 643             |
| Red clay .....                             | 5                   | 442             | Sand .....                     | 41                  | 684             |
| Sand .....                                 | 23                  | 465             |                                |                     |                 |
| Well 551                                   |                     |                 |                                |                     |                 |
| McAllen Ranch, 12 miles northwest of Linn. |                     |                 |                                |                     |                 |
| Caliche .....                              | 50                  | 50              | Clay, sand, and streaks of     |                     |                 |
| Sand and caliche .....                     | 28                  | 78              | water sand .....               | 16                  | 246             |
| Clay and caliche .....                     | 152                 | 230             |                                |                     |                 |

Table 4.- Drillers' logs of wells in the Linn-Faysville area,  
Hidalgo County--Continued

|  | Thickness<br>(feet) | Depth<br>(feet) |   | Thickness<br>(feet) | Depth<br>(feet) |
|--|---------------------|-----------------|---|---------------------|-----------------|
| Well 554                               |                     |                 |   |                     |                 |
| Wood Christian, 12 miles west of Linn. |                     |                 |   |                     |                 |
| Caliche sand .....                     | 3                   | 3               | Clay .....                                | 28                  | 612             |
| Hard caliche .....                     | 52                  | 55              | Hard caliche .....                        | 6                   | 618             |
| Sandy caliche .....                    | 4                   | 59              | Clay .....                                | 10                  | 628             |
| Caliche .....                          | 18                  | 77              | Hard caliche .....                        | 2                   | 630             |
| Sandy clay .....                       | 7                   | 84              | Clay .....                                | 14                  | 644             |
| Caliche and hard shale streaks .....   | 53                  | 137             | Sand .....                                | 16                  | 660             |
| Shale .....                            | 32                  | 169             | Clay and shale streaks .....              | 8                   | 668             |
| Sticky clay .....                      | 16                  | 185             | Streaks of rock and sandy clay .....      | 6                   | 674             |
| Shale .....                            | 43                  | 228             | Hard sand .....                           | 4                   | 678             |
| Clay .....                             | 26                  | 254             | Tough red clay and shale<br>streaks ..... | 40                  | 718             |
| Sand .....                             | 1                   | 255             | Shale .....                               | 38                  | 756             |
| Clay .....                             | 45                  | 300             | Tough shale .....                         | 19                  | 775             |
| Rotten shale .....                     | 15                  | 315             | Clay and sand streaks .....               | 20                  | 795             |
| Sticky shale and clay .....            | 26                  | 341             | Sand, fine, tight .....                   | 9                   | 804             |
| Hard sandstone, water .....            | 9                   | 350             | Clay and sand streaks .....               | 9                   | 813             |
| Clay .....                             | 6                   | 356             | Rock .....                                | 1                   | 814             |
| Sand and clay streaks .....            | 7                   | 363             | Clay .....                                | 10                  | 824             |
| Sticky clay .....                      | 7                   | 370             | Rock .....                                | 1                   | 825             |
| Shale .....                            | 28                  | 398             | Clay and shale .....                      | 71                  | 896             |
| Sand and shale streaks .....           | 5                   | 403             | Rock .....                                | 1                   | 897             |
| Hard sandstone .....                   | 2                   | 405             | Shale .....                               | 1                   | 898             |
| Sticky clay .....                      | 3                   | 408             | Rock .....                                | 1                   | 899             |
| Gumbo .....                            | 18                  | 426             | Shale .....                               | 1                   | 900             |
| Fine-grained sand .....                | 8                   | 434             | Sand .....                                | 3                   | 903             |
| Sticky clay .....                      | 30                  | 464             | Rock .....                                | 1                   | 904             |
| Shale .....                            | 13                  | 477             | Sand .....                                | 2                   | 906             |
| Sand .....                             | 4                   | 481             | Clay .....                                | 3                   | 909             |
| Shale .....                            | 20                  | 501             | Rock .....                                | 1                   | 910             |
| Sandstone .....                        | 3                   | 504             | Sandy clay .....                          | 2                   | 912             |
| Sticky clay .....                      | 10                  | 514             | Sand rock .....                           | 4                   | 916             |
| Fine-grained sand .....                | 16                  | 530             | Sand .....                                | 12                  | 928             |
| Sand and clay streaks .....            | 10                  | 540             | Clay .....                                | 3                   | 931             |
| Sandstone and clay streaks .....       | 18                  | 558             | Sand .....                                | 8                   | 939             |
| Sandstone .....                        | 21                  | 579             | Clay .....                                | 8                   | 947             |
| Sandstone and clay streaks .....       | 5                   | 584             |   |                     |                 |

Table 4.- Drillers' logs of wells in the Linn-Faysville area,  
Hidalgo County--Continued

|  |     | Thickness<br>(feet) | Depth<br>(feet)               |    |       | Thickness<br>(feet) | Depth<br>(feet) |
|--|-----|---------------------|-------------------------------|----|-------|---------------------|-----------------|
| Well 555   |     |                     |                               |    |       |                     |                 |
| Richard King, 4½ miles north of Linn. Southwest of Guerra Store. |     |                     |                               |    |       |                     |                 |
| Sand soil .....  | 5   | 5                   | Clay and rocks .....          | 13 | 446   |                     |                 |
| Caliche .....  | 45  | 50                  | Sand and gravel .....         | 69 | 515   |                     |                 |
| Clay and rocks .....   | 60  | 110                 | Clay .....                    | 20 | 535   |                     |                 |
| Rocks .....  | 20  | 130                 | Sand .....                    | 40 | 575   |                     |                 |
| Soft clay and rocks .....  | 50  | 180                 | Clay, blue .....              | 5  | 580   |                     |                 |
| Sandy clay and sand rocks .....                                  | 40  | 220                 | Sand and gravel .....         | 60 | 640   |                     |                 |
| Soft pink and blue clay and rocks ....                           | 50  | 270                 | Clay .....                    | 6  | 646   |                     |                 |
| Red clay .....   | 12  | 282                 | Red sticky clay .....         | 38 | 684   |                     |                 |
| Sand .....   | 10  | 292                 | Sand .....                    | 34 | 718   |                     |                 |
| Soft clay .....  | 8   | 300                 | Blue sticky clay .....        | 12 | 730   |                     |                 |
| Red clay, sticky, some blue .....                                | 10  | 310                 | Sand .....                    | 14 | 744   |                     |                 |
| Soft clay and rocks with sand breaks .                           | 21  | 331                 | Clay, sticky .....            | 21 | 765   |                     |                 |
| Soft clay with rock .....  | 39  | 370                 | Sand .....                    | 15 | 780   |                     |                 |
| Brown and blue sticky clay .....                                 | 45  | 415                 |                               |    |       |                     |                 |
| Sand .....   | 18  | 433                 |                               |    |       |                     |                 |
| Well 556   |     |                     |                               |    |       |                     |                 |
| W. M. Doughty well 1, 5 miles north of Linn.                     |     |                     |                               |    |       |                     |                 |
| Surface .....  | 8   | 8                   | Hard sand .....               | 10 | 705   |                     |                 |
| Caliche and sand breaks .....                                    | 122 | 130                 | Sandy shale and lime .....    | 15 | 720   |                     |                 |
| Gravel .....   | 5   | 135                 | Sticky shale .....            | 20 | 740   |                     |                 |
| Clay and shale, hard sand streaks ....                           | 130 | 265                 | Sandy shale, blue .....       | 50 | 790   |                     |                 |
| Pink gumbo .....   | 35  | 300                 | Sticky shale, blue .....      | 10 | 800   |                     |                 |
| Sandy shale .....  | 7   | 307                 | Hard sand and lime .....      | 10 | 810   |                     |                 |
| Blue gumbo .....   | 28  | 335                 | Sticky shale, blue .....      | 5  | 815   |                     |                 |
| Sand .....   | 5   | 340                 | Sandy lime .....              | 7  | 822   |                     |                 |
| Sticky shale .....   | 15  | 355                 | Blue sandy shale .....        | 28 | 850   |                     |                 |
| Gumbo and gypsum .....   | 10  | 365                 | Hard sand, show of gas .....  | 5  | 855   |                     |                 |
| Sand .....   | 5   | 370                 | Sandy shale .....             | 30 | 885   |                     |                 |
| Brown shale .....  | 40  | 410                 | Hard shale .....              | 5  | 890   |                     |                 |
| Brown and sandy shale .....                                      | 45  | 455                 | Sticky shale .....            | 5  | 895   |                     |                 |
| Sticky shale .....   | 5   | 460                 | Gumbo, blue .....             | 10 | 905   |                     |                 |
| Brown sand .....   | 20  | 480                 | Hard sand .....               | 4  | 909   |                     |                 |
| Sandy shale .....  | 20  | 500                 | Blue sand .....               | 4  | 913   |                     |                 |
| Brown sand .....   | 10  | 510                 | Blue gumbo .....              | 36 | 949   |                     |                 |
| Sticky shale .....   | 15  | 525                 | Green sand, show of gas ..... | 5  | 954   |                     |                 |
| Brown sand .....   | 10  | 535                 | Green sandy shale .....       | 6  | 960   |                     |                 |
| Sandy shale, streaks of blue gumbo ....                          | 105 | 640                 | Sticky shale .....            | 20 | 980   |                     |                 |
| Sticky shale and gravel .....                                    | 25  | 665                 | Sticky shale, brown .....     | 44 | 1,024 |                     |                 |
| Pink gumbo .....   | 25  | 690                 | Hard brown sand .....         | 10 | 1,034 |                     |                 |
| Sticky blue shale .....  | 5   | 695                 | Sandy shale .....             | 4  | 1,038 |                     |                 |

(Continued on next page)

Table 4.- Drillers' logs of wells in the Linn-Faysville area,  
Hidalgo County--Continued

|                                      | Thickness<br>(feet) | Depth<br>(feet) |  | Thickness<br>(feet) | Depth<br>(feet) |
|--------------------------------------|---------------------|-----------------|--|---------------------|-----------------|
| Well 556--Continued                  |                     |                 |  |                     |                 |
| Brown sand .....                     | 17                  | 1,055           | Gumbo .....                                  | 6                   | 1,811           |
| Gumbo, blue .....                    | 3                   | 1,058           | Sand .....                                   | 7                   | 1,818           |
| Brown sandy shale .....              | 5                   | 1,063           | Sand and sandy shale .....                   | 6                   | 1,824           |
| Sandy shale .....                    | 7                   | 1,070           | Sandy shale .....                            | 11                  | 1,835           |
| Sticky shale and gumbo .....         | 65                  | 1,135           | Shale .....                                  | 15                  | 1,850           |
| Brown sand .....                     | 3                   | 1,138           | Gumbo .....                                  | 45                  | 1,895           |
| Sandy shale .....                    | 20                  | 1,158           | Broken shale .....                           | 22                  | 1,917           |
| Brown sandy shale .....              | 5                   | 1,163           | Sand blue .....                              | 5                   | 1,922           |
| Sticky shale .....                   | 22                  | 1,185           | Sand .....                                   | 8                   | 1,930           |
| Gumbo .....                          | 9                   | 1,194           | Shale .....                                  | 15                  | 1,945           |
| Blue and yellow sand .....           | 6                   | 1,200           | Gumbo .....                                  | 10                  | 1,955           |
| Blue sand and sulfur water .....     | 5                   | 1,205           | Shale and lime .....                         | 8                   | 1,963           |
| Sand .....                           | 3                   | 1,208           | Sticky shale .....                           | 33                  | 1,996           |
| Sticky shale .....                   | 26                  | 1,234           | Blue sand .....                              | 6                   | 2,002           |
| Sand .....                           | 2                   | 1,236           | Sand .....                                   | 11                  | 2,013           |
| Yellow sand .....                    | 5                   | 1,241           | Gumbo .....                                  | 13                  | 2,026           |
| Sand .....                           | 24                  | 1,265           | Blue sand .....                              | 5                   | 2,031           |
| Gumbo .....                          | 10                  | 1,275           | Sand .....                                   | 9                   | 2,040           |
| Shale .....                          | 20                  | 1,295           | Shale .....                                  | 15                  | 2,055           |
| Gumbo and sticky shale .....         | 44                  | 1,339           | Gumbo .....                                  | 5                   | 2,060           |
| Sand .....                           | 11                  | 1,350           | Brown sand .....                             | 5                   | 2,065           |
| Shale and gumbo .....                | 58                  | 1,408           | Sandy shale .....                            | 10                  | 2,075           |
| Sand .....                           | 12                  | 1,420           | Gumbo, sticky shale .....                    | 99                  | 2,174           |
| Sticky shale and gumbo .....         | 38                  | 1,458           | Sand, show of gas .....                      | 6                   | 2,180           |
| Yellow sand .....                    | 5                   | 1,463           | Sand and gravel .....                        | 5                   | 2,185           |
| Gumbo .....                          | 27                  | 1,490           | Shale .....                                  | 14                  | 2,199           |
| Hard sandy lime .....                | 14                  | 1,504           | Gumbo, sticky lime .....                     | 23                  | 2,222           |
| Hard sandy lime, show of gas .....   | 5                   | 1,509           | Blue sand .....                              | 4                   | 2,226           |
| Sticky shale and sandy shale .....   | 31                  | 1,540           | Gumbo, sticky shale .....                    | 29                  | 2,255           |
| Green sand .....                     | 15                  | 1,555           | Shale, broken sticky lime .....              | 20                  | 2,275           |
| Gumbo and sticky shale .....         | 47                  | 1,602           | Blue-gray sand, show of gas ...              | 9                   | 2,284           |
| Sand .....                           | 15                  | 1,617           | Sand .....                                   | 6                   | 2,290           |
| Sand with shale breaks .....         | 33                  | 1,650           | Gumbo breaks .....                           | 3                   | 2,293           |
| Gumbo .....                          | 7                   | 1,657           | Sand .....                                   | 4                   | 2,297           |
| Gray sand .....                      | 5                   | 1,662           | Gumbo .....                                  | 8                   | 2,305           |
| Sandy shale .....                    | 13                  | 1,675           | Gravel .....                                 | 5                   | 2,310           |
| Shale .....                          | 15                  | 1,690           | Shale sticky .....                           | 17                  | 2,327           |
| Gumbo and gypsum .....               | 25                  | 1,715           | Blue sand into blue shale .....              | 6                   | 2,333           |
| Brown and blue sand, show of gas ... | 5                   | 1,720           | Blue shale, streaks of gumbo ...             | 66                  | 2,399           |
| Sand .....                           | 20                  | 1,740           | Sandy blue shale .....                       | 5                   | 2,404           |
| Gumbo .....                          | 4                   | 1,744           | Sandy shale .....                            | 6                   | 2,410           |
| Sand, brown .....                    | 6                   | 1,750           | Gumbo .....                                  | 40                  | 2,450           |
| Sand and shale .....                 | 30                  | 1,780           | Shale with sticky streaks .....              | 44                  | 2,494           |
| Gravel .....                         | 10                  | 1,790           | Gumbo .....                                  | 26                  | 2,520           |
| Shale .....                          | 15                  | 1,805           | Shale, clay, streaks of sticky<br>lime ..... | 25                  | 2,545           |

(Continued on next page)



Table 4.- Drillers' logs of wells in the Linn-Faysville area,  
Hidalgo County--Continued

|   |    | Thickness<br>(feet) | Depth<br>(feet)  |    |       | Thickness<br>(feet) | Depth<br>(feet) |
|---|----|---------------------|--|----|-------|---------------------|-----------------|
| Well 556--Continued                               |    |                     |  |    |       |                     |                 |
| Sand into salt water, show of gas<br>in top ..... | 5  | 2,550               | Sand .....   | 5  | 2,755 |                     |                 |
| Sand, sandy shale .....                           | 20 | 2,570               | Hard shale, sticky lime .....                                  | 40 | 2,795 |                     |                 |
| Sticky shale .....                                | 20 | 2,590               | Sandy shale .....  | 5  | 2,800 |                     |                 |
| Sticky lime and gumbo .....                       | 21 | 2,611               | Bluish sand, show of gas .....                                 | 10 | 2,810 |                     |                 |
| Sand, show of gas and salt water .....            | 4  | 2,615               | Sand .....   | 2  | 2,812 |                     |                 |
| Sand .....  | 12 | 2,627               | Brown brittle shale .....                                      | 54 | 2,866 |                     |                 |
| Shale, broken lime .....                          | 47 | 2,674               | Sticky shale .....   | 6  | 2,872 |                     |                 |
| Sand, gas .....                                   | 4  | 2,678               | Hard shale, broken streaks of<br>lime .....                    | 15 | 2,887 |                     |                 |
| Sand, gas, salt water .....                       | 4  | 2,682               | Sand .....   | 11 | 2,898 |                     |                 |
| Sand .....  | 17 | 2,699               | Lime, shale, and sand .....                                    | 17 | 2,915 |                     |                 |
| Bluish-gray sand and gas .....                    | 3  | 2,702               | Bluish hard sand, gas .....                                    | 5  | 2,920 |                     |                 |
| Hard sand .....                                   | 5  | 2,707               | Conglomerate .....   | 9  | 2,929 |                     |                 |
| Sand .....  | 3  | 2,710               | Grayish-blue sand .....  | 10 | 2,939 |                     |                 |
| Shale and conglomerate .....                      | 30 | 2,740               | Sand .....   | 4  | 2,943 |                     |                 |
| Sticky lime .....                                 | 6  | 2,746               | Sticky lime and shale, streaks<br>of gumbo and conglomerate .. | 66 | 3,009 |                     |                 |
| Sand, bluish-gray .....                           | 4  | 2,750               |  |    |       |                     |                 |
| Well 557  |    |                     |  |    |       |                     |                 |
| D. Guerra and Sons. 6½ miles north of Linn.       |    |                     |  |    |       |                     |                 |
| Soil .....  | 10 | 10                  | Clay .....   | 6  | 489   |                     |                 |
| Caliche and clay .....                            | 30 | 40                  | Sand .....   | 35 | 524   |                     |                 |
| Sand, breaks of caliche .....                     | 10 | 50                  | Clay .....   | 11 | 535   |                     |                 |
| Clay and caliche .....                            | 20 | 70                  | Sand .....   | 32 | 567   |                     |                 |
| Sand, clay, and caliche .....                     | 30 | 100                 | Clay .....   | 3  | 570   |                     |                 |
| Soft red clay .....                               | 50 | 150                 | Sand and boulders .....  | 9  | 579   |                     |                 |
| Sand .....  | 50 | 200                 | White clay and rock .....                                      | 16 | 595   |                     |                 |
| Sand and rock .....                               | 30 | 230                 | Sand .....   | 25 | 620   |                     |                 |
| Sandy clay .....                                  | 15 | 245                 | Clay .....   | 4  | 624   |                     |                 |
| Pink clay .....                                   | 67 | 312                 | Sand .....   | 23 | 647   |                     |                 |
| Sand .....  | 18 | 330                 | Blue, white, and red clay ....                                 | 18 | 665   |                     |                 |
| Clay and rock .....                               | 20 | 350                 | Hard sand .....  | 32 | 697   |                     |                 |
| Red, brown, and blue clay .....                   | 44 | 394                 | Clay .....   | 4  | 701   |                     |                 |
| Sand .....  | 23 | 417                 | Sand .....   | 36 | 737   |                     |                 |
| Clay .....  | 5  | 422                 | Clay and boulders .....  | 5  | 742   |                     |                 |
| Hard sand .....                                   | 43 | 465                 | Sand and boulders .....  | 49 | 791   |                     |                 |
| Clay .....  | 6  | 471                 | Blue clay .....  | 21 | 812   |                     |                 |
| Sand .....  | 12 | 483                 | Hard sand .....  | 22 | 834   |                     |                 |

Table 4.- Drillers' logs of wells in the Linn-Faysville area,  
Hidalgo County--Continued

|   | Thickness<br>(feet) | Depth<br>(feet) |                                  | Thickness<br>(feet) | Depth<br>(feet) |
|---|---------------------|-----------------|----------------------------------|---------------------|-----------------|
| Well 570  |                     |                 |                                  |                     |                 |
| Schlumberger core hole, 11¼ miles west of Linn. |                     |                 |                                  |                     |                 |
| Sand .....                                      | 5                   | 5               | Sandy shale .....                | 23                  | 525             |
| Caliche .....                                   | 20                  | 25              | Sand with some shale breaks,     |                     |                 |
| Sand .....                                      | 10                  | 35              | water .....                      | 75                  | 600             |
| Sandy ash .....                                 | 10                  | 45              | Sandy shale (water 725-775) .... | 160                 | 760             |
| Sand .....                                      | 10                  | 55              | Sand .....                       | 50                  | 810             |
| Caliche .....                                   | 10                  | 65              | Sandy shale .....                | 25                  | 835             |
| Sand .....                                      | 10                  | 75              | Sandy shale and sand .....       | 10                  | 845             |
| Sandy shale .....                               | 30                  | 105             | Sand .....                       | 10                  | 855             |
| Shale .....                                     | 10                  | 115             | Sandy shale, water .....         | 20                  | 875             |
| Sand .....                                      | 20                  | 135             | Sand .....                       | 10                  | 885             |
| Sandy ash .....                                 | 10                  | 145             | Sand with hard breaks, water ... | 10                  | 895             |
| Shale .....                                     | 10                  | 155             | Hard shale, water .....          | 10                  | 905             |
| Sandy shale .....                               | 30                  | 185             | Sand water .....                 | 10                  | 915             |
| Shale .....                                     | 20                  | 205             | Hard sand, water .....           | 10                  | 925             |
| Sandy shale .....                               | 90                  | 295             | Sand, water .....                | 20                  | 945             |
| Sand .....                                      | 20                  | 315             | Shale, hard .....                | 70                  | 1,015           |
| Sandy shale .....                               | 30                  | 345             | Shale .....                      | 12                  | 1,027           |
| Sand .....                                      | 15                  | 360             | Sandy shale, water .....         | 8                   | 1,035           |
| Shale .....                                     | 13                  | 373             | Sand .....                       | 80                  | 1,115           |
| Sand .....                                      | 31                  | 404             | Sandy shale .....                | 42                  | 1,157           |
| Sandy shale .....                               | 91                  | 495             | Sand .....                       | 145                 | 1,302           |
| Shale .....                                     | 7                   | 502             |                                  |                     |                 |
| Well 571  |                     |                 |                                  |                     |                 |
| McAllen Ranch, 10 miles west of Linn.           |                     |                 |                                  |                     |                 |
| Soil .....                                      | 4                   | 4               | Hard sand .....                  | 32                  | 476             |
| Caliche rock .....                              | 88                  | 92              | Hard rocks .....                 | 20                  | 496             |
| Sand breaks, boulders .....                     | 13                  | 105             | Yellow clay .....                | 37                  | 533             |
| Clay and rock .....                             | 74                  | 179             | Hard rocks .....                 | 7                   | 540             |
| Red clay .....                                  | 28                  | 207             | Hard sand .....                  | 22                  | 562             |
| Sand .....                                      | 15                  | 222             | Yellow and blue clay .....       | 33                  | 595             |
| Red clay .....                                  | 78                  | 300             | Hard blue clay, and rocks .....  | 30                  | 625             |
| Red clay with hard rocks .....                  | 30                  | 330             | Sand .....                       | 18                  | 643             |
| Sand breaks .....                               | 20                  | 350             | Clay and rocks .....             | 52                  | 695             |
| Red clay and hard rocks .....                   | 18                  | 368             | Sand, hard .....                 | 18                  | 713             |
| Sand and boulders .....                         | 20                  | 388             | Soft clay, and rock .....        | 18                  | 731             |
| Blue clay and boulders .....                    | 56                  | 444             | Hard sand and boulders .....     | 25                  | 756             |

Table 4.- Drillers' logs of wells in the Linn-Faysville area,  
Hidalgo County--Continued

|  | Thickness<br>(feet) | Depth<br>(feet) |                                 | Thickness<br>(feet) | Depth<br>(feet) |
|--|---------------------|-----------------|---------------------------------|---------------------|-----------------|
| Well 572                                 |                     |                 |                                 |                     |                 |
| McAllen Ranch, 8½ miles west of Linn.    |                     |                 |                                 |                     |                 |
| Rock .....                               | 21                  | 21              | Hard sand, clay breaks .....    | 34                  | 466             |
| Caliche and rock .....                   | 69                  | 90              | Boulders .....                  | 5                   | 471             |
| Sand .....                               | 10                  | 100             | Clay and rocks .....            | 41                  | 512             |
| Rocks, broken .....                      | 60                  | 160             | Hard sand .....                 | 23                  | 535             |
| Soft sticky clay .....                   | 60                  | 220             | Yellow clay .....               | 65                  | 600             |
| Sand and boulders .....                  | 10                  | 230             | Sand .....                      | 35                  | 635             |
| Hard rock and red clay .....             | 10                  | 240             | Blue and white clay and rocks . | 14                  | 649             |
| Sand .....                               | 28                  | 268             | Hard sand and boulders .....    | 8                   | 657             |
| Red clay .....                           | 12                  | 280             | Blue clay and boulders .....    | 35                  | 692             |
| White clay and rock .....                | 60                  | 340             | Hard sand .....                 | 11                  | 703             |
| Pink clay .....                          | 11                  | 351             | Yellow clay .....               | 22                  | 725             |
| Sand .....                               | 8                   | 359             | Blue clay and rocks .....       | 41                  | 766             |
| Yellow and blue clay .....               | 20                  | 379             | Hard sand .....                 | 34                  | 800             |
| Sand .....                               | 27                  | 406             |                                 |                     |                 |
| Soft blue clay and boulders .....        | 26                  | 432             |                                 |                     |                 |
| Well 578, partial log                    |                     |                 |                                 |                     |                 |
| W. M. Doughty, ½ mile southeast of Linn. |                     |                 |                                 |                     |                 |
| Surface clay .....                       | 155                 | 155             | Sandy shale .....               | 60                  | 1,510           |
| Sand, streaks of clay .....              | 295                 | 450             | Sticky shale .....              | 30                  | 1,540           |
| Sandy shale .....                        | 275                 | 725             | Sandy shale .....               | 174                 | 1,714           |
| Shale with hard streaks .....            | 98                  | 823             | Hard shale .....                | 65                  | 1,779           |
| Sandy shale and sand .....               | 92                  | 915             | Sandy shale .....               | 2                   | 1,781           |
| Shale .....                              | 168                 | 1,083           | Sticky shale .....              | 52                  | 1,833           |
| Hard sand .....                          | 37                  | 1,120           | Tough sticky shale .....        | 47                  | 1,880           |
| Sticky shale .....                       | 69                  | 1,189           | Sand .....                      | 40                  | 1,920           |
| Shale .....                              | 55                  | 1,244           | Hard sticky shale .....         | 32                  | 1,952           |
| Shaly lime .....                         | 8                   | 1,252           | Brittle shale .....             | 8                   | 1,960           |
| Sandy shale .....                        | 24                  | 1,276           | Sticky shale .....              | 14                  | 1,974           |
| Sticky shale .....                       | 50                  | 1,326           | Sand, salt water .....          | 52                  | 2,026           |
| Hard sand and shale .....                | 6                   | 1,332           | Total depth .....               |                     | 6,012           |
| Shale .....                              | 118                 | 1,450           |                                 |                     |                 |

Table 4.- Drillers' logs of wells in the Linn-Faysville area,  
Hidalgo County--Continued

|  | Thickness<br>(feet) | Depth<br>(feet) |                                | Thickness<br>(feet) | Depth<br>(feet) |
|--|---------------------|-----------------|--------------------------------|---------------------|-----------------|
| Well 579                               |                     |                 |                                |                     |                 |
| M. Chapa, 1¼ miles east of Linn.       |                     |                 |                                |                     |                 |
| Surface .....                          | 7                   | 7               | Red clay .....                 | 93                  | 199             |
| No record .....                        | 11                  | 18              | Sand .....                     | 20                  | 219             |
| Rock .....                             | 32                  | 50              | White clay and rock .....      | 152                 | 371             |
| Clay .....                             | 15                  | 65              | Red and yellow clay .....      | 59                  | 430             |
| Sand .....                             | 41                  | 106             | Sand .....                     | 41                  | 471             |
| Well 581                               |                     |                 |                                |                     |                 |
| Juanlina Garza, 3½ miles east of Linn. |                     |                 |                                |                     |                 |
| Surface .....                          | 5                   | 5               | Firm sand and clay .....       | 65                  | 312             |
| Sandy clay .....                       | 10                  | 15              | Hard sand and caliche .....    | 28                  | 340             |
| Clay, hard .....                       | 5                   | 20              | Clay .....                     | 95                  | 435             |
| Sandy clay .....                       | 15                  | 35              | Clay with 2 feet fine sand ... | 27                  | 462             |
| Caliche and sandy clay .....           | 5                   | 40              | Blue shale .....               | 23                  | 485             |
| Caliche and clay .....                 | 40                  | 80              | Sand .....                     | 16                  | 501             |
| Clay .....                             | 54                  | 134             | Red and blue clay .....        | 51                  | 552             |
| Sand .....                             | 22                  | 156             | Sand .....                     | 3                   | 555             |
| Sandy clay .....                       | 15                  | 171             | Red clay .....                 | 20                  | 575             |
| Clay .....                             | 30                  | 201             | Red clay, sand breaks .....    | 66                  | 641             |
| Hard caliche, sandy clay .....         | 14                  | 215             | Sand .....                     | 9                   | 650             |
| Sandy caliche, and clay .....          | 16                  | 231             | Clay and sand streaks .....    | 20                  | 670             |
| Sand and caliche .....                 | 16                  | 247             | Sand, water .....              | 35                  | 705             |
| Well 582, partial log                  |                     |                 |                                |                     |                 |
| P. C. Zamora, 4 miles east of Linn.    |                     |                 |                                |                     |                 |
| Surface .....                          | 6                   | 6               | Soft-packed white clay .....   | 70                  | 380             |
| Soft-packed brown clay .....           | 16                  | 22              | Yellow clay .....              | 34                  | 414             |
| Gypsum and clay .....                  | 38                  | 60              | Gray sand .....                | 26                  | 440             |
| Caliche .....                          | 53                  | 113             | Yellow clay .....              | 28                  | 468             |
| Sticky red clay .....                  | 37                  | 150             | Sand .....                     | 10                  | 478             |
| Sand .....                             | 10                  | 160             | No record .....                | 9                   | 487             |
| Light-red clay .....                   | 47                  | 207             | Sand .....                     | 88                  | 575             |
| Sandy red clay .....                   | 73                  | 280             | Total depth .....              |                     | 631             |
| Fine-grained sand .....                | 30                  | 310             |                                |                     |                 |

Table 4.- Drillers' logs of wells in the Linn-Faysville area,  
Hidalgo County--Continued

|  | Thickness<br>(feet) | Depth<br>(feet) |  | Thickness<br>(feet) | Depth<br>(feet) |
|--|---------------------|-----------------|--|---------------------|-----------------|
| Well 583                               |                     |                 |  |                     |                 |
| Richard King, 3 miles east of Linn.    |                     |                 |  |                     |                 |
| Sand .....                             | 10                  | 10              | Clay and rock .....                        | 31                  | 481             |
| Clay .....                             | 6                   | 16              | Sand .....                                 | 19                  | 500             |
| Caliche, clay, and sand .....          | 54                  | 70              | Clay .....                                 | 8                   | 508             |
| Rock and sand .....                    | 20                  | 90              | Sand .....                                 | 16                  | 524             |
| Red clay, sand breaks .....            | 20                  | 110             | Clay .....                                 | 5                   | 529             |
| Red clay .....                         | 60                  | 170             | Sand .....                                 | 5                   | 534             |
| Sand breaks .....                      | 20                  | 190             | Clay .....                                 | 6                   | 540             |
| Sandy clay and rock .....              | 100                 | 290             | Sand .....                                 | 29                  | 569             |
| Sand breaks and boulders .....         | 15                  | 305             | Clay .....                                 | 5                   | 574             |
| Clay and rock .....                    | 25                  | 330             | Hard sand .....                            | 10                  | 584             |
| Pink and white clay .....              | 70                  | 400             | Clay .....                                 | 18                  | 602             |
| Red clay .....                         | 30                  | 430             | Sand .....                                 | 23                  | 625             |
| Sand .....                             | 20                  | 450             |  |                     |                 |
| Well 584                               |                     |                 |  |                     |                 |
| Geo. H. Coates, 5½ miles east of Linn. |                     |                 |  |                     |                 |
| Surface .....                          | 20                  | 20              | Sand and shale streaks .....               | 55                  | 566             |
| Soft clay .....                        | 49                  | 69              | Hard sand and sticky clay<br>streaks ..... | 20                  | 586             |
| Caliche, hard and soft .....           | 23                  | 92              | Sticky clay and hard clay .....            | 18                  | 604             |
| Clay, hard streaks .....               | 45                  | 137             | Yellow and brown shale .....               | 16                  | 620             |
| Soft clay .....                        | 5                   | 142             | Sticky clay .....                          | 61                  | 681             |
| Hard sticky clay .....                 | 10                  | 152             | Shale and sticky clay .....                | 10                  | 691             |
| Soft clay .....                        | 45                  | 197             | Sand and sandy clay streaks ....           | 6                   | 697             |
| Clay and sand streaks .....            | 5                   | 202             | Sticky clay .....                          | 4                   | 701             |
| Sand with hard streaks .....           | 12                  | 214             | Sand .....                                 | 7                   | 708             |
| Sticky clay .....                      | 6                   | 220             | Hard sandstone .....                       | 12                  | 720             |
| Sandy clay .....                       | 80                  | 300             | Sticky clay .....                          | 5                   | 725             |
| Sand and caliche .....                 | 39                  | 339             | Sand .....                                 | 33                  | 758             |
| Sandy clay .....                       | 20                  | 359             | Clay .....                                 | 5                   | 763             |
| Clay and hard streaks .....            | 18                  | 377             | Sandstone .....                            | 10                  | 773             |
| Clay .....                             | 66                  | 443             | Sticky clay .....                          | 1                   | 774             |
| Sandy clay .....                       | 21                  | 464             | Sandstone .....                            | 8                   | 782             |
| Clay, hard sand streaks .....          | 12                  | 476             |  |                     |                 |
| Sandy clay and hard streaks .....      | 14                  | 490             |  |                     |                 |
| Clay and hard sand streaks .....       | 21                  | 511             |  |                     |                 |

Table 4.- Drillers' logs of wells in the Linn-Faysville area,  
Hidalgo County--Continued

|  | Thickness<br>(feet) | Depth<br>(feet) |                                | Thickness<br>(feet) | Depth<br>(feet) |
|--|---------------------|-----------------|--------------------------------|---------------------|-----------------|
| Well 585                                   |                     |                 |                                |                     |                 |
| -- Corbit, 7 miles east of Linn.           |                     |                 |                                |                     |                 |
| Clay .....                                 | 12                  | 12              | Fine-grained sand .....        | 15                  | 495             |
| Clay and caliche .....                     | 8                   | 20              | Blue clay .....                | 34                  | 529             |
| Sand, clay .....                           | 20                  | 40              | Sand .....                     | 16                  | 545             |
| Clay .....                                 | 10                  | 50              | Clay .....                     | 37                  | 582             |
| Sand streaks .....                         | 10                  | 60              | Sand .....                     | 42                  | 624             |
| Clay .....                                 | 185                 | 245             | Rock .....                     | 1                   | 625             |
| Sand .....                                 | 21                  | 266             | Red clay and rock .....        | 45                  | 670             |
| Clay, and sand breaks .....                | 124                 | 390             | Sand .....                     | 25                  | 695             |
| Clay .....                                 | 70                  | 460             | Red clay .....                 | 33                  | 728             |
| Clay and rocks .....                       | 20                  | 480             | Sand .....                     | 34                  | 762             |
| Well 598                                   |                     |                 |                                |                     |                 |
| Hammond Bros., 12 miles southwest of Linn. |                     |                 |                                |                     |                 |
| Surface .....                              | 10                  | 10              | Sandy clay and sand streaks .. | 13                  | 442             |
| Caliche .....                              | 31                  | 41              | Sticky clay, sandy clay        |                     |                 |
| Caliche and hard clay .....                | 33                  | 74              | streaks .....                  | 13                  | 455             |
| Clay .....                                 | 25                  | 99              | Rock .....                     | 1                   | 456             |
| Clay and caliche .....                     | 11                  | 110             | Clay .....                     | 3                   | 459             |
| Sandy shale .....                          | 64                  | 174             | Rock .....                     | 1                   | 460             |
| Hard clay .....                            | 31                  | 205             | Sticky clay .....              | 16                  | 476             |
| Sandy clay .....                           | 26                  | 231             | Sandy clay .....               | 9                   | 485             |
| Clay .....                                 | 8                   | 239             | Sand, shale streaks .....      | 8                   | 493             |
| Sticky clay .....                          | 5                   | 244             | Clay .....                     | 8                   | 501             |
| Soft clay, hard streaks .....              | 26                  | 270             | Rock .....                     | 1                   | 502             |
| Sand, shale streaks .....                  | 43                  | 313             | Clay .....                     | 2                   | 504             |
| Clay .....                                 | 17                  | 330             | Rock .....                     | 1                   | 505             |
| Sandy clay .....                           | 44                  | 374             | Clay .....                     | 10                  | 515             |
| Sticky clay .....                          | 22                  | 396             | Sandy clay, and shale .....    | 17                  | 532             |
| Sandy clay .....                           | 28                  | 424             | Sand, hard .....               | 32                  | 564             |
| Sticky clay .....                          | 5                   | 429             |                                |                     |                 |
| Well 599, partial log                      |                     |                 |                                |                     |                 |
| J. de la Vina, 13 miles southeast of Linn. |                     |                 |                                |                     |                 |
| Caliche and sand .....                     | 62                  | 62              | Shale and shells .....         | 407                 | 1,600           |
| Shale .....                                | 338                 | 400             | Sticky shale .....             | 130                 | 1,730           |
| Gravel .....                               | 20                  | 420             | Hard lime and gravel .....     | 10                  | 1,740           |
| Shale with sticky streaks .....            | 202                 | 622             | Sticky shale and shells .....  | 5                   | 1,745           |
| Shale and sand .....                       | 148                 | 770             | Shale .....                    | 257                 | 2,002           |
| Sticky shale .....                         | 423                 | 1,193           | Total depth .....              |                     | 8,123           |

Table 4.- Drillers' logs of wells in the Linn-Faysville area,  
Hidalgo County--Continued

|   |     | Thickness<br>(feet) | Depth<br>(feet)   |    |       | Thickness<br>(feet) | Depth<br>(feet) |
|---|-----|---------------------|---|----|-------|---------------------|-----------------|
| Well 734                                  |     |                     |   |    |       |                     |                 |
| Guerra Bros., 2½ miles northeast of Linn. |     |                     |   |    |       |                     |                 |
| Soil .....                                | 18  | 18                  | Sand .....  | 26 | 678   |                     |                 |
| Caliche .....                             | 52  | 70                  | Clay and rock .....   | 38 | 716   |                     |                 |
| Sand .....                                | 20  | 90                  | Clay and sand .....   | 14 | 730   |                     |                 |
| Clay .....                                | 90  | 180                 | Clay .....  | 10 | 740   |                     |                 |
| Sand .....                                | 20  | 200                 | Sand .....  | 20 | 760   |                     |                 |
| Clay and rock .....                       | 60  | 260                 | Clay .....  | 37 | 797   |                     |                 |
| Clay and sand .....                       | 48  | 308                 | Rock .....  | 3  | 800   |                     |                 |
| Clay .....                                | 107 | 415                 | Sand .....  | 30 | 830   |                     |                 |
| Sand .....                                | 61  | 476                 | Clay .....  | 35 | 865   |                     |                 |
| Clay .....                                | 18  | 494                 | Sand .....  | 45 | 910   |                     |                 |
| Sand .....                                | 51  | 545                 | Clay .....  | 18 | 928   |                     |                 |
| Clay .....                                | 38  | 583                 | Sand .....  | 17 | 945   |                     |                 |
| Sand .....                                | 15  | 598                 | Clay .....  | 45 | 990   |                     |                 |
| Clay .....                                | 54  | 652                 | Water sand .....  | 30 | 1,020 |                     |                 |
| Well 767                                  |     |                     |   |    |       |                     |                 |
| A. J. Ehlers, 3 miles southwest of Linn.  |     |                     |   |    |       |                     |                 |
| Sand .....                                | 5   | 5                   | Sand, tight spots, probably some<br>clay, gravel in bottom 2 or<br>3 feet ..... | 53 | 85    |                     |                 |
| Caliche, hard and soft layers .....       | 27  | 32                  | Blue clay .....   | 1  | 86    |                     |                 |
| Well 774                                  |     |                     |   |    |       |                     |                 |
| R. King, 2½ miles southwest of Linn.      |     |                     |   |    |       |                     |                 |
| Caliche .....                             | 18  | 18                  | Sand .....  | 58 | 92    |                     |                 |
| Clay .....                                | 16  | 34                  | Clay .....  | 3  | 95    |                     |                 |

Table 4.- Drillers' logs of wells in the Linn-Faysville area,  
Hidalgo County--Continued

|  | Thickness<br>(feet) | Depth<br>(feet) |                                 | Thickness<br>(feet) | Depth<br>(feet) |
|--|---------------------|-----------------|---------------------------------|---------------------|-----------------|
| Well 780                                 |                     |                 |                                 |                     |                 |
| Guerra Bros., ½ mile southeast of Linn.  |                     |                 |                                 |                     |                 |
| Sand and clay .....                      | 33                  | 33              | Sand .....                      | 20                  | 800             |
| Clay .....                               | 121                 | 154             | Clay .....                      | 27                  | 827             |
| Sand .....                               | 59                  | 213             | Sand .....                      | 13                  | 840             |
| Sticky clay and sand .....               | 130                 | 343             | Sand, blue clay, and shells ... | 108                 | 948             |
| Clay .....                               | 40                  | 383             | Sand .....                      | 40                  | 988             |
| Sand .....                               | 60                  | 443             | Sand and clay .....             | 72                  | 1,060           |
| Sandy clay .....                         | 20                  | 463             | Sand .....                      | 40                  | 1,100           |
| Sand .....                               | 20                  | 483             | Clay and sandy clay .....       | 44                  | 1,144           |
| Clay .....                               | 20                  | 503             | Sand .....                      | 50                  | 1,194           |
| Sand .....                               | 20                  | 523             | Clay and sandy clay .....       | 90                  | 1,284           |
| Clay .....                               | 60                  | 583             | Water sand .....                | 80                  | 1,364           |
| Sand .....                               | 20                  | 603             | Clay .....                      | 19                  | 1,383           |
| Clay .....                               | 47                  | 650             | Sand .....                      | 47                  | 1,430           |
| Clay and sand .....                      | 90                  | 740             | Sand and gravel .....           | 20                  | 1,450           |
| Clay .....                               | 20                  | 760             | Sand .....                      | 20                  | 1,470           |
| Sand and clay .....                      | 20                  | 780             |                                 |                     |                 |
| Well 790                                 |                     |                 |                                 |                     |                 |
| C. E. Villarreal, 4 miles south of Linn. |                     |                 |                                 |                     |                 |
| Surface material .....                   | 6                   | 6               | Caliche and clay .....          | 19                  | 55              |
| Caliche .....                            | 30                  | 36              | Sand .....                      | 25                  | 80              |
| Well 792                                 |                     |                 |                                 |                     |                 |
| Arturo Garza, 5 miles south of Linn.     |                     |                 |                                 |                     |                 |
| Sand and clay .....                      | 10                  | 10              | Sand .....                      | 55                  | 95              |
| Caliche .....                            | 12                  | 22              | Clay .....                      | 1                   | 96              |
| Well 798                                 |                     |                 |                                 |                     |                 |
| J. P. Cruise, 3 miles south of Linn.     |                     |                 |                                 |                     |                 |
| Clay and caliche .....                   | 26                  | 26              | Clay .....                      | 19                  | 100             |
| Sand .....                               | 55                  | 81              |                                 |                     |                 |



Table 4.- Drillers' logs of wells in the Linn-Faysville area,  
Hidalgo County--Continued

|  | Thickness<br>(feet) | Depth<br>(feet) |            | Thickness<br>(feet) | Depth<br>(feet) |
|--|---------------------|-----------------|------------|---------------------|-----------------|
| Well 799                                     |                     |                 |            |                     |                 |
| J. P. Cruise, 3 miles south of Linn.         |                     |                 |            |                     |                 |
| Surface material .....                       | 6                   | 6               | Sand ..... | 2                   | 71              |
| Caliche .....                                | 26                  | 32              | Clay ..... | 2                   | 73              |
| Hard sand .....                              | 35                  | 67              | Sand ..... | 3                   | 76              |
| Clay .....                                   | 2                   | 69              | Clay ..... | 58                  | 134             |
| Well 817                                     |                     |                 |            |                     |                 |
| Mrs. -- Veynard, 3½ miles southwest of Linn. |                     |                 |            |                     |                 |
| Sand .....                                   | 10                  | 10              | Sand ..... | 36                  | 86              |
| Caliche .....                                | 25                  | 35              | Clay ..... | 4                   | 90              |
| Clay .....                                   | 15                  | 50              |            |                     |                 |
| Well 824                                     |                     |                 |            |                     |                 |
| G. T. Harpel, 3½ miles southwest of Linn.    |                     |                 |            |                     |                 |
| Sand .....                                   | 3                   | 3               | Sand ..... | 43                  | 88              |
| Caliche .....                                | 20                  | 23              | Clay ..... | 2                   | 90              |
| Clay .....                                   | 22                  | 45              |            |                     |                 |
| Well 832                                     |                     |                 |            |                     |                 |
| G. D. Guerra, 7 miles south of Linn.         |                     |                 |            |                     |                 |
| Rock, caliche, and clay .....                | 37                  | 37              | Sand ..... | 55                  | 92              |

Table 5.- Chemical analyses, in parts per million, of water from wells in the Linn-Faysville area, Hidalgo County, Tex.

Well numbers correspond to numbers in table of well records

| Well | Owner                                | Depth of well (ft.) | Date of collection | Dissolved solids | Calcium- (Ca) | Magnesium (Mg) | Sodium and potassium (Na + K) | Bicarbonate (HCO <sub>3</sub> ) | Sulfate (SO <sub>4</sub> ) | Chloride (Cl) | Boron (B) | Nitrate (NO <sub>3</sub> ) | Total hardness as CaCO <sub>3</sub> | Percent sodium |
|------|--------------------------------------|---------------------|--------------------|------------------|---------------|----------------|-------------------------------|---------------------------------|----------------------------|---------------|-----------|----------------------------|-------------------------------------|----------------|
| 126  | A. Guerra                            | 90                  | Sept. 7, 1939      | -                | -             | -              | -                             | -                               | 195                        | 590           | -         | -                          | -                                   | -              |
| 127  | do.                                  | 115                 | do.                | -                | -             | -              | 410                           | 285                             | 193                        | 580           | -         | 16                         | 375                                 | 70             |
| 128  | do.                                  | 173                 | Aug. 26, 1933      | -                | 100           | -              | -                             | 426                             | 170                        | 620           | -         | -                          | 502                                 | -              |
| 198  | Edinburg Independent School District | 870                 | Sept. 4, 1939      | 3,280            | 134           | 39             | 1,010                         | 117                             | 576                        | 1,410         | -         | -                          | 495                                 | 82             |
| 550  | McAllen Ranch                        | 684                 | Aug. 10, 1939      | 1,080            | -             | -              | 421                           | 292                             | 151                        | 392           | -         | -                          | 34                                  | 96             |
| 551  | do.                                  | 246                 | do.                | 1,040            | -             | -              | 314                           | 283                             | 121                        | 382           | -         | 20                         | 231                                 | 75             |
| 554  | Wood Christian                       | 947                 | Sept. 1, 1939      | 955              | -             | -              | 379                           | 332                             | 200                        | 245           | -         | -                          | 10                                  | 99             |
| 557  | D. Guerra & Sons                     | 834                 | Aug. 31, 1939      | 1,430            | -             | -              | 500                           | 185                             | 247                        | 580           | -         | -                          | 141                                 | 88             |
| 571  | McAllen Ranch                        | 756                 | Sept. 1, 1939      | 957              | -             | -              | 381                           | 339                             | 168                        | 270           | -         | -                          | 14                                  | 99             |
| 572  | do.                                  | 800                 | do.                | 978              | -             | -              | 381                           | 318                             | 238                        | 234           | -         | -                          | 18                                  | 99             |
| 575  | A. W. Beurline                       | 78                  | June 21, 1945      | 938              | 74            | 41             | 211                           | 201                             | 145                        | 330           | -         | 38                         | 353                                 | 57             |
| 575  | do.                                  | 78                  | Dec. 10, 1948      | -                | -             | -              | -                             | -                               | -                          | 360           | .91       | -                          | -                                   | -              |
| 576  | A. K. Polis                          | 78                  | June 21, 1945      | 1,020            | 61            | 44             | 259                           | 192                             | 102                        | 438           | -         | 1.9                        | 333                                 | 63             |
| 576  | do.                                  | 78                  | Jan. 23, 1948      | 945              | 54            | 41             | 244                           | 222                             | 104                        | 375           | -         | 18                         | 304                                 | 64             |
| 576  | do.                                  | 78                  | Dec. 10, 1948      | -                | -             | -              | -                             | -                               | -                          | 360           | 1.4       | -                          | -                                   | -              |
| 577  | Southern Floral Co.                  | 88                  | Sept. 1, 1939      | 951              | 55            | 32             | 264                           | 381                             | 109                        | 292           | -         | 9.8                        | 271                                 | 68             |
| 577  | do.                                  | 88                  | Apr. 19, 1948      | 1,110            | 83            | 41             | 250                           | 280                             | 99                         | 402           | 1.3       | 24                         | 376                                 | 59             |
| 579  | M. Chapa                             | 471                 | Aug. 7, 1939       | 2,600            | -             | -              | 904                           | 308                             | 391                        | 1,120         | -         | 5.0                        | 278                                 | 88             |
| 581  | Juanlina Garza                       | 705                 | Sept. 1, 1939      | -                | 38            | 13             | 571                           | 188                             | 354                        | 615           | -         | -                          | 148                                 | 89             |
| 582  | P. C. Zamora                         | 631                 | Aug. 10, 1939      | 2,060            | -             | -              | 730                           | 281                             | 341                        | 845           | -         | -                          | 189                                 | 89             |
| 582  | do.                                  | 631                 | Dec. 10, 1948      | -                | -             | -              | -                             | -                               | -                          | 770           | 1.7       | -                          | -                                   | -              |
| 583  | Richard King                         | 625                 | Aug. 10, 1939      | 1,930            | -             | -              | 701                           | 287                             | 320                        | 775           | -         | -                          | 138                                 | 92             |
| 583  | do.                                  | 625                 | Dec. 10, 1948      | -                | -             | -              | -                             | -                               | -                          | 770           | 1.7       | -                          | -                                   | -              |
| 584  | Geo. H. Coates                       | 782                 | Sept. 1, 1939      | 1,940            | -             | -              | 685                           | 170                             | 430                        | 750           | -         | -                          | 156                                 | 91             |
| 584  | do.                                  | 782                 | Dec. 9, 1948       | -                | -             | -              | -                             | -                               | -                          | 730           | 2.4       | -                          | -                                   | -              |
| 585  | -- Corbitt                           | 762                 | Aug. 31, 1939      | 1,580            | -             | -              | 783                           | 296                             | 244                        | 620           | -         | -                          | 125                                 | 91             |
| 598  | Hammond Bros.                        | 564                 | Aug. 30, 1939      | 2,380            | -             | -              | 769                           | 242                             | 280                        | 1,120         | -         | -                          | 390                                 | 82             |
| 734  | Guerra Bros.                         | 1,020               | May 11, 1945       | 2,020            | 53            | 14             | 623                           | 123                             | 928                        | 338           | -         | 1.8                        | 190                                 | 88             |
| 734  | do.                                  | 1,020               | June 16, 1945      | 1,990            | 52            | 12             | 618                           | 128                             | 902                        | 339           | -         | .8                         | 180                                 | 88             |
| 735  | Jesse Gaston                         | 95                  | Jan. 22, 1948      | 1,090            | 42            | 37             | 325                           | 310                             | 128                        | 410           | -         | -                          | 257                                 | 73             |
| 735  | do.                                  | 95                  | Mar. 20, 1948      | -                | -             | -              | -                             | -                               | -                          | 240           | 1.3       | -                          | -                                   | -              |
| 736  | Neal Tennis                          | 85                  | Jan. 22, 1948      | 1,150            | 53            | 35             | 337                           | 400                             | 160                        | 362           | -         | 5.0                        | 276                                 | 73             |
| 737  | A. K. Polis                          | 85                  | Apr. 4, 1948       | 920              | 53            | 33             | 191                           | 248                             | 80                         | 275           | 1.2       | 9.5                        | 268                                 | 61             |
| 739  | H. L. McBride                        | 1,710               | June 16, 1945      | 1,420            | 37            | 8.7            | 460                           | 258                             | 518                        | 268           | -         | .8                         | 128                                 | 89             |
| 740  | W. M. Doughty                        | 910                 | May 11, 1945       | 1,290            | 12            | 5.7            | 474                           | 252                             | 206                        | 468           | -         | 1.8                        | 54                                  | 95             |
| 740  | do.                                  | 910                 | Apr. 20, 1948      | 1,380            | 12            | 5.4            | 502                           | 217                             | 223                        | 498           | 3.4       | .4                         | 52                                  | 95             |

Table 5.- Chemical analyses, in parts per million, of water from wells in the Linn-Faysville area, Hidalgo County--Continued

| Well | Owner                 | Depth of well (ft.) | Date of collection | Dissolved solids | Calcium (Ca) | Magnesium (Mg) | Sodium and potassium (Na + K) | Bicarbonate (HCO <sub>3</sub> ) | Sulfate (SO <sub>4</sub> ) | Chloride (Cl) | Boron (B) | Nitrate (NO <sub>3</sub> ) | Total hardness as CaCO <sub>3</sub> | Percent sodium |
|------|-----------------------|---------------------|--------------------|------------------|--------------|----------------|-------------------------------|---------------------------------|----------------------------|---------------|-----------|----------------------------|-------------------------------------|----------------|
| 744  | A. K. Polis           | 80                  | Apr. 4, 1948       | 1,040            | 58           | 35             | 248                           | 250                             | 101                        | 342           | 1.6       | 42                         | 288                                 | 65             |
| 745  | Southern Floral Co.   | 76                  | June 21, 1945      | 1,340            | 66           | 49             | 322                           | 364                             | 155                        | 495           | -         | 21                         | 366                                 | 69             |
| 745  | do.                   | 76                  | Apr. 19, 1948      | 1,060            | 38           | 37             | 267                           | 239                             | 113                        | 340           | 1.4       | 29                         | 247                                 | 70             |
| 747  | F. W. Boreman         | 85                  | Apr. 14, 1948      | 1,030            | 78           | 46             | 214                           | 310                             | 120                        | 322           | 1.6       | 19                         | 384                                 | 55             |
| 748  | Rio Grande Floral Co. | 78                  | June 16, 1945      | 814              | 58           | 33             | 199                           | 204                             | 94                         | 299           | -         | 31                         | 280                                 | 61             |
| 748  | do.                   | 78                  | Apr. 20, 1948      | 955              | 62           | 32             | 225                           | 314                             | 85                         | 285           | 2.1       | 35                         | 286                                 | 63             |
| 749  | J. P. Cruise          | 1,404               | Apr. 13, 1945      | -                | -            | -              | -                             | 314                             | 260                        | 405           | -         | 1.2                        | 28                                  | -              |
| 749  | do.                   | 1,404               | May 11, 1945       | 1,260            | 9.8          | 4.4            | 466                           | 305                             | 226                        | 402           | -         | 1.5                        | 42                                  | 96             |
| 749  | do.                   | 1,404               | Mar. 21, 1948      | 1,280            | 10           | 3.2            | 464                           | 302                             | 230                        | 398           | 4.0       | .8                         | 38                                  | 96             |
| 750  | Juan Medina           | 80                  | Apr. 14, 1948      | 1,150            | 73           | 39             | 280                           | 320                             | 105                        | 400           | 1.4       | 18                         | 342                                 | 64             |
| 751  | O. J. Blaue           | 80                  | June 21, 1945      | 953              | 67           | 36             | 241                           | 248                             | 104                        | 360           | -         | 23                         | 315                                 | 62             |
| 752  | Reynaldo Vela         | 92                  | Apr. 19, 1948      | 714              | 39           | 25             | 161                           | 230                             | 53                         | 212           | .79       | 10                         | 200                                 | 64             |
| 753  | Frank Gross           | 88                  | May 12, 1945       | 1,290            | 71           | 50             | 352                           | 330                             | 127                        | 528           | -         | 1.9                        | 382                                 | 67             |
| 753  | do.                   | 88                  | Jan. 24, 1948      | 1,240            | 57           | 43             | 352                           | 330                             | 131                        | 468           | -         | 22                         | 320                                 | 71             |
| 755  | W. H. Fowler          | 90                  | June 8, 1947       | 1,870            | 108          | 55             | 528                           | 636                             | 252                        | 605           | -         | 9.6                        | 496                                 | 70             |
| 755  | do.                   | 90                  | Jan. 24, 1948      | 1,920            | 69           | 61             | 572                           | 436                             | 249                        | 735           | -         | 18                         | 423                                 | 75             |
| 755  | do.                   | 90                  | Apr. 2, 1948       | 1,930            | 58           | 55             | 562                           | 431                             | 242                        | 690           | 3.2       | 18                         | 370                                 | 77             |
| 757  | S. L. Turner          | 80                  | June 10, 1947      | 1,220            | 60           | 37             | 352                           | 208                             | 167                        | 388           | -         | 14                         | 302                                 | 72             |
| 757  | do.                   | 80                  | Dec. 10, 1948      | -                | -            | -              | -                             | -                               | -                          | 283           | .86       | -                          | -                                   | -              |
| 759  | L. A. Gannaway        | 1,430               | June 10, 1947      | 2,980            | 72           | 31             | 1,010                         | 196                             | 452                        | 1,320         | -         | 1.5                        | 307                                 | 88             |
| 759  | do.                   | 1,430               | Mar. 24, 1948      | 3,050            | 74           | 36             | 993                           | 177                             | 492                        | 1,300         | 5.8       | 1.5                        | 332                                 | 87             |
| 761  | W. P. Hauser          | 87                  | Mar. 20, 1948      | 1,310            | 45           | 32             | 385                           | 400                             | 147                        | 420           | 2.2       | 10                         | 244                                 | 77             |
| 762  | do.                   | 87                  | Apr. 19, 1948      | 1,220            | 36           | 23             | 362                           | 426                             | 128                        | 330           | 2.3       | 31                         | 184                                 | 81             |
| 763  | do.                   | 78                  | Mar. 20, 1948      | 985              | 65           | 38             | 221                           | 288                             | 132                        | 292           | 1.3       | 16                         | 318                                 | 60             |
| 764  | -- Boler              | 90                  | Apr. 8, 1948       | 999              | 33           | 28             | 266                           | 324                             | 92                         | 280           | 1.8       | 24                         | 198                                 | 75             |
| 765  | W. R. Allen           | 89                  | Apr. 7, 1948       | 797              | 43           | 26             | 187                           | 256                             | 74                         | 215           | 1.6       | 38                         | 214                                 | 65             |
| 766  | A. J. Ehlers          | 80                  | do.                | 927              | 50           | 33             | 210                           | 260                             | 88                         | 282           | 1.2       | 18                         | 260                                 | 64             |
| 767  | do.                   | 86                  | Apr. 19, 1948      | 1,300            | 86           | 44             | 309                           | 323                             | 198                        | 415           | 1.6       | 15                         | 396                                 | 63             |
| 769  | A. W. Beurline        | 1,503               | Mar. 23, 1948      | 1,410            | 15           | 2.4            | 493                           | 494                             | 412                        | 260           | 7.4       | .8                         | 48                                  | 96             |
| 773  | H. H. Snyder          | 85                  | Apr. 9, 1948       | 781              | 24           | 24             | 196                           | 206                             | 59                         | 220           | 1.0       | 25                         | 158                                 | 73             |
| 775  | A. K. Polis           | 80                  | Jan. 23, 1948      | 955              | 57           | 42             | 222                           | 238                             | 91                         | 358           | -         | 4.6                        | 315                                 | 61             |
| 775  | do.                   | 80                  | Dec. 9, 1948       | -                | -            | -              | -                             | -                               | -                          | 402           | .80       | -                          | -                                   | -              |
| 776  | Southern Floral Co.   | 87                  | Apr. 19, 1948      | 980              | 77           | 38             | 194                           | 290                             | 81                         | 292           | 1.2       | 44                         | 348                                 | 55             |
| 779  | T. H. McClelland      | 80                  | Jan. 22, 1948      | 2,050            | 41           | 48             | 671                           | 394                             | 265                        | 810           | -         | 23                         | 300                                 | 83             |
| 779  | do.                   | 80                  | Mar. 20, 1948      | -                | -            | -              | -                             | -                               | -                          | 920           | 3.6       | -                          | -                                   | -              |
| 780  | Guerra Bros.          | 1,470               | Jan. 22, 1948      | 1,690            | 20           | 7.0            | 554                           | 189                             | 777                        | 230           | -         | 1.2                        | 79                                  | 94             |
| 780  | do.                   | 1,470               | Mar. 20, 1948      | -                | -            | -              | -                             | -                               | -                          | 415           | 8.7       | -                          | -                                   | -              |
| 784  | Tom Brown             | 1,224               | Apr. 6, 1948       | 1,090            | 8.2          | 2.8            | 395                           | 276                             | 207                        | 318           | 2.8       | .8                         | 32                                  | 96             |

Table 5.- Chemical analyses, in parts per million, of water from wells in the Linn-Faysville area, Hidalgo County--Continued

| Well | Owner                    | Depth of well (ft.) | Date of collection | Dissolved solids | Calcium (Ca) | Magnesium (Mg) | Sodium and potassium (Na + K) | Bicarbonate (HCO <sub>3</sub> ) | Sulfate (SO <sub>4</sub> ) | Chloride (Cl) | Boron (B) | Nitrate (NO <sub>3</sub> ) | Total hardness as CaCO <sub>3</sub> | Percent sodium |
|------|--------------------------|---------------------|--------------------|------------------|--------------|----------------|-------------------------------|---------------------------------|----------------------------|---------------|-----------|----------------------------|-------------------------------------|----------------|
| 785  | T. W. Lee                | 980                 | Mar. 20, 1948      | 1,210            | 7.8          | 2.4            | 437                           | 300                             | 217                        | 365           | 4.1       | 1.0                        | 30                                  | 97             |
| 786  | Texas Produce Co.        | 1,046               | Jan. 24, 1948      | 1,210            | 5.5          | 3.5            | 453                           | 292                             | 219                        | 385           | -         | 1.5                        | 28                                  | 97             |
| 786  | do.                      | 1,046               | Mar. 20, 1948      | -                | -            | -              | -                             | -                               | -                          | 300           | 3.9       | -                          | -                                   | -              |
| 788  | G. B. Miller             | 90?                 | Apr. 5, 1948       | 1,580            | 46           | 39             | 474                           | 296                             | 174                        | 618           | 2.3       | 15                         | 276                                 | 79             |
| 791  | C. E. Villarreal         | 91                  | Jan. 24, 1948      | 1,320            | 46           | 41             | 402                           | 315                             | 134                        | 530           | -         | 16                         | 284                                 | 76             |
| 792  | Arturo Garza             | 96                  | do.                | 1,200            | 34           | 35             | 378                           | 408                             | 153                        | 388           | -         | 12                         | 229                                 | 78             |
| 792  | do.                      | 96                  | Dec. 9, 1948       | -                | -            | -              | -                             | -                               | -                          | 380           | 1.6       | -                          | -                                   | -              |
| 794  | Taylor & Latham          | 90                  | Jan. 24, 1948      | 1,120            | 86           | 52             | 264                           | 328                             | 143                        | 415           | -         | .2                         | 428                                 | 57             |
| 794  | do.                      | 90                  | Mar. 26, 1948      | -                | -            | -              | -                             | -                               | -                          | 460           | 1.9       | -                          | -                                   | -              |
| 800  | J. P. Cruise             | 100                 | Apr. 7, 1948       | 1,310            | 68           | 51             | 319                           | 250                             | 151                        | 492           | 1.7       | 21                         | 379                                 | 65             |
| 802  | D. C. Pollock            | 90?                 | Apr. 20, 1948      | 1,300            | 42           | 42             | 340                           | 167                             | 121                        | 505           | 1.5       | 24                         | 278                                 | 73             |
| 804  | Rio Grande Floral Co.    | 76                  | Jan. 28, 1948      | 956              | 74           | 50             | 220                           | 414                             | 90                         | 298           | -         | 20                         | 390                                 | 55             |
| 804  | do.                      | 76                  | Mar. 21, 1948      | -                | -            | -              | -                             | -                               | -                          | 385           | 1.6       | -                          | -                                   | -              |
| 807  | Southern Floral Co.      | 86                  | Mar. 22, 1948      | 1,160            | 57           | 41             | 285                           | 309                             | 125                        | 368           | 1.9       | 35                         | 311                                 | 67             |
| 808  | George D. Young          | 900?                | Apr. 4, 1948       | 1,340            | 4.0          | 1.7            | 492                           | 341                             | 193                        | 430           | 3.5       | 1.0                        | 18                                  | 98             |
| 809  | do.                      | 1,400?              | do.                | 1,310            | 6.2          | 2.2            | 485                           | 321                             | 199                        | 432           | -         | 1.5                        | 24                                  | 98             |
| 811  | do.                      | 900?                | do.                | 1,320            | 4.0          | 1.7            | 492                           | 341                             | 193                        | 430           | 3.5       | 1.0                        | 18                                  | 98             |
| 812  | do.                      | 95                  | Mar. 24, 1948      | 983              | 40           | 38             | 243                           | 241                             | 122                        | 315           | 2.3       | 20                         | 256                                 | 67             |
| 813  | do.                      | 900?                | Apr. 4, 1948       | 1,400            | 12           | 4.1            | 495                           | 284                             | 329                        | 388           | 3.0       | .5                         | 47                                  | 96             |
| 814  | do.                      | 900?                | do.                | 1,370            | 8.4          | 4.5            | 502                           | 305                             | 194                        | 480           | -         | .5                         | 40                                  | 97             |
| 815  | R. J. West               | 90                  | Apr. 13, 1948      | 1,030            | 24           | 34             | 272                           | 197                             | 99                         | 345           | -         | 15                         | 200                                 | 75             |
| 818  | Ivan A. White            | 93                  | Apr. 15, 1948      | 976              | 32           | 33             | 260                           | 253                             | 84                         | 320           | -         | 24                         | 216                                 | 72             |
| 819  | do.                      | 85                  | Apr. 17, 1948      | 1,390            | 92           | 53             | 334                           | 397                             | 150                        | 482           | -         | 15                         | 448                                 | 62             |
| 820  | do.                      | 85                  | do.                | 2,400            | 186          | 112            | 500                           | 394                             | 510                        | 802           | -         | 32                         | 924                                 | 54             |
| 822  | L. V. Harpel, Sr., & Son | 80?                 | Apr. 20, 1948      | 987              | 14           | 27             | 304                           | 466                             | 102                        | 208           | 1.6       | 14                         | 146                                 | 82             |
| 824  | G. T. Harpel             | 90                  | Apr. 14, 1948      | 870              | 44           | 22             | 236                           | 434                             | 80                         | 188           | 1.6       | 11                         | 200                                 | 72             |
| 825  | L. V. Harpel, Sr.        | 90                  | do.                | 820              | 49           | 23             | 208                           | 320                             | 71                         | 228           | 1.6       | 13                         | 217                                 | 68             |
| 826  | do.                      | 90?                 | Apr. 20, 1948      | 840              | 58           | 33             | 190                           | 328                             | 93                         | 225           | 1.2       | 11                         | 280                                 | 60             |
| 827  | Reynaldo Vela            | 80                  | Apr. 15, 1948      | 776              | 23           | 25             | 198                           | 237                             | 58                         | 222           | 1.1       | 15                         | 160                                 | 73             |
| 828  | do.                      | 90                  | Apr. 20, 1948      | 749              | 36           | 23             | 181                           | 265                             | 60                         | 206           | .78       | 10                         | 184                                 | 68             |
| 829  | W. L. Goldston           | 2,050?              | Jan. 22, 1948      | 1,380            | 4.4          | 1.9            | 514                           | 397                             | 353                        | 315           | -         | -                          | 19                                  | 98             |
| 829  | do.                      | 2,050?              | Apr. 18, 1948      | 1,450            | 7.0          | 2.2            | 513                           | 342                             | 354                        | 308           | -         | 1.2                        | 26                                  | 98             |
| 829  | do.                      | 2,050?              | Dec. 9, 1948       | -                | -            | -              | -                             | -                               | -                          | 298           | 4.9       | -                          | -                                   | -              |
| 830  | do.                      | 2,050?              | Jan. 22, 1948      | 1,320            | 2.0          | 3.3            | 504                           | 542                             | 250                        | 290           | -         | 2.0                        | 18                                  | 98             |
| 830  | do.                      | 2,050?              | Apr. 18, 1948      | 1,340            | 4.0          | 1.7            | 494                           | 518                             | 220                        | 310           | 6.6       | 1.5                        | 17                                  | 98             |
| 832  | G. D. Guerra             | 92                  | Mar. 26, 1948      | 1,480            | 41           | 35             | 449                           | 426                             | 124                        | 520           | 2.3       | 14                         | 246                                 | 80             |
| 832  | do.                      | 92                  | Apr. 4, 1948       | 1,590            | 40           | 41             | 489                           | 396                             | 189                        | 570           | 1.7       | 8.5                        | 268                                 | 80             |

Table 5.- Chemical analyses, in parts per million, of water from wells in the Linn-Faysville area, Hidalgo County--Continued

| Well | Owner          | Depth of well (ft.) | Date of collection | Dissolved solids | Calcium (Ca) | Magnesium (Mg) | Sodium and potassium (Na + K) | Bicarbonate (HCO <sub>3</sub> ) | Sulfate (SO <sub>4</sub> ) | Chloride (Cl) | Boron (B) | Nitrate (NO <sub>3</sub> ) | Total hardness as CaCO <sub>3</sub> | Percent sodium |
|------|----------------|---------------------|--------------------|------------------|--------------|----------------|-------------------------------|---------------------------------|----------------------------|---------------|-----------|----------------------------|-------------------------------------|----------------|
| 839  | Pape & Allison | 1,464               | Jan. 24, 1948      | 2,360            | 43           | 27             | 806                           | 248                             | 409                        | 950           | -         | 1.5                        | 218                                 | 89             |
| 839  | do.            | 1,464               | Apr. 12, 1948      | 2,610            | 54           | 26             | 884                           | 236                             | 414                        | 1,090         | 4.1       | 2.0                        | 242                                 | 89             |
| 840  | do.            | 1,105               | Jan. 24, 1948      | 2,300            | 34           | 19             | 804                           | 254                             | 415                        | 900           | -         | 1.5                        | 163                                 | 91             |
| 840  | do.            | 1,105               | Mar. 20, 1948      | -                | -            | -              | -                             | -                               | -                          | 1,400         | 4.2       | -                          | -                                   | -              |
| 840  | do.            | 1,105               | Apr. 18, 1948      | 2,250            | 48           | 24             | 750                           | 247                             | 441                        | 842           | -         | .2                         | 218                                 | 88             |
| 841  | U. S. Army     | 650?                | Apr. 6, 1948       | 3,480            | 106          | 51             | 1,110                         | 204                             | 570                        | 1,500         | 3.7       | 8.0                        | 474                                 | 84             |
| 842  | J. G. Turner   | 1,345               | Apr. 5, 1948       | 2,890            | 54           | 24             | 1,000                         | 186                             | 407                        | 1,300         | 4.7       | 1.0                        | 234                                 | 90             |
| 843  | do.            | 1,300               | do.                | 2,700            | 59           | 32             | 899                           | 214                             | 458                        | 1,120         | 3.8       | .5                         | 278                                 | 88             |
| 846  | do.            | 1,175?              | Apr. 14, 1948      | 1,210            | 5.8          | 2.2            | 433                           | 362                             | 303                        | 248           | 4.1       | 1.8                        | 24                                  | 98             |

Table 6.- Electrical conductivity, dissolved solids, boron, chloride, and percent sodium in water from shallow wells in the Linn-Faysville area, Hidalgo County, Texas

| Well | Owner                 | Depth of well (ft.) | Date of collection | Electrical conductivity (micromhos) | Dissolved solids (ppm) | Boron (B) (ppm) | Chloride (Cl) (ppm) | Percent sodium |
|------|-----------------------|---------------------|--------------------|-------------------------------------|------------------------|-----------------|---------------------|----------------|
| 126  | A. Guerra             | 90                  | Sept. 7, 1939      | -                                   | -                      | -               | 590                 | -              |
| 127  | do.                   | 115                 | do.                | -                                   | 1,460                  | -               | 580                 | 70             |
| 128  | do.                   | 173                 | Aug. 26, 1933      | -                                   | -                      | -               | 620                 | -              |
| 575  | A. W. Beaurline       | 78                  | June 21, 1945      | -                                   | 938                    | -               | 330                 | 57             |
| 575  | do.                   | 78                  | Dec. 10, 1948      | 1,880                               | -                      | 0.91            | 360                 | -              |
| 576  | A. K. Polis           | 78                  | June 21, 1945      | -                                   | 1,020                  | -               | 438                 | 63             |
| 576  | do.                   | 78                  | Jan. 23, 1948      | 1,790                               | 945                    | -               | 375                 | 64             |
| 576  | do.                   | 78                  | Dec. 10, 1948      | 1,840                               | -                      | 1.4             | 360                 | -              |
| 577  | Southern Floral Co.   | 88                  | Sept. 1, 1939      | -                                   | 951                    | -               | 292                 | 68             |
| 577  | do.                   | 88                  | Apr. 19, 1948      | 1,880                               | 1,110                  | 1.3             | 402                 | 59             |
| 735  | Jesse Gaston          | 95                  | Jan. 22, 1948      | 1,990                               | 1,090                  | -               | 410                 | 73             |
| 735  | do.                   | 95                  | Mar. 20, 1948      | 2,020                               | -                      | 1.3             | 240                 | -              |
| 736  | Neal Tennis           | 85                  | Jan. 22, 1948      | 2,060                               | 1,150                  | -               | 362                 | 73             |
| 737  | A. K. Polis           | 85                  | Apr. 4, 1948       | 1,510                               | 920                    | 1.2             | 275                 | 61             |
| 744  | do.                   | 85                  | do.                | 1,780                               | 1,040                  | 1.6             | 342                 | 65             |
| 745  | Southern Floral Co.   | 76                  | June 21, 1945      | -                                   | 1,340                  | -               | 495                 | 69             |
| 745  | do.                   | 76                  | Apr. 19, 1948      | 1,750                               | 1,040                  | 1.4             | 340                 | 70             |
| 747  | F. W. Boreman         | 85                  | Apr. 14, 1948      | 1,840                               | 1,030                  | 1.6             | 322                 | 55             |
| 748  | Rio Grande Floral Co. | 78                  | June 16, 1945      | -                                   | 814                    | -               | 299                 | 61             |
| 748  | do.                   | 78                  | Apr. 20, 1948      | 1,550                               | 955                    | 2.1             | 285                 | 63             |
| 750  | Juan Medina           | 80                  | Apr. 14, 1948      | 1,930                               | 1,150                  | 1.4             | 400                 | 64             |
| 751  | O. J. Blaue           | 80                  | June 21, 1945      | -                                   | 953                    | -               | 360                 | 62             |
| 752  | Reynaldo Vela         | 92                  | Apr. 19, 1948      | 1,240                               | 714                    | .79             | 212                 | 64             |
| 753  | Frank Gross           | 88                  | May 12, 1945       | 2,270                               | 1,290                  | -               | 528                 | 67             |
| 754  | do.                   | 88                  | Jan. 24, 1948      | -                                   | 1,240                  | -               | 468                 | 71             |
| 755  | W. H. Fowler          | 90                  | June 8, 1947       | 3,200                               | 1,870                  | -               | 605                 | 70             |
| 755  | do.                   | 90                  | Jan. 24, 1948      | 3,480                               | 1,920                  | -               | 735                 | 75             |
| 755  | do.                   | 90                  | Apr. 2, 1948       | 3,240                               | 1,920                  | 3.2             | 690                 | 77             |
| 757  | S. L. Turner          | 80                  | June 10, 1947      | 2,130                               | 1,220                  | -               | 388                 | 72             |
| 757  | do.                   | 80                  | Dec. 10, 1948      | 1,580                               | -                      | .86             | 283                 | -              |
| 761  | W. P. Hauser          | 87                  | Mar. 20, 1948      | 2,200                               | 1,310                  | 2.2             | 420                 | 77             |
| 762  | Neal Tennis           | 87                  | Apr. 19, 1948      | 1,940                               | 1,220                  | 2.3             | 330                 | 81             |
| 763  | W. P. Hauser          | 78                  | Mar. 20, 1948      | 1,590                               | 985                    | 1.3             | 292                 | 60             |
| 764  | do. Boler             | 90                  | Apr. 8, 1948       | 1,680                               | 999                    | 1.8             | 280                 | 75             |
| 765  | W. R. Allen           | 89                  | Apr. 7, 1948       | 1,340                               | 797                    | 1.6             | 215                 | 65             |
| 766  | A. J. Ehlers          | 80                  | do.                | 1,560                               | 927                    | 1.2             | 282                 | 64             |
| 767  | do.                   | 86                  | Apr. 19, 1948      | 2,080                               | 1,300                  | 1.6             | 415                 | 63             |
| 773  | H. H. Snyder          | 85                  | Apr. 9, 1948       | 1,350                               | 781                    | 1.0             | 220                 | 73             |
| 775  | A. K. Polis           | 80                  | Jan. 23, 1948      | 1,740                               | 955                    | -               | 358                 | 61             |
| 775  | do.                   | 80                  | Dec. 9, 1948       | 1,970                               | -                      | .80             | 402                 | -              |
| 776  | Southern Floral Co.   | 87                  | Apr. 19, 1948      | 1,580                               | 980                    | 1.2             | 292                 | 55             |
| 779  | T. H. McClelland      | 80                  | Jan. 22, 1948      | 3,520                               | 2,050                  | -               | 810                 | 83             |
| 779  | do.                   | 80                  | Mar. 20, 1948      | 3,900                               | -                      | 3.6             | 920                 | -              |
| 788  | G. B. Miller          | 90?                 | Apr. 5, 1948       | 2,870                               | 1,580                  | 2.3             | 618                 | 79             |
| 791  | C. E. Villarreal      | 91                  | Jan. 24, 1948      | 2,410                               | 1,320                  | -               | 530                 | 76             |

Table 6.- Electrical conductivity, dissolved solids, boron, chloride, and percent sodium in water from shallow wells in the Linn-Faysville area, Hidalgo County--Continued

| Well | Owner                    | Depth of well (ft.) | Date of collection | Electrical conductivity (micromhos) | Dissolved solids (ppm) | Boron (B) (ppm) | Chloride (Cl) (ppm) | Percent sodium |
|------|--------------------------|---------------------|--------------------|-------------------------------------|------------------------|-----------------|---------------------|----------------|
| 792  | Arturo Garza             | 96                  | Jan. 24, 1948      | 2,120                               | 1,200                  | -               | 388                 | 78             |
| 792  | do.                      | 96                  | Dec. 9, 1948       | 2,160                               | -                      | 1.6             | 380                 | -              |
| 794  | Taylor & Latham          | 90                  | Jan. 24, 1948      | 2,080                               | 1,120                  | -               | 415                 | 57             |
| 794  | do.                      | 90                  | Mar. 26, 1948      | 2,230                               | -                      | 1.9             | 460                 | -              |
| 800  | J. P. Cruise             | 100                 | Apr. 7, 1948       | 2,310                               | 1,310                  | 1.7             | 492                 | 65             |
| 802  | D. C. Pollock            | 90?                 | Apr. 20, 1948      | 2,280                               | 1,260                  | 1.5             | 505                 | 73             |
| 804  | Rio Grande Floral Co.    | 76                  | Jan. 23, 1948      | 1,730                               | 956                    | -               | 298                 | 55             |
| 804  | do.                      | 76                  | Mar. 21, 1948      | 1,760                               | -                      | 1.6             | 385                 | -              |
| 807  | Southern Floral Co.      | 86                  | Mar. 22, 1948      | 1,960                               | 1,160                  | 1.9             | 368                 | 67             |
| 812  | George D. Young          | 95                  | Mar. 24, 1948      | 1,600                               | 983                    | 2.3             | 315                 | 67             |
| 815  | R. J. West               | 90                  | Apr. 13, 1948      | 1,840                               | 1,030                  | -               | 345                 | 75             |
| 818  | Ivan A. White            | 93                  | Apr. 15, 1948      | 1,730                               | 976                    | -               | 320                 | 72             |
| 819  | do.                      | 85                  | Apr. 17, 1948      | 2,370                               | 1,390                  | -               | 482                 | 62             |
| 820  | do.                      | 85                  | do.                | 3,880                               | 2,400                  | -               | 802                 | 54             |
| 822  | L. V. Harpel, Sr., & Son | 80?                 | Apr. 20, 1948      | 1,750                               | 987                    | 1.6             | 208                 | 82             |
| 824  | G. T. Harpel             | 90                  | Apr. 14, 1948      | 1,410                               | 870                    | 1.6             | 188                 | 72             |
| 825  | L. V. Harpel, Sr.        | 90                  | do.                | 1,330                               | 820                    | 1.6             | 228                 | 68             |
| 826  | --                       | 90?                 | Apr. 20, 1948      | 1,390                               | 840                    | 1.2             | 225                 | 60             |
| 827  | Reynaldo Vela            | 80                  | Apr. 15, 1948      | 1,260                               | 779                    | 1.1             | 222                 | 73             |
| 828  | do.                      | 90                  | Apr. 20, 1948      | 1,210                               | 749                    | .78             | 206                 | 68             |
| 832  | G. P. Guerra             | 92                  | Mar. 26, 1948      | 2,580                               | 1,480                  | 2.3             | 520                 | 80             |
| 832  | do.                      | 92                  | Apr. 4, 1948       | 2,770                               | 1,590                  | 1.7             | 570                 | 80             |

Table 7.- Electrical conductivity, dissolved solids, boron, chloride, and percent sodium in water from deep wells in the Linn-Faysville area, Hidalgo County, Texas

| Well | Owner                                | Depth of well (ft.) | Date of collection | Electrical conductivity (micromhos) | Dissolved solids (ppm) | Boron (B) (ppm) | Chloride (Cl) (ppm) | Percent sodium |
|------|--------------------------------------|---------------------|--------------------|-------------------------------------|------------------------|-----------------|---------------------|----------------|
| 198  | Edinburg Independent School District | 870                 | Sept. 4, 1939      | -                                   | 3,280                  | -               | 1,410               | 82             |
| 550  | McAllen Ranch                        | 684                 | Aug. 10, 1939      | -                                   | 684                    | -               | 392                 | 96             |
| 551  | do.                                  | 246                 | do.                | -                                   | 1,040                  | -               | 382                 | 75             |
| 554  | Wood Christian                       | 947                 | Sept. 1, 1939      | -                                   | 955                    | -               | 245                 | 99             |
| 557  | D. Guerra & Sons                     | 834                 | Aug. 31, 1939      | -                                   | 1,430                  | -               | 580                 | 88             |
| 571  | McAllen Ranch                        | 756                 | Sept. 1, 1939      | -                                   | 957                    | -               | 270                 | 99             |
| 572  | do.                                  | 800                 | do.                | -                                   | 978                    | -               | 234                 | 99             |
| 579  | M. Chapa                             | 471                 | Aug. 7, 1939       | -                                   | 2,600                  | -               | 1,120               | 88             |
| 581  | Jaunlina Garza                       | 705                 | Sept. 1, 1939      | -                                   | -                      | -               | 615                 | 89             |
| 582  | P. C. Zamora                         | 631                 | Aug. 10, 1939      | -                                   | 2,060                  | -               | 845                 | 89             |
| 582  | do.                                  | 631                 | Dec. 10, 1948      | 3,570                               | -                      | 1.7             | 770                 | -              |
| 583  | Richard King                         | 625                 | Aug. 10, 1939      | -                                   | 1,930                  | -               | 775                 | 92             |
| 583  | do.                                  | 625                 | Dec. 10, 1948      | 3,480                               | -                      | 1.7             | 770                 | -              |
| 584  | Geo. H. Coates                       | 782                 | Sept. 1, 1939      | -                                   | 1,940                  | -               | 750                 | 91             |
| 584  | do.                                  | 782                 | Dec. 9, 1948       | 3,430                               | -                      | 2.4             | 730                 | -              |
| 585  | -- Corbit                            | 762                 | Aug. 31, 1939      | -                                   | 1,580                  | -               | 620                 | 91             |
| 598  | Hammond Bros.                        | 564                 | Aug. 30, 1939      | -                                   | 2,380                  | -               | 1,120               | 82             |
| 734  | Guerra Bros.                         | 1,020?              | May 11, 1945       | -                                   | 2,020                  | -               | 338                 | 88             |
| 734  | do.                                  | 1,020?              | June 16, 1945      | -                                   | 1,990                  | -               | 339                 | 88             |
| 739  | H. L. McBride                        | 1,710               | do.                | -                                   | 1,420                  | -               | 268                 | 89             |
| 740  | W. M. Doughty                        | 910                 | May 11, 1945       | -                                   | 1,290                  | -               | 468                 | 95             |
| 740  | do.                                  | 910                 | Apr. 20, 1948      | 2,370                               | 1,400                  | 3.4             | 498                 | 95             |
| 749  | J. P. Cruise                         | 1,404               | Apr. 13, 1945      | -                                   | -                      | -               | 405                 | -              |
| 749  | do.                                  | 1,404               | May 11, 1945       | -                                   | 1,260                  | -               | 402                 | 96             |
| 749  | do.                                  | 1,404               | Mar. 21, 1948      | 2,210                               | 1,280                  | 4.0             | 398                 | 96             |
| 759  | L. A. Gannaway                       | 1,430               | June 10, 1947      | 5,160                               | 2,980                  | -               | 1,320               | 86             |
| 759  | do.                                  | 1,430               | Mar. 24, 1948      | 5,130                               | 3,050                  | 5.8             | 1,300               | 87             |
| 769  | A. W. Beaurline                      | 1,503               | Mar. 23, 1948      | 2,150                               | 1,410                  | 7.4             | 260                 | 96             |
| 780  | Guerra Bros.                         | 1,470               | Jan. 22, 1948      | 2,690                               | 1,690                  | -               | 230                 | 94             |
| 780  | do.                                  | 1,470               | Mar. 20, 1948      | 2,710                               | -                      | 8.7             | 415                 | -              |
| 784  | Tom Brown                            | 1,224               | Apr. 6, 1948       | 1,850                               | 1,090                  | 2.8             | 318                 | 96             |
| 785  | T. W. Lee                            | 980                 | Mar. 20, 1948      | 2,030                               | 1,210                  | 4.1             | 365                 | 97             |
| 786  | Texas Produce Co.                    | 1,046               | Jan. 24, 1948      | 2,110                               | 1,210                  | -               | 385                 | 97             |
| 786  | do.                                  | 1,046               | Mar. 20, 1948      | 2,140                               | -                      | 3.9             | 300                 | -              |
| 808  | Geo. D. Young                        | 900?                | Apr. 4, 1948       | 2,330                               | 1,340                  | 3.5             | 430                 | 98             |
| 809  | do.                                  | 1,400?              | do.                | 2,280                               | 1,310                  | -               | 432                 | 98             |
| 811  | do.                                  | 900?                | do.                | 2,330                               | 1,320                  | 3.5             | 430                 | 98             |
| 813  | do.                                  | 900?                | do.                | 2,350                               | 1,400                  | 3.0             | 388                 | 96             |
| 814  | do.                                  | 900?                | do.                | 2,380                               | 1,370                  | -               | 480                 | 97             |
| 829  | W. L. Goldston                       | 2,050?              | Jan. 22, 1948      | 2,320                               | 1,380                  | -               | 315                 | 98             |
| 829  | do.                                  | 2,050?              | Apr. 18, 1948      | 2,300                               | 1,440                  | -               | 308                 | 98             |
| 829  | do.                                  | 2,050?              | Dec. 9, 1948       | 2,280                               | -                      | 4.9             | 298                 | -              |
| 830  | do.                                  | 2,050?              | Jan. 22, 1948      | 2,220                               | 1,320                  | -               | 290                 | 98             |
| 830  | do.                                  | 2,050?              | Apr. 18, 1948      | 2,160                               | 1,320                  | 6.6             | 310                 | 98             |



Table 7.- Electrical conductivity, dissolved solids, boron, chloride, and percent sodium in water from deep wells in the Linn-Faysville area, Hidalgo County--Continued

| Well | Owner          | Depth of well (ft.) | Date of collection | Electrical conductivity (micromhos) | Dissolved solids (ppm) | Boron (B) (ppm) | Chloride (Cl) (ppm) | Percent sodium |
|------|----------------|---------------------|--------------------|-------------------------------------|------------------------|-----------------|---------------------|----------------|
| 839  | Pape & Allison | 1,464               | Jan. 24, 1948      | 4,040                               | 2,360                  | -               | 950                 | 89             |
| 839  | do.            | 1,464               | Apr. 12, 1948      | 5,250                               | 2,610                  | 4.1             | 1,090               | 89             |
| 840  | do.            | 1,105               | Jan. 24, 1948      | 3,870                               | 2,300                  | -               | 900                 | 91             |
| 840  | do.            | 1,105               | Mar. 20, 1948      | 5,330                               | -                      | 4.2             | 1,400               | -              |
| 840  | do.            | 1,105               | Apr. 18, 1948      | 3,830                               | 2,250                  | -               | 842                 | 88             |
| 841  | U. S. Army     | 650?                | Apr. 6, 1948       | 5,810                               | 3,480                  | 3.7             | 1,500               | 84             |
| 842  | J. G. Turner   | 1,345               | Apr. 5, 1948       | 5,020                               | 2,890                  | 4.7             | 1,300               | 90             |
| 843  | do.            | 1,300               | do.                | 4,660                               | 2,700                  | 3.8             | 1,120               | 88             |
| 846  | do.            | 1,175?              | Apr. 14, 1948      | 1,960                               | 1,210                  | 4.1             | 248                 | 98             |

Table 8.- Measurements of water levels in shallow wells in the Linn-Faysville area, Hidalgo County, Texas  
(All measurements are in feet below land surface)

|                             |      |                               |                   |
|-----------------------------|------|-------------------------------|-------------------|
| Well 573                    |      | Well 741                      |                   |
| J. E. Garrett, owner.       |      | A. K. Polis, owner.           |                   |
| Sept. 1, 1939               | 51   | June 9, 1947                  | 33.0              |
| Apr. 15, 1948               | 44.0 | Jan. 23, 1948                 | 36.7              |
| Dec. 10                     | 44.4 | Mar. 20                       | 35.2              |
| Apr. 26, 1949               | 44.5 | Dec. 9                        | 36.6              |
|                             |      | Apr. 26, 1949                 | 35.9              |
|                             |      |                               |                   |
| Well 574                    |      | Well 742                      |                   |
| Ivan A. White, owner.       |      | A. K. Polis, owner.           |                   |
| Aug. 7, 1933                | 50   | June 21, 1945                 | 29.6              |
| Sept. 2, 1939               | 45   | June 9, 1947                  | 40.5              |
| June 21, 1945               | 34.9 |                               |                   |
|                             |      |                               |                   |
| Well 575                    |      | Well 744                      |                   |
| A. W. Beaurline, owner.     |      | A. K. Polis, owner.           |                   |
| Sept. 2, 1939               | 32   | June 21, 1945                 | 31.5              |
| Jan. 23, 1948               | 33.7 | June 9, 1947                  | 36.9              |
| Mar. 20                     | 32.2 | Jan. 23, 1948                 | 33.5              |
| Apr. 26, 1949               | 36.1 | Mar. 20                       | 31.8              |
|                             |      | Dec. 9                        | 45.0              |
|                             |      | Apr. 26, 1949                 | 34.3              |
|                             |      |                               | Shut down 1 hour. |
|                             |      |                               |                   |
| Well 576                    |      | Well 745                      |                   |
| A. K. Polis, owner.         |      | Southern Floral Co., owner.   |                   |
| Sept. 2, 1939               | 30   | June 21, 1945                 | 29.3              |
| Jan. 23, 1948               | 36.1 | Jan. 23, 1948                 | 38.0              |
| Mar. 20                     | 29.4 | Mar. 22                       | 38.9              |
| Apr. 26, 1949               | 31.2 | Apr. 26, 1949                 | 39.8              |
|                             |      |                               |                   |
| Well 577                    |      | Well 748                      |                   |
| Southern Floral Co., owner. |      | Rio Grande Floral Co., owner. |                   |
| Aug. 15, 1939               | 30.5 | June 20, 1945                 | 27.7              |
| June 7, 1947                | 41.6 | June 8, 1947                  | 31.5              |
| Mar. 21, 1948               | 39.8 | Jan. 23, 1948                 | 31.6              |
|                             |      | Mar. 20                       | 30.6              |
|                             |      | Dec. 9                        | 30.2              |
|                             |      | Apr. 26, 1949                 | 30.3              |
|                             |      |                               |                   |
| Well 738                    |      | Well 750                      |                   |
| A. K. Polis, owner.         |      | Juan Medina, owner.           |                   |
| June 9, 1947                | 30.8 | June 21, 1945                 | 26.9              |
| Jan. 23, 1948               | 30.2 | Mar. 22, 1948                 | 32.5              |
| Mar. 20                     | 29.1 | Apr. 26, 1949                 | 31.8              |
| Dec. 9                      | 28.4 |                               |                   |
| Apr. 26, 1949               | 28.1 |                               |                   |



Table 8.- Measurements of water levels in shallow wells in the Linn-Faysville area--Continued

|                             |      |                           |      |
|-----------------------------|------|---------------------------|------|
| Well 781                    |      | Well 799                  |      |
| Ranger Chemical Co., owner. |      | J. P. Cruise, owner.      |      |
| Jan. 22, 1948               | 29.9 | Jan. 23, 1948             | 19.9 |
| Mar. 20                     | 29.9 | Mar. 21                   | 17.6 |
| Dec. 9                      | 28.6 |                           |      |
| Apr. 26, 1949               | 28.3 | Well 800                  |      |
| Well 788                    |      | J. P. Cruise, owner.      |      |
| Ranger Chemical Co., owner. |      | Jan. 23, 1948             | 27.9 |
| Apr. 20, 1948               | 30.5 | Mar. 21                   | 26.8 |
| Dec. 10                     | 30.5 | Apr. 26, 1949             | 27.6 |
| Apr. 26, 1949               | 30.2 | Well 802                  |      |
| Well 788                    |      | D. C. Pollock, owner.     |      |
| G. B. Miller, owner.        |      | Jan. 23, 1948             | 33.4 |
| Jan. 24, 1948               | 43.7 | Mar. 21                   | 32.2 |
| Mar. 21                     | 43.6 | Dec. 10                   | 31.9 |
| Dec. 10                     | 43.6 | Apr. 26, 1949             | 32.3 |
| Apr. 27, 1949               | 43.5 | Well 805                  |      |
| Well 791                    |      | Hale Schaleben, owner.    |      |
| C. E. Villarreal, owner.    |      | Jan. 23, 1948             | 29.8 |
| Sept.--, 1946               | 29   | Mar. 20                   | 28.8 |
| Jan. 24, 1948               | 32.9 | Dec. 9                    | 29.5 |
| Mar. 22                     | 32.6 | Apr. 26, 1949             | 29.6 |
| Dec. 10                     | 33.5 | Well 816                  |      |
| Apr. 27, 1949               | 33.4 | -- Wilson, owner.         |      |
| Well 793                    |      | Apr. 17, 1948             | 34.2 |
| -- Kale, owner.             |      | Dec. 10                   | 34.5 |
| Mar. 22, 1948               | 22.8 | Apr. 26, 1949             | 34.3 |
| Dec. 10                     | 20.8 | Well 825                  |      |
| Apr. 27, 1949               | 22.1 | L. V. Harpel, Sr., owner. |      |
| Well 794                    |      | Mar. 22, 1948             | 32.2 |
| Taylor & Latham, owners.    |      | Dec. 10                   | 31.7 |
| Mar. 22, 1948               | 36.4 | Apr. 26, 1949             | 32.3 |
| Dec. 10                     | 34.3 | Well 833                  |      |
| Apr. 27, 1949               | 35.9 | G. D. Guerra, owner.      |      |
|                             |      | Apr. 4, 1948              | 40.4 |
|                             |      | Dec. 10                   | 37.2 |
|                             |      | Apr. 27, 1949             | 35.9 |
|                             |      | DEEP WELL                 |      |
|                             |      | Well 786                  |      |
|                             |      | Texas Produce Co., owner. |      |
|                             |      | Apr. 15, 1946             | +44  |
|                             |      | Mar. 20, 1948             | +9.6 |

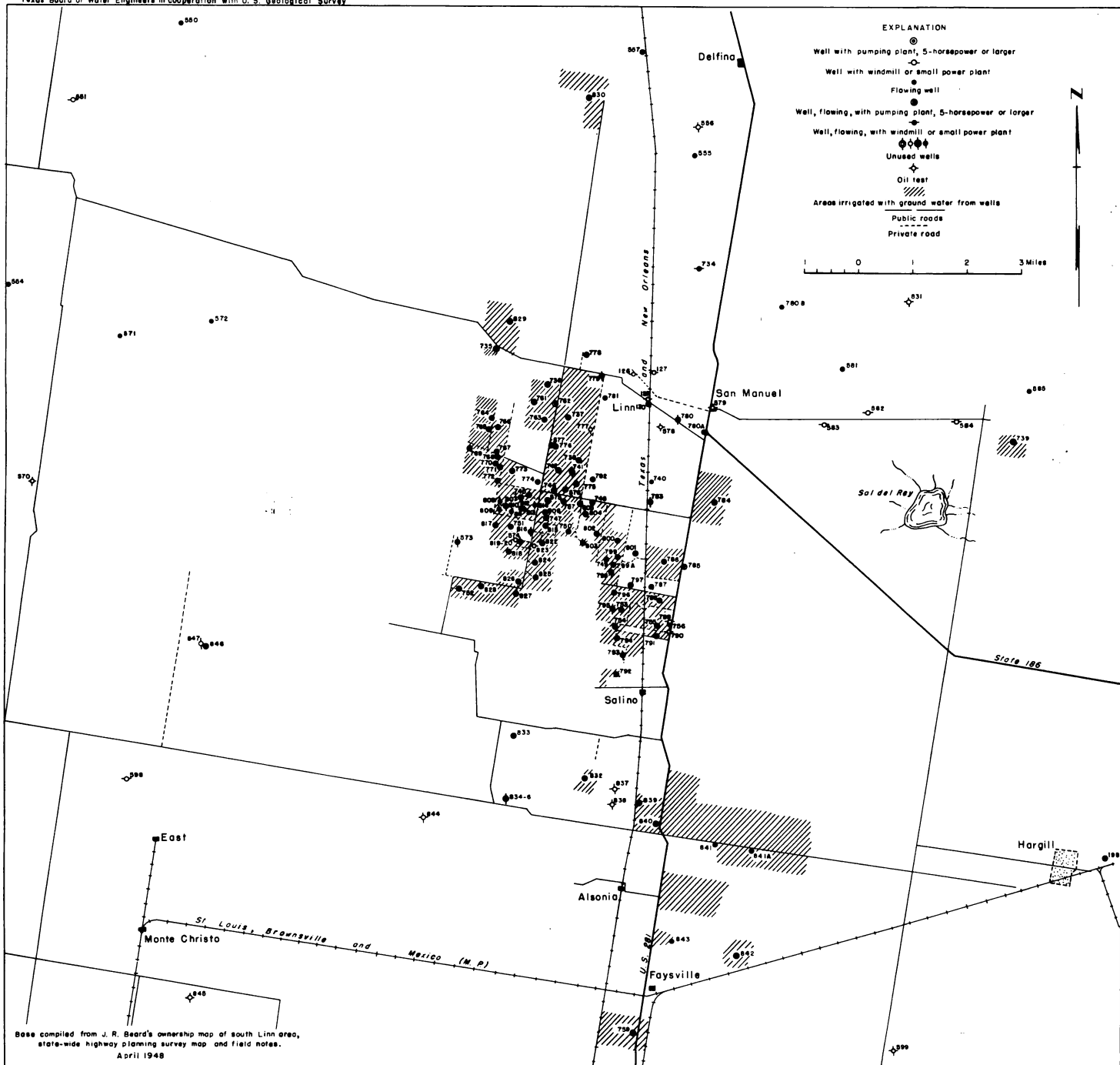


Figure 1-Map showing wells and lands irrigated in the Linn-Faysville area, Hidalgo County, Texas.