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PART I. REGULARITIES AND CORRELATIONS

1. Introduction

1.1 Objectives of the Present Communication

The chemical laboratory at Cerro Prieto has accumulated a wealth of data during its 12 years of operation. These data include analyses of dissolved ions and gases in exploration and production wells and in thermal springs, as observed in repeatedly collected samples and measurements of wellhead and separator pressures, flow of steam and water and size of orifice, condition of well, etc., at the time of chemical sampling.

The objective of this present communication is to make this wealth of geochemical data available to the scientific community in order to facilitate new studies and interpretations from as many points of view as possible. Examples of such studies may be related to water-rock interactions, geothermometry, evolution of a producing geothermal field, comparison of thermal springs with samples from adjacent wells, or comparison of the Cerro Prieto system with other geothermal complexes throughout the world.

Bearing this objective in mind, we regard the major part of this report to be the tables given in Part II. The discussion in Part I is intended to illustrate graphically the geochemical pattern of the Cerro Prieto fluids, to search for ion correlations, and to provide a preliminary discussion of a small number of topics.

1.2 History of the Cerro Prieto Geothermal Field

Attention was drawn to the Cerro Prieto region because of the thermal springs scattered over an area of about 15 x 6 km. Several of these springs reach boiling or near-boiling temperatures. The northwestern part of the thermal spring area is dominated by the geologically recent Cerro Prieto ("Black Hill") volcano. Systematic exploration for geothermal resources was commenced in 1959 with field and photo-geology work (Mañon, 1976). In 1959 exploratory drills penetrated to a depth of 755 m and were continued to greater depths, and in 1965 reached the granitic basement rock at a depth of 2,500 m. Two of the wells drilled up to then produced steam-water mixtures of enthalpies higher than 300 cal/g. Gravimetric and refraction seismic surveys were conducted during 1961-1963. A temperature gradient survey was done in 1965, aided by 50 drillholes 6 to 20 m deep. The same year marked the beginning of the systematic chemical studies. An aeromagnetic survey and a resistivity study were initiated in 1972 covering more than 400 km^2 of the Mexicali Valley.

The site of the presently producing field was selected based on the success of the exploratory well Number 5. During the past 12 years, 16 producing wells have been completed. The total output is 750 tonnes/hr separated steam (at 75 psig) and 2,000 tonnes/hr separated water. The wells that supply the 75 Mw/hr plant are located over an area of about 0.7 x 0.7 km.

The 75 Mw/hour plant came into commercial operation in April 1973.

1.3 Sources of Analytical Data

From 1965 to 1969, the chemical laboratory of Cerro Prieto was headed by S.G. Mercado; and since, by A.M. Mañon. In the 12 years of its operation the laboratory has handled over 10,000 samples of water and steam collected from springs, fumaroles, research wells, and mainly from the production wells and discharge canals. The wealth of data obtained is well documented in the laboratory's archives. The sample data include relevant information on the mode of sampling, depth of production, and pressure and flow measurements that provided the basis for enthalpy calculations.

In comparison, the amount of Cerro Prieto data published in the literature so far is extremely small. Mercado (1968) published a chemical survey of the springs. At the first U.N. Symposium on Geothermal Resources held in Pisa, Italy, Mercado (1970) reported Na/K ratios and SiO_2 contents in a number of wells, and Molina and Banwell (1970) repeated Mercado's 1968 data on the springs. Werner and Olson (1970) included in their Salton Sea study the contents of a number of elements in seven Cerro Prieto wells. Crossby, Chatters, Anderson and Fenton (1972) reported measurements of stable hydrogen and oxygen isotopes in the geothermal wells and the regional shallow groundwaters. Chemically related papers of the Second U.N. Symposium on Geothermal Resources, San Francisco, California, included a report by Reed (1975) on the construction and maintenance of the producing wells at Cerro Prieto.

2. General Data

2.1 Geology

The Cerro Prieto geothermal field is located in the Mexicali-Salton Sea basin, which hosts several geothermal manifestations. The general features are seen in a map (Figure 1) from a satellite photo (Figure 2). The lithological sequence in the producing field is revealed by the section of Well M-39 (Figure 3). Clays and loose sand prevailed to a depth of 700 m in this well; shale and sandstone were observed from this depth down to the bottom of the well at nearly 1,500 m. Gravels and various clastic components are frequent in the whole section. An alluvial facies is thus dealt with, attributed by most workers to former deltas of the Colorado River. The thermal waters are exposed to sandstone, shale, silt, and gravels of volcanic rocks and to minerals such as quartz, feldspars, mica, as well as calcite, which is a common cementing agent. Pyrite is often reported to be disseminated in the rocks. Reed (1975) lists the following minerals detected in well cores and cuttings: quartz, calcite, microcline, plagioclase, dolomite, kaolinite, montmorillonite, illite, moscovite, chlorite, and epidote. The Cerro Prieto thermal brines are in contact with these minerals, part of them belonging to the original country rocks and others being the product of water-rock interactions. The variability of rocks and minerals to which the spring waters are exposed may be even larger, as they occur over a greater area than the producing wells and while ascending to the surface their waters also come in contact with the shallow sediments.

Two geological sections are given in Figures 4-6, and a section and partial view of the Mexicali Valley are given in Figure 7. Two major faults (Figure 2a), a possible continuation of the Imperial fault and the San Jacinto fault, are established by air photos and are mainly based on geophysical work (Figure 2b). The block structure of the region may have direct influence on the movement of the thermal brines and different tectonic blocks may host brines of different compositions.

2.2 Well Data

Dominguez and Vital (1975) described the well casings, perforations and other technical data in detailed drawings, tables and text. A brief and up-to-date summary of production depths, casing diameters, and other remarks is given in Table 1 in Part II of the present communication. These data may be useful when utilizing the chemical data (Tables 4 and 5, Part II), as variations in the chemical composition may be traced back to variations in the well setups.

The well locations are shown in Figure 4 and a number of more remote exploration wells are indicated in Figure 20.

2.3 Analytical Methods and Estimated Errors

The analytical procedures applied by the Cerro Prieto laboratory over the years are summed up in Table 3, Part II.

The analytical errors were not routinely assessed. A general idea of the analytical quality was gained through processing of the data. In Section 3.1 basic plots are presented of the concentration of various elements in repeatedly collected samples from each well. In several cases the data fall on straight lines when plotted against the Cl content (Figures 9a-f). These lines reflect regularities in the geothermal system (e.g., mixing or concentration lines, to be discussed later on). The deviation of the individual data from a best-fit line are in such cases a result of the analytical errors and of the natural variations. Hence, these deviations may be applied to deduce upper limits to the analytical errors. To do so, wells with the best linear fits are best used, the assumptions being: a) that in these cases the natural deviations were minimal, and b) the analytical errors were the same for all wells. The data of repeated samples of Well No. 11 have been chosen by this criterion are reproduced in Figure 8. The deviations observed in Figure 8 are the analytical errors of each element and that of chlorine. For simplicity we suggest, therefore, to use half of the mean deviation as the one sigma error of each of the elements plotted in the graphs of Figure 8. These deduced analytical errors are summed up in Table I. It is seen that the errors for the major elements are relatively low and the chemical data seem to be good for geochemical processing of the type done in the following sections.

TABLE I

Deduced Upper Limits for Analytical Errors*

Cl	Na	K	Li	Ca	B	HCO_3+CO_3	SiO_2
5%	5%	5%	5%	5%	10%	8%	10%

* Text and Figure 8.

3. Ion Correlations in the Wells

3.1 Basic Plots Against Cl

Table 4 in Part II of this communication reports dissolved ion concentrations in samples that were repeatedly collected from the various wells. The data have been plotted against the Cl content in Figures 9a-f. These plots will be referred to in several of the following sections. Table 4, Part II, also contains information on the flow conditions (e.g., orifice diameter at which each sample was collected). This information is included in Figures 9a-f in the form of symbols explained in the figure caption. The wells are arranged in Figure 9a-f in the following order from a to f: first wells outside the producing field, namely, Wells 1A, 3, 6, 7, and 53. Then (from 11) the wells of the producing field arranged from north to south. This geographical order has been selected to facilitate the search for geographical trends in the data.

3.2 Weighted Most Concentrated Values of Each Well

Most wells are seen in Figures 9a-f to reveal large variations in their ion contents. In order to evaluate the distribution and composition of the deep-seated brines in Cerro Prieto, the weighted most concentrated samples of each well was reconstructed (Table II). The highest Cl value observed in each well was taken and the corresponding value of each of the other elements was read from the diagrams in Figure 9a-f. In linear plots (e.g., Na as a function of Cl) the necessary values were read from a best-fit line. This procedure was also applied to the horizontal lines observed in most Na/K versus Cl graphs (e.g., Well No. 11, Figure 9b). In cases of clustering, average values were taken (calculated from the original data, in

Table II

Weighted Composition of the Most Concentrated Sample of Each Well (text), mg/l.

Well	Na	K	Na/K atomic	Li	Ca	B	HCO_3+CO_3	SiO_2	Cl
1A	4,400	500	11.5	11.8	230	8.8	50	250	7,700
3	7,500	1,500	7.0	~20.	400	~12.	~80	650	12,000
7	6,000	1,400	7.3	15.5	300	13.	~200	500	10,300
6	4,500	470	16.2	17.	620	7.	1,000	155	8,200
53	8,300	2,800	5.0	-	350	-	-	1,250	17,300
11	8,600	2,230	6.6	28.	550	20.	40	900	16,700
42	6,100	1,470	7.0	17.5	380	-	-	-	11,600
38	8,100	2,000	6.8	23.	380	17.	~50	850	14,300
39	6,400	1,100	~10.	16.	420	14.	50	650	12,100
10	5,500	1,700	5.5	18.	350	~14.5	~300	~680	10,600
13	8,800	2,400	~6.3	26.	450	~18.	50	~1,050	16,200
15	3,200	270	~20.	-	40	-	-	-	5,200
15A	7,400	1,580	8.	18.	430	-	~20	~800	13,500
5	9,900	2,350	7.2	30.	580	22.	60	1,000	17,900
19A	8,700	2,180	6.8	~24.	550	-	-	-	17,000
20	8,300	2,000	7.0	26.	500	~14.	~200	950	15,500
25	9,200	2,000	7.8	28.	600	-	50	950	17,000
21	7,000	2,050	5.7	19.5	300	~16.	100	~800	13,000
21A	12,500	3,150	6.7	~30.	760	-	~40	960	21,400
26	9,800	2,400	6.9	30.	~850	~14.	~50	950	18,700
29	7,100	1,360	8.8	~21.	500	~13.	~50	470	13,100
30	9,600	2,500	6.5	30.	600	-	~40	920	17,800
27	9,000	2,600	6.5	-	950	-	-	-	18,000
8	9,900	2,600	6.4	30.	500	17	60	900	16,400
31	8,700	2,200	6.7	29	550	~14	~60	~900	16,300
35	9,500	2,600	6.2	25	550	-	~40	1,030	17,100
51	8,500	2,400	5.9	28	420	-	-	1,030	15,900

Table 4, Part II), e.g., the B content versus Cl in Well No. 21, Figure 9b.

The data in Table II were plotted in Figure 10 as functions of the Cl content. Thus, an overall picture of the whole field is obtained. A surprising similarity is seen between the patterns of the whole field in Figure 10 and the individual patterns for each well in Figure 9a-f. This indicates that the processes causing compositional variations between the wells are also operating in each well and are reflected in repeatedly collected samples (to be discussed later on).

The data of Table II are also plotted in Schoeller diagrams in Figures 11 and 12. In this type of representation the various ions are plotted in a logarithmic scale of concentrations. As an example, the most concentrated values of Well No. 6 (taken from Table II) are plotted in Figure 11. Thus a graphical representation of the chemical composition is obtained. Figure 12 is composed of such Schoeller diagrams of the weighted most concentrated values for each well. The data for the producing wells are arranged in Figure 12 in a geographical order from south (on bottom) to north (toward the top of the figure). The base lines of the diagrams (10 mg/liter) are regularly spaced and marked on the vertical axis. The following observations may be made:

a. The compositional lines for the mail well field (i.e., from Well No. 51 to Well No. 3) are rather parallel, indicating the wells possess similar dissolved salt assemblages. The major variations are due to the larger range of $HCO_3 + CO_3$ concentrations.

b. Well No. 6 and Well No. 53, which are outside the main field (Figures 4 and 7), differ in their composition to one another and from the producing wells. This is of highest interest as it may indicate that the compositions of the brines at Cerro Prieto vary from one tectonic block to another. Well No. 6 belongs to a western block separated from the producing field by a fault, and Well No. 53 belongs to an eastern block, separated from the producing field by another fault.

c. In nice agreement with such a tectonic-composition classification, Wells Nos. 3, 7, and 1A as shown in Figure 12 resemble the main field wells. Thus, the brine reservoir of the producing field may well extend at least 2 km northward (Figure 4).

3.3 Trace Elements

Table 7 in Part II contains data on trace elements and sulfate in samples collected on 23 September 1976. These data are plotted against the Cl content in Figure 13, which also includes the major elements observed in the sample collection (Table 5, Part II). With regard to the trace elements we would like to draw attention to the good correlations observed for Li, Cs, B, Rb, and Br, plotted against Cl (Figures 13a and b). Poor correlations were observed for Ba, I, and Sr (Figure 13c); and no correlation was seen for As and Fe (Figure 13d). The ion data should be regarded with care because of possible contamination from the casing.

3.4 Observations and Partial Discussion of Dissolved Ions in Wells

3.4.1 Variability of Ion Concentrations: Large variations are observed in the ion concentration in water samples of the wells. This is seen both in repeated collections in the individual wells (Figures 9a-f) and in the weighted most concentrated values of the different wells (Figure 10). The most likely causes for these variations are concentration by steam loss on the one end and dilution with fresh water or condensed steam on the other. Also less quantitative variations are caused in certain elements due to re-equilibration (Section 5.2).

3.4.2 Conservative Elements: Various elements are seen (Figures 9a-f) to fall along straight lines when plotted against Cl. Examples are Wells: 53, 11, 38, 39, 13, 15A, 5, 19A, 20, 25, 21A, 26, 30, 27, 8, 31, 34, 35, and 51. The same trend, for major and trace elements, is also seen in Figure 13 in which data of the various wells are plotted together.

Comparing the lines formed by the different elements in Figure 13, it seems that two groups of elements exist.

The elements of the first group in Figure 13a extrapolate to the zero value of the axis, thus exhibiting lines of the general equation $y = ax$. Li, Na, Rb, Cs, and B belong in this group. Value shifts along such lines are expected whenever concentrations of brine due to steam loss or dilutions with fresh water take place. Lines of the pattern $y = ax$ exclude deviations caused by chemical reactions. This is because chemical reactions would be expected to be of different intensities for Cl and other elements, and would therefore deflect the lines of Figures 9a-f and 13 from extrapolating to zero. Hence, Li, Na, Rb, Ca, and B are termed conservative with regard to their appearance at the Cerro Prieto Wells.

3.4.3 Reactive Elements: Ca, K, SiO_2, and Br are seen in Figure 3b to plot on straight lines as well, but these do not extrapolate to zero. Instead, they cross the Cl axis and follow the equation $y = ax - b$. Another expression of this trend is seen by the different y/x values that these lines possess at their different sections. For example, the value of Cl/Ca in the upper part of the line in Figure 13 is 23, whereas in the lower part it is 36. Similarly, the Cl/K ratios seem to vary from 7.3 to 12.0; Cl/SiO_2 varies from 12 to 22; and Cl/Br ratios range from 450 to 1700.

The explanation for this "nonconservative" behavior of these elements seems to be the fact that they reacted with the aquifer rocks before ascending in the wells. These reactions seem most likely to be temperature dependent, caused by temperature variations, or temperature zones in the geothermal system. Such reactions are commonly attributed to SiO_2 and K, occassionally to Ca and at least at Cerro Prieto, Br seems to behave similarly. These elements are termed reactive in this communication.

3.4.4 Homogeneity of the Brine in the Cerro Prieto Block: Discussing the data in Figure 12 we noted that the brine in the western block, represented by Well No. 6, differed in composition from the highly saline brine in the eastern block, represented by Well No. 53. Both these wells differ from the brines in the producing block, as represented by Wells No. 3, 1A, 7, and the producing wells. The brines of the producing wells, seem, however, to be close to each other in their compositions. This is revealed by the straight lines obtained by plotting the data of the producing wells versus Cl (Figures 10 and 13). Deviation of individual wells from a general average composition seems to be due to: a) temperature dependent re-equilibration of the reactive elements, and b) dilution by fresh water or concentration by steam loss.

Attention is drawn at this point to the similarities in the composition of the brine samples of the Cerro Prieto producing field, rather than to differences, which seem to be secondary effects. These second-order effects and the processes that cause them will be discussed later.

Table III. Best-Fit Correlation Factors for Enthalpy, SiO_2, K, and log Na/K Relations.

Set	Date	X = Enthalpy Y = SiO_2			X = Enthalpy Y = log Na/K			X = K Y = SiO_2			X = SiO_2 Y = log Na/K		
		a_0	a_1	r	a_0	a_1	r	a_0	a_1	r	a_0	a_1	r
1	1/31/74	-466.98	4.32	.7603	1.31986	-0.00221	.7162	145.89	.3728	.763	.9286	-0.00034	.6113
2	4/29/74	46.7	2.337	.31022	1.30775	-0.00215	.76	443.53	.16725	.328	.86193	-0.00028	.2261
3	7/10/74				1.39784	-0.0023	.8776						
4	8/29/74				1.09922	-0.00128	.506						
5	1/15/75	385.2	1.33	.2531	.9665	-0.00094	.513	363.35	.2644	.6734	.96173	-0.00037	.545
6	3/10/75	201.336	1.9144	.3	.9455	-0.00093	.492	358.81	.27031	.5926	.9058	-0.00032	.77
7	5/20/75							369.13	.2251	.53	1.043	-0.00049	.575
8	7/15/75	248.3	1.7722	.346	.9253	-0.001	.292	379.2	.23543	.724	1.02897	-0.00052	.715
9	9/11/75	17.425	2.86	.268	1.171	-0.00158	.6	312.92	.37891	.5502	.925	-0.00028	.566
10	11/12/75	-194.7	3.106	.332	1.20702	-0.00175	.405	299.95	.3013	.69423	1.02524	-0.00047	.85
11	3/ 8/76	-182.9	3.7613	.634	1.1836	-0.0017	.897	297.04	.42443	.85	.9943	-0.00034	.806
12	5/24/76				1.09434	-0.00142	.7663						
13	8/10/76				.875	-0.00077	.16123						
14	9/23/76	146.53	2.8665	.23243	1.098	-0.00145	.6115	252.62	.477	.8	.9189	-0.00026	.684
15		-69.151	3.1121	.4137	.9486	-0.00093	.305	370.71	.32141	.45307	.8854	-0.00025	.52
		Form of equations $Y = a_0 + a_1 x$											
All* Sets		-204.83	3.5935	.52	1.1755	-0.00167	.662	378.4	.3	.44	.8817	-0.00027	.45
Sets Included		1,11,15			1,2,3,9,11,12,14			1,5,6,8,9,10,11,14,15			1,5,6,7,8,10,11,14		
Other Sets		153	2.04	.315									
		2.6.8.10											

* Excluded bad and dummy sets. Bad sets are those whose correlation index (r) are too low and slopes are too different from other sets due to the individual correlations indicating a family curve.

4. Variations in Ion Concentration in Space and with Time

4.1 Effect of the Well Head Orifice Diameter

The data in Figures 9a-f are plotted in symbols indicating the diameter of the discharge pipe at the time of sampling. In general, samples collected via 1/4", 1/2", and 1" orifice diameters contain less dissolved ions than samples collected via 2" diameters or larger and full production. Examples are (Figures 9a-f) seen in Wells No. 53, 11, 5, 19A, 25, 26, 29, 27, and 51.

Several explanations may be offered to this effect, one being that the larger the orifice diameter is, the less significant the cooling is by conduction in the well; and the formation of steam becomes more significant. The more steam that is separated from the collected samples, prior to their analyses (the analytical data being reported for atmospheric pressures), the higher the ion content will be.

Another aspect of the influences observed due to sampling at different orifice diameters is the change of pressure observed with change of diameter. Two such examples are shown in Figure 14 for Wells No. 25 and 31. By changing the diameter from 1/2" to 3", increases in pressure are observed; but further increases of the orifice diameter results in a pressure drop. To explain this phenomenon: the geothermal pressure at the well bottom is proportionally corrected to the suppressing hydrostatic pressure of the water column in the well. When discharge is through an orifice of a small diameter, the water column is effectively cooled by conduction and its density is relatively high, resulting in efficient suppression of the geothermal pressure. As the flow is increased the water in the well gets hotter and lighter, and some of the net pressure at the wellhead increases. Beyond 3" the pressure seems to drop due to two effects that take over: namely, the drop of resistance to the flow of the fluid as the orifice diameter is increased and the drop of the reservoir pressure near the well because of the increased flow.

The Cl does not co-vary with the pressure (values are given in the upper part of Figure 14) but is affected by the orifice at small diameters. This observation should be remembered when samples are collected and the data interpreted.

4.2 Areal Variations

The Cl and SiO_2 contents and the atomic Na/K ratio of the most concentrated samples of each well (Table II) are indicated in the well maps of Figure 15. The center of the producing field seems to be characterized by high Cl and SiO_2 values (maximal) and relatively low Na/K ratios.

This pattern might be connected to higher enthalpy values observed in the center of the producing field. This could result in higher K content, and hence relatively low Na/K ratios which subsequently could also result in higher steam losses producing higher ion contents.

4.3 Vertical Distributions

Figure 16 shows average concentrations (for several years) of Cl, SiO_2, and K contents for the producing wells as a function of the depth of the producing (slotted) zone. Two immediate difficulties are: a) the large ranges of production intervals, reaching up to 300 m; and b) the marked overlap of the depth of the production intervals in the various wells. No depth correlations are observed; i.e., the ion concentrations do not indicate stratification of brines in the production zone. This conclusion is tentative due to the poor depth resolution discussed above. It is hoped that future studies will clarify this point.

4.4 Variations with Time or Production

Significant variations are noted in several wells in repeatedly collected samples (Table 4, Part II). However, careful data analysis for each well revealed the variations are readily explainable by well characteristics; e.g., beginning or end of production, changes of well depth or casing, formation of cracks and their repair, and variation in the orifice diameter. (The relevant information is given in Tables 1, 4, and 5 in Part II.)

The influence of these operation conditions on observed ion concentrations seem to mask any variations that may occur with time, due to production.

5. Enthalpy - Dissolved Ion Correlations

5.1 Conservative Ions

In Figure 17 various ions are plotted as a function of calculated enthalpy. Positive correlations are observed for the Cl, Na, and Li concentrations and enthalpy. The best-fit lines (excluding the September 1976 data) extrapolate to zero. Thus, Cl, Na, and Li reveal conservative behavior, also in enthalpy, similar to their behavior in Figure 13, where Na and Li were plotted against Cl. This seems to indicate that no noticeable chemical reactions take place as a result of the enthalpy variations.

5.2 Reactive, Temperature-Dependent Ions

The concentrations of SiO_2 and K shown in Figure 17 reveal positive correlations with enthalpy. Their best-fit lines (excluding the September 1976 data) do not extrapolate to zero, indicating chemical reactions took place. This is in good agreement with the SiO_2 and K reactive patterns in Figure 13. As these reactions vary with this enthalpy, it might be concluded that they are temperature dependent. It is this type of observation when the SiO_2 and Na/K geothermometers are used.

5.3 Enthalpy-SiO_2 and Log Na/K Correlations for Repeated Sample Collections

A best-fit regression calculation has been made in Table III for the enthalpy and SiO_2 and log Na/K data in repeatedly collected sample sets given in Table 5, Part II. In Table III the correlations are given for best-fit lines of the equation $y = a_0 x - a_1$ and the values of a_0, a_1, and for r, the correlation factor. The following patterns are observable (Figures 18 and 19):

a. The slope a_0 varies in sets 1 to 15 (Figure 18). The variation is small for the enthalpy-log Na/K relation but large for the enthalpy-SiO_2 relation. A possible explanation,is a ratio of a conservative ion such as Na to a reactive ion or K is not very sensitive to variations in ion concentrations induced by dilution-concentration processes occurring during the rise of the fluid in the wells. The SiO_2 value is, however, sensitive to such in-well variations. It seems that enthalpy-SiO_2/Cl may reveal higher correlations for this reason.

b. The relative variations of the constant a_1 are small for the enthalpy-log Na/K relations and higher for the enthalpy-SiO_2 relation, as well.

c. The correlation factor r varies in the individual sets significantly. For example, data sets 1, 3, 11, and 12 reveal good correlations, r being greater than 0.7 (Table III). In contrast, sets 8, 13, and 14 reveal no correlation, r being lower than 0.2. The same trend is noted in Figure 17 in which the September 1976 data show poor correlations but the other data sets show significant correlations.

The reason for the observed variations in the correlation parameters between data sets of different dates is not clear. It might reflect variations in the quality of enthalpy component measurements or real variations.

5.4 Correlation of the Temperature-Dependent Reactive Ions, K and SiO_2

Table III and Figure 19 describe the correlation patterns calculated for the K-SiO_2 and SiO_2-log Na/K relations. The correlation factor r is high in both cases; e.g., data sets 1, 8, 10, 11, and 14 reveal values of 0.70 to 0.85. This can be expected because of the good correlation observed between temperature-dependent reactive ions with enthalpy.

It is felt that the topic of geothermometry may be further studies in light of the available ion content-enthalpy data from Cerro Prieto and might be accompanied with a more detailed discus sion of the enthalpy calculations applicable to the Cerro Prieto field.

6. Thermal and Mineral Springs

6.1 Distribution and General Description

The springs provide thermal geochemical information on an extended area that links the Laguna volcano with the Cerro Prieto volcano (Figure 20). They are scattered over an area of about 5 x 11 km (for comparison, the currently producing wells are located on an area of 0.7 x 0.7 km, i.e., about 2% of the area covered by springs).

The springs vary in their discharge from 10 liters/min to almost stagnant seepages. The spring manifestations also include mud cones, mud pot, and fumaroles, which will be discussed separately.

Observed temperature readings range from 16° to 98°C. No clear geographical trend is observable in the temperature distributions and hot springs issue next to the cold springs (Figure 17).

Analytical data of the springs include a general survey by Mercado (1968) summarized in Table 9, Part II; and the data from a number of springs with steady flow sampled six times during one year are shown in Table 10, Part II.

6.2 Evaporation Effects

The temperature of the springs is plotted as a function of Cl in Figure 22. Two groups of springs emerge: a) springs of 30°C and higher with relatively low salt content (up to 14,000 mg/liter Cl); and b) springs cooler than 30°C and high in salt content (up to 182,000 mg/liter Cl). The last group, represented by 5 springs, seems to have undergone significant evaporation due to surface exposure prior to sampling, and hence they are cool and high in salinity. Tha Na-Cl plot in Figure 22 reveals the same evaporative group of five springs. These cases are omitted from the following figures and discussion of the springs.

6.3 Ionic Variations and Correlations

The data of the general spring survey (Table 9, Part II) are plotted in Figure 23 as a function of the Cl content.

The data of the repeated sampling in the fair-flowing springs (Table 10, Part II) are plotted in Figure 24 as a function of the observed temperatures. The most outstanding features seen in this figure are the large variations observed both in the temperature and in the ion content of each spring when sampled repeatedly. The variations in the Cl content are relatively small but those of SiO_2 are large.

6.3.1 Conservative Occurrence of Cl, Na, Ca, Li, and B: In Figure 23 and especially in Figure 25, positive correlations are seen between Cl and Na, Ca, Li, andB. The best-fit lines can be forced to pass through zero,and these elements reveal a conservative behavior similar to the observations made at the wells.

6.3.2 Temperature-Dependent Reactions: The best-fit line of K in Figure 25 does not extrapolate to zero, revealing the reactive nature of this ion, similar to observations made at the wells, The Na/K plot (Figure 24) as a function of spring temperatures reveals that the average values are negatively correlated to the temperature. Hence the K reactions are temperature-dependent and, as in the case of the wells, lower K concentrations match lower temperatures.

In contrast, the SiO_2 content reveals no correlation with spring temperature, indicating control by reactions that are not temperature dependent, e.g., a high pH value causing dissolution.

6.3.3 Higher HCO_3 Contents (Compared to the Wells): The HCO_3 in the springs ranges from 0 to 480 ppm; about half the cases have values above 220 ppm. These values are significantly higher than the values observed in the wells, which are below 100 mg/liter HCO_3. The HCO_3 content in the springs reveals no correlation to Cl (Figure 23) and seem to originate from reactions to CO_2-rich waters with rocks while rising to the surface. Such reactions seem to be enhanced below about 200°C.

6.3.4 Higher SO_4 Contents (Compared to the Wells): The SO_4 content varies from 4 to 7000 mg/liter; about half of the springs have values above 50 mg/liter. In contrast the wells contain little SO_4, ranging up to 18 mg/liter (Table 7, Part II). These ··gher higher SO_4 values in the springs are attributed to oxidation of H_2S at the surface, a phenomenon known in thermal springs in other regions.

6.3.5 The Ca Content: Figure 23 shows a cluster around the value of 400 mg/liter Ca. Figure 26 reveals two groups when Ca is plotted against HCO_3. The one group contains about 400 mg/liter Ca, not correlating with the HCO_3 content and exceeding it in meq/liter (the maximal HCO_3 value being 8 meg/liter). The second group shows deviation, mainly enrichments relative to the basic value of 400 mg/liter.

The value of 400 mg/liter Ca is characteristic for the wells (Figure 10), and thus it seems that most spring waters issue with their original Ca content, i.e., no losses or gains occurred in most springs.

6.3.6 The Pattern of B: Boron is seen in Figure 25 to make up two groups. Most springs plot on a straight "conservative" line. Yet, three springs, number 22, 31, and 48, have remarkably high B contents, of up to 68 mg/liter. These values have been verified in the repeatedly collected samples (Table 10, Part II). The high B values are higher than the values observed in the wells (Figure 9a-f and 10). The three high B springs are not close to each other and an explanation of their B content is not in sight.

7. Gas Contents

7.1 CO_2, H_2S, and NH_3 in the Wells

Table 6, Part II contains data on the CO_2 and H_2S content in one set of samples collected at the producing wells. These data plotted in Figure 27, show a positive correlation between CO_2 and H_2S, and between H_2S and the calculated well temperature. A similar general correlation is seen between the average CO_2 and H_2S values summed up in Table 8, Part II.

The correlation of CO_2, H_2S, and well temperature might be explained by a steam and gas phase existing in the field and variably contributing excess steam, CO_2, and H_2S to certain well under certain production conditions. A most likely location for such steam would be above the brine zone, below the sealing cap rock. The possible existence of a steam cap has originally been suggested by A. Truesdell in order to explain differences between temperatures deduced from SiO_2 contents and those determined from enthalpy measurements (personnel communication).

7.2 Gas Observations in Fumaroles

A number of steam vents (i.e., funaroles) are observed in the thermal springs areas. Three fumaroles (Table 11, Part II and Figure 20) have been repeatedly monitored during 1972. The measured temperatures ranged from 83°C to 100°C. CO_2 and H_2S are positively correlated to each other but no correlation emerges with the NH_3 values.

8. A Model

The chemical data of Cerro Prieto exhibit certain regula ities and reveal various correlations which are by no means random. The observed trend may be fitted together by a working model, which might be summed up in the following manner:

A. Basically one type of brine has to be assumed to explain the ma festations encountered in the producing wells and in Wells 1A, 3, and 7, that are located to the north in the same tectonic blocks (Figures 4 and 7).

B. Wells 6 and 53 are located in different blocks, bordering the block of the producing field. Their chemical composition is different, possibly indicating differences in the chemistry of the brines of each major tectonic block (Figure 12).

C. Modifications in the chemical composition of individual wells in the producing field may be caused by:

1) Steam losses or gains causing respective concentration or dilution (Figures 9 and 10).

2) Producing from different temperature zones being reflected by lower contents of SiO_2 and K due to reequilibration with aquifer rocks (hence, higher Na/K ratios).

3) Existence of a steam and gas cap at the upper part of the fluid system, below the clay sequence. Various additions of steam and gas to different wells may explain the observed positive correlation between CO_2, H_2S, and well temperature (Figure 27).

4) Differences in ion contents in samples repeatedly collected in a well may be caused by last-minute processes caused by production. These may include concentrations by steam loss (mainly in samples collected at large orifice diameters) and occasional dilutions by condensed steam (in samples collected at narrow orifice diameters). Such processes may cause the shifts along correlation lines observed in individual wells (Figures 9a-f).

5) The temperature-dependent reactive ions, mainly, K and SiO_2, reequilibrate to the temperatures prevailing in the various temperature zones of the system, but they have no time to reequilibrate in response to changes caused during ascendance in the wells. Hence, the K and SiO_2 are extrapolating to zero (i.e., reveal conservative behavior) in the individual well plots (Figures 9a-f), but do not extrapolate to zero (i.e., reveal a reactive nature) when average data from different wells are plotted against Cl (Figure 10) or enthalpy (Figure 17). Hence the Na/K geothermometer reflects conditions at the well bottom and is not shifted by steam loss and other production-induced processes.

6) It seems that the original brine at depth has a Cl content of around 10,000 mg/liter. This is hinted at by the graphs of Figures 9 a-f. The various samples of each well plot in many cases along straight lines (e.g., Well No. 11; Figure 8 and many others). These lines are rather equally populated along sections that in most wells reveal an "initial" value around 10,000 - 11,000 mg/liter Cl. Examples (Figures 9a-f) are Wells 3, 7, 6, 53, 42, 38, 5, 19A, 20, 25, 21, 26, 29, 30, 8, 34, 35, and 51.

It is suggested that the samples above this original ion content underwent different degrees of steam loss. The small number of samples with less than 10,000 mg/liter Cl seem to have been diluted either by shallow fresh water intruding a well (when samples at small orifice diameter) or by condensed steam.

7) The brines interact with aquifer rocks as revealed by the occurrence of secondary minerals in the cores and cuttings. Viewed via the water chemistry these reactions mainly involve the reactive ions, e.g., SiO_2, K, and Ca (Figures 10 and 13). Bromide reveals a reactive pattern in Figure 13 but it is felt that more data is desired in order to discuss this trend for Br.

8) The thermal and mineral springs may be explained as being fed by a brine of the same type as encountered in the producing wells. The variations observed may be caused by:

a) Further interactions with country rocks, enhanced by the lower temperatures reached in the ascending water due to conductive cooling. Such reactions seem to cause the higher HCO_3, the lower SiO_2, and higher Na/K values (Figures 23-26).

b) Oxidation of H_2S to SO_4, by contact with air at the surface, explaining the higher SO values.

c) Occasional evaporation before sample collection (Figure 22).

d) The above processes may cause changes in the pH, total ion concentration and other properties, which in turn may trigger further reactions, e.g.,solution of SiO_2 by highly acidic waters.

e) Varying dilutions by cold fresh (salt poor) water.

f) The fumaroles seem to originate from steam that ascends along cracks that are not invaded by fresh water.

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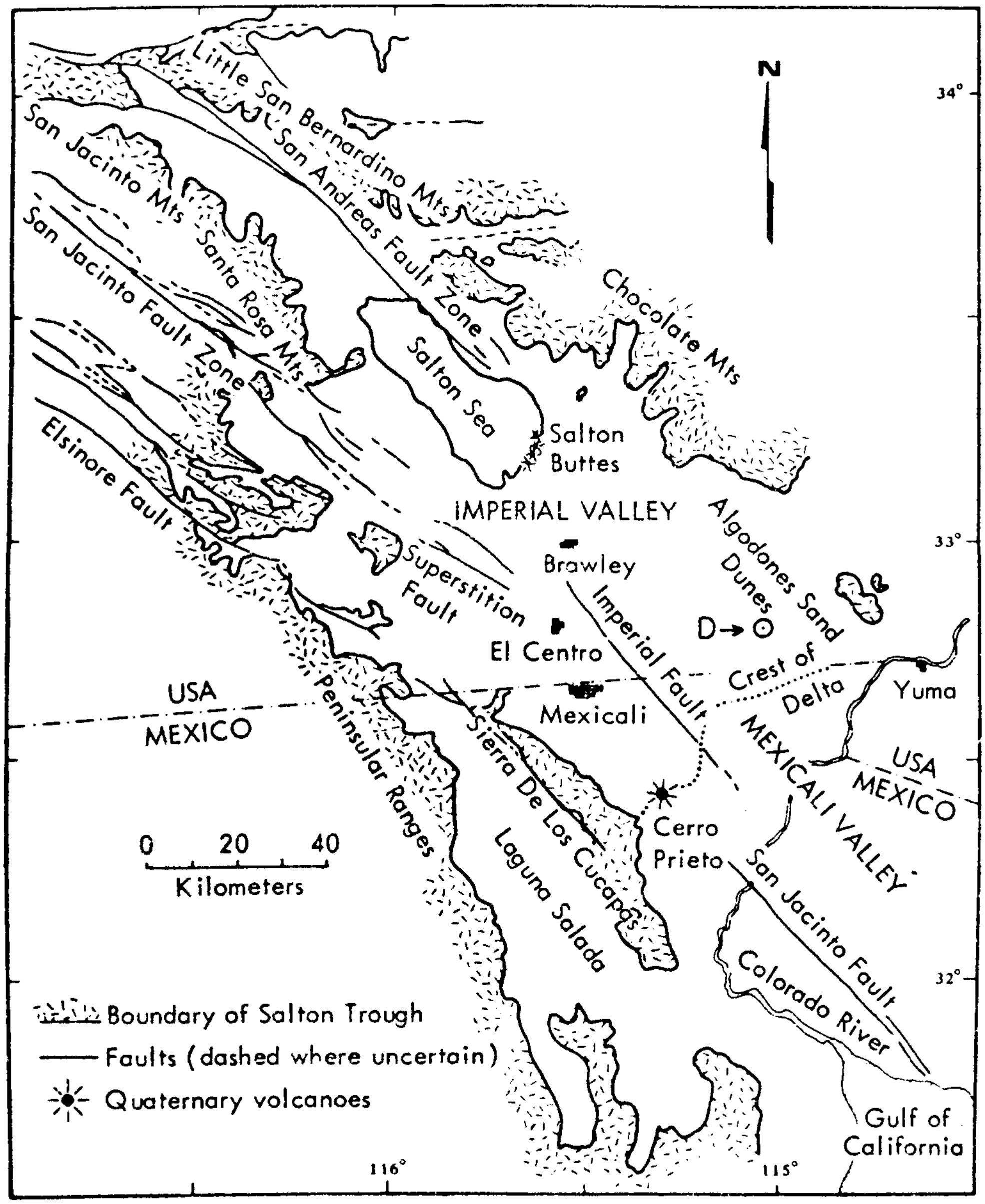
PART II

APPENDIX A - FIGURES

Table of Contents



XBL 764-1182

Figure 1. Mexicali-Salton Sea Area (from Palmer, Howard, and Lande,1975).

XBB 776-5469

Fig. 2a. Satellite photograph of the Mexicali-Salton Sea Valley (NASA).

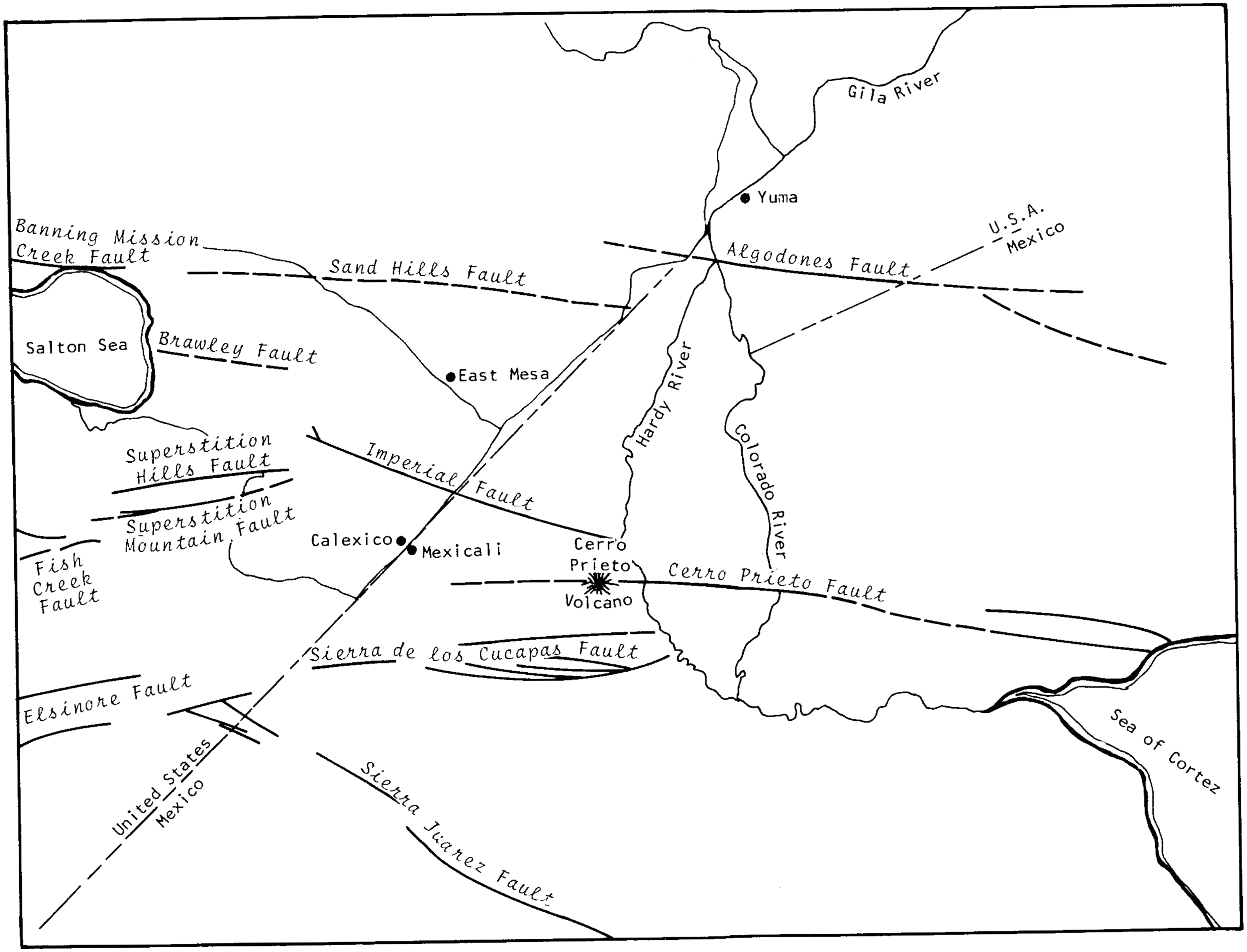


Figure 2b. Faults seen on Figure 2a.

Figure 3a.

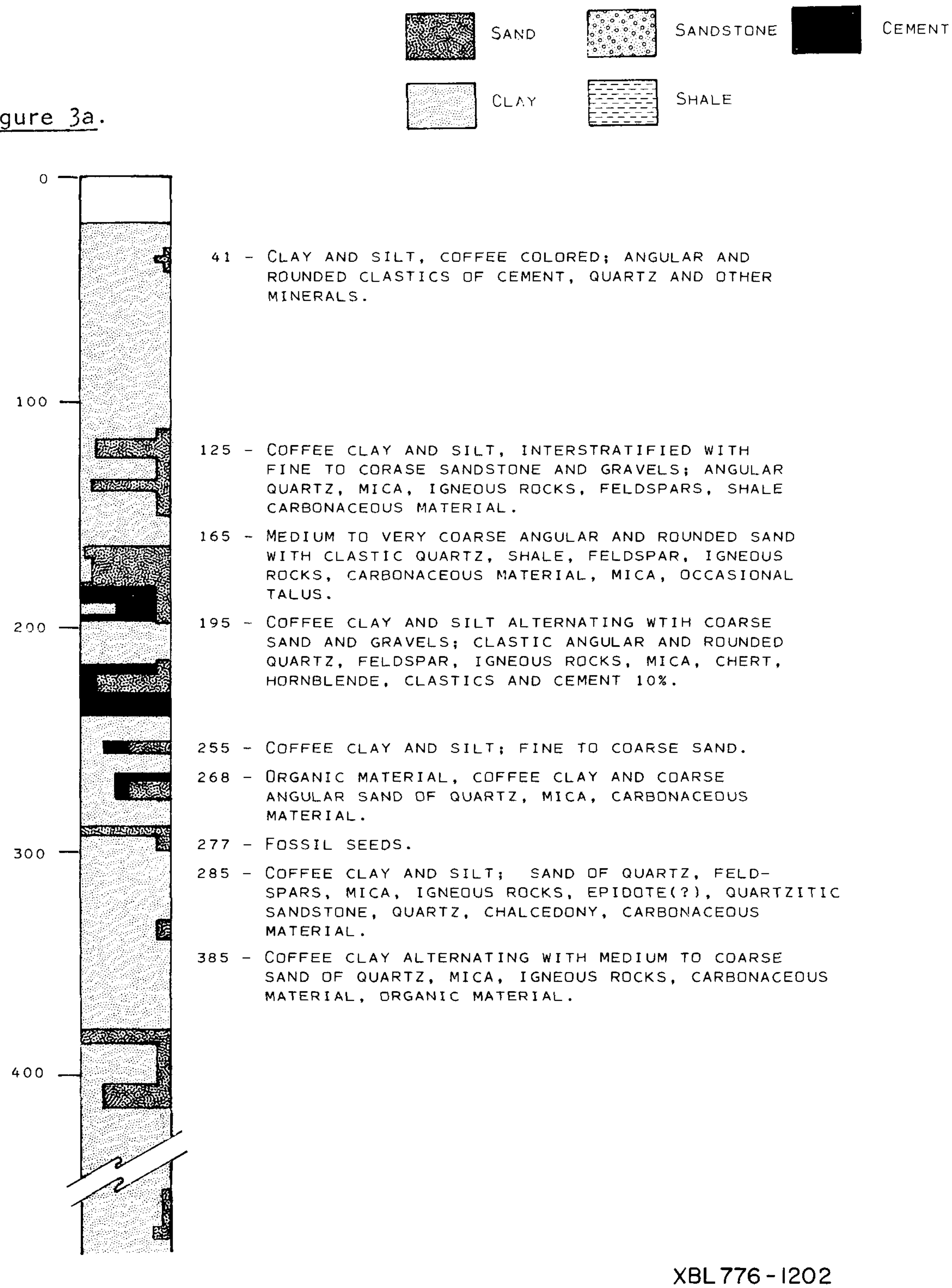
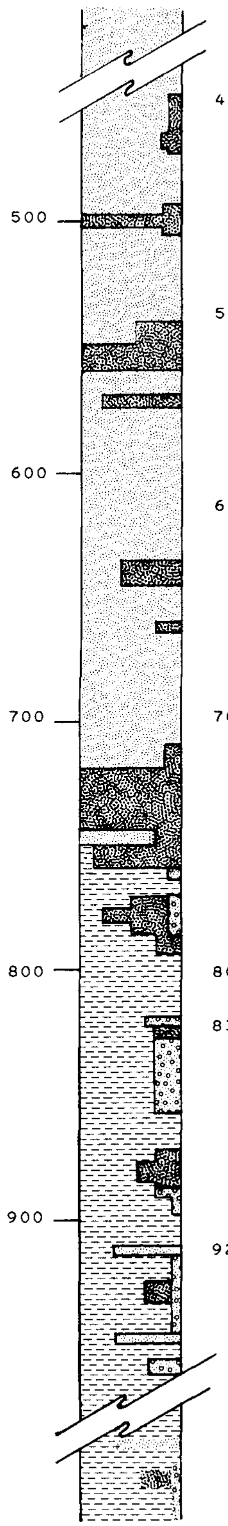


Figure 3. Lithological column of Well M-39 (generalized from Razo, 1968). (The depth is indicated in meters.)



450 - CLAY AND SAND (COFFEE); OCCASIONAL SAND AND GRAVELS OF QUARTZ, MICA, CARBONACEOUS MATERIAL, SHALE, AND CLASTIC IGNEOUS ROCKS.

545 - COFFEE AND GREY-GREEN CLAY WITH SAND AND GRAVELS INCLUDING QUARTZ AND CARBONACEOUS MATERIAL.

615 - CLAY AND COFFEE-GREY-GREEN SILT ALTERNATING WITH FINE TO COARSE, ANGULAR AND ROUNDED SAND OF QUARTZ, FELDSPAR, CARBONACEOUS MATERIAL, IGNEOUS ROCKS, MICA.

700 - COMPACTED LOOSE COFFEE-GREY-GREEN CLAY; SAND AND GRAVELS OF QUARTZ, IGNEOUS ROCKS, FELDSPARS, CARBONACEOUS MATERIAL, CALCITE, EPIDOTE AND POSSIBLY METAMORPHIC ROCKS. OCCURRENCES OF PYRITE AND COPPER MINERALS (?).

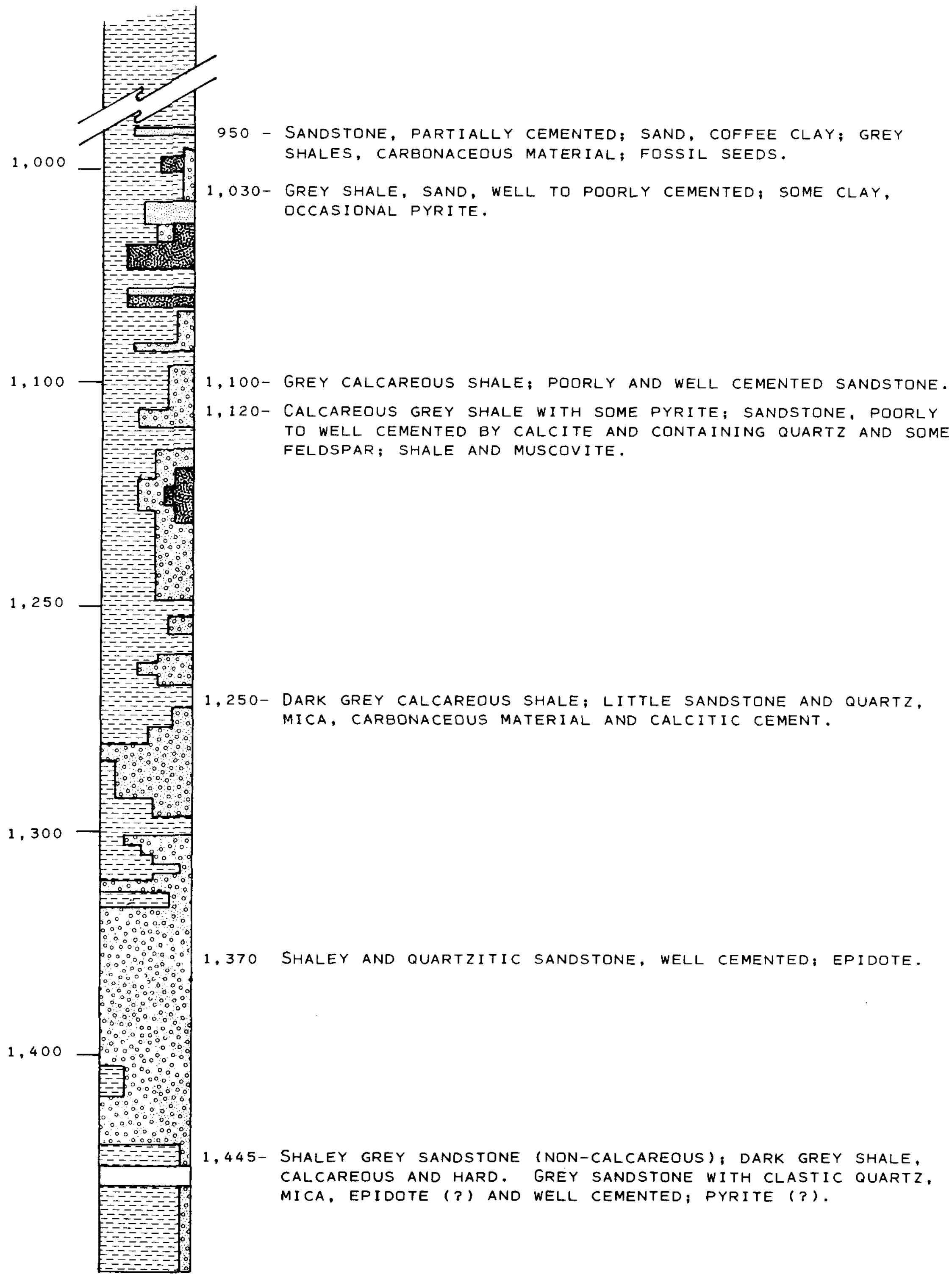
800 - CALCAREOUS GREY-GREEN SHALE; SOME POORLY TO WELL CEMENTED SAND AND SANDSTONE.

830 - CALCAREOUS SHALE, INTERSTRATIFIED WITH SANDSTONE AND CLASTIC QUARTZ, FELDSPAR, MICA, CARBONACEOUS MATERIAL, CALCITIC CEMENT, PYRITE.

920 - GREY CALCAREOUS SHALE; SAND AND SANDSTONE; POOR TO GOOD CALCITE CEMENTATION; PYRITE.

XBL 776-1203

Figure 3b (continued. .)



XBL 776-1204

Figure 3c. (continued . .)

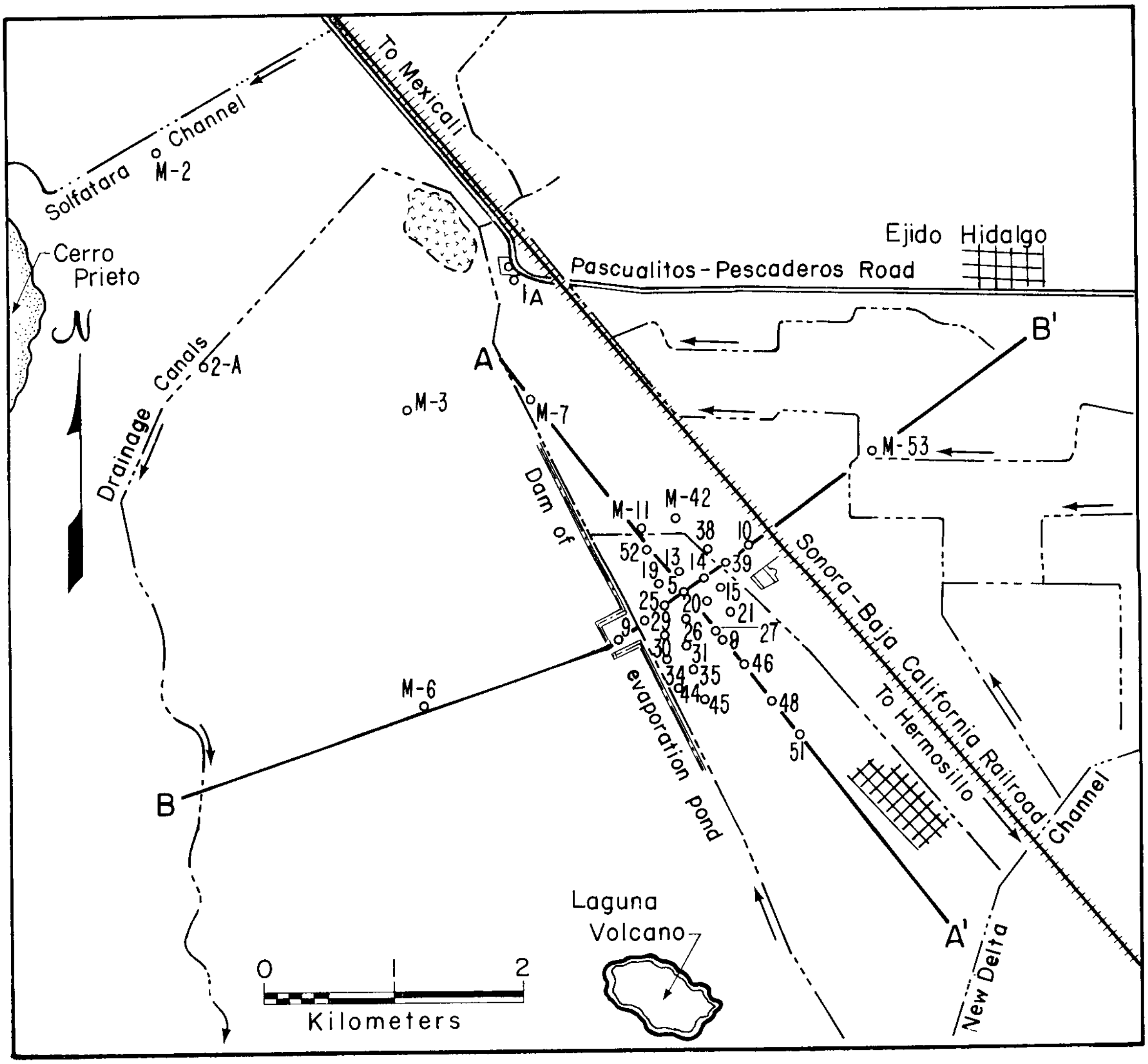


Figure 4. Location map of wells and the section lines of Figures 5 and 6.

Depth in kilometers

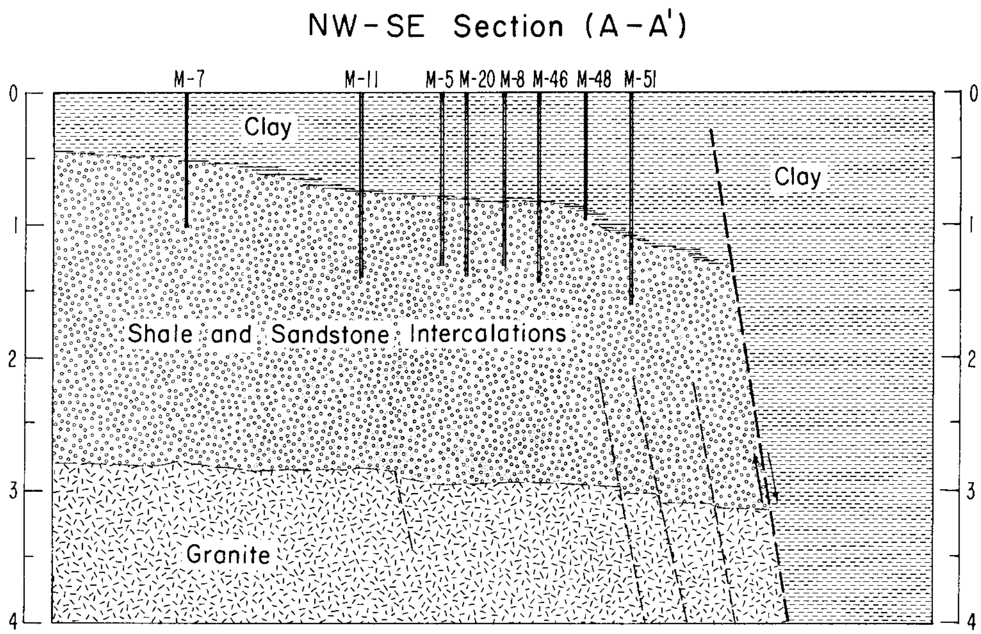


Figure 5. A NW-SE geological section.

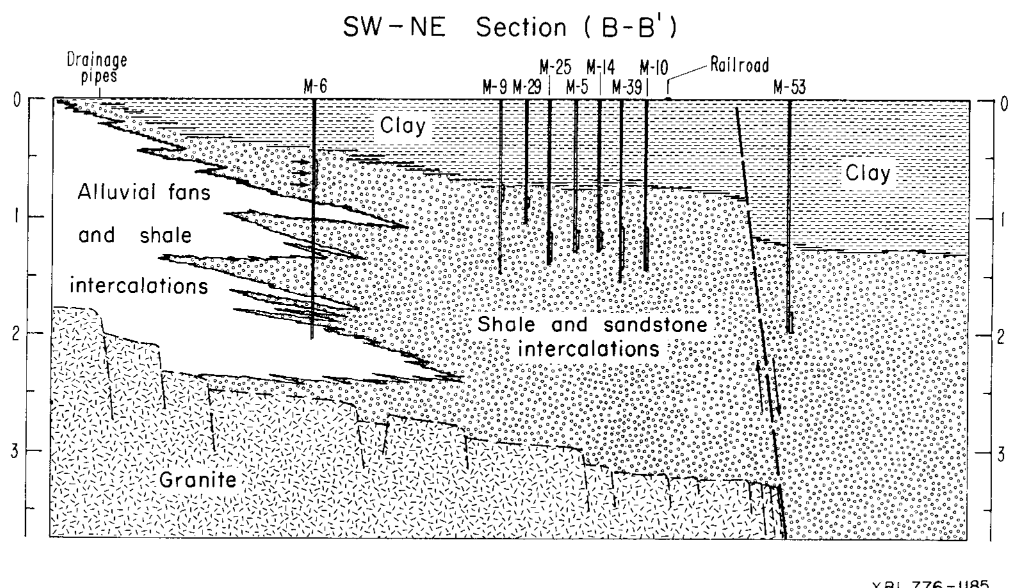


Figure 6. A SW-NE geological section.

Ing. Salvador Soto Pineda
August 1, 1975

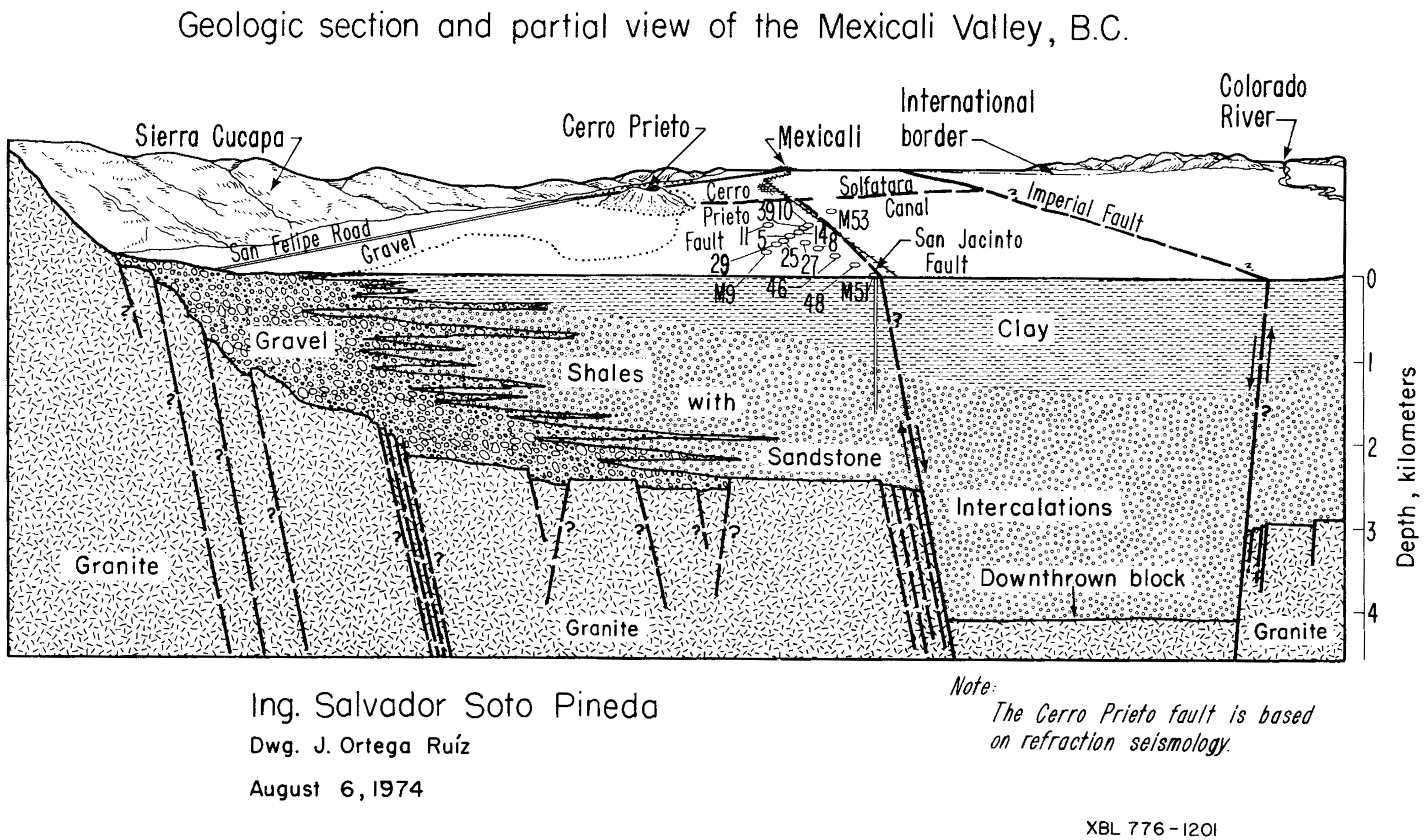


Figure 7. Geological section and partial view of the Mexicali Valley, B.C.

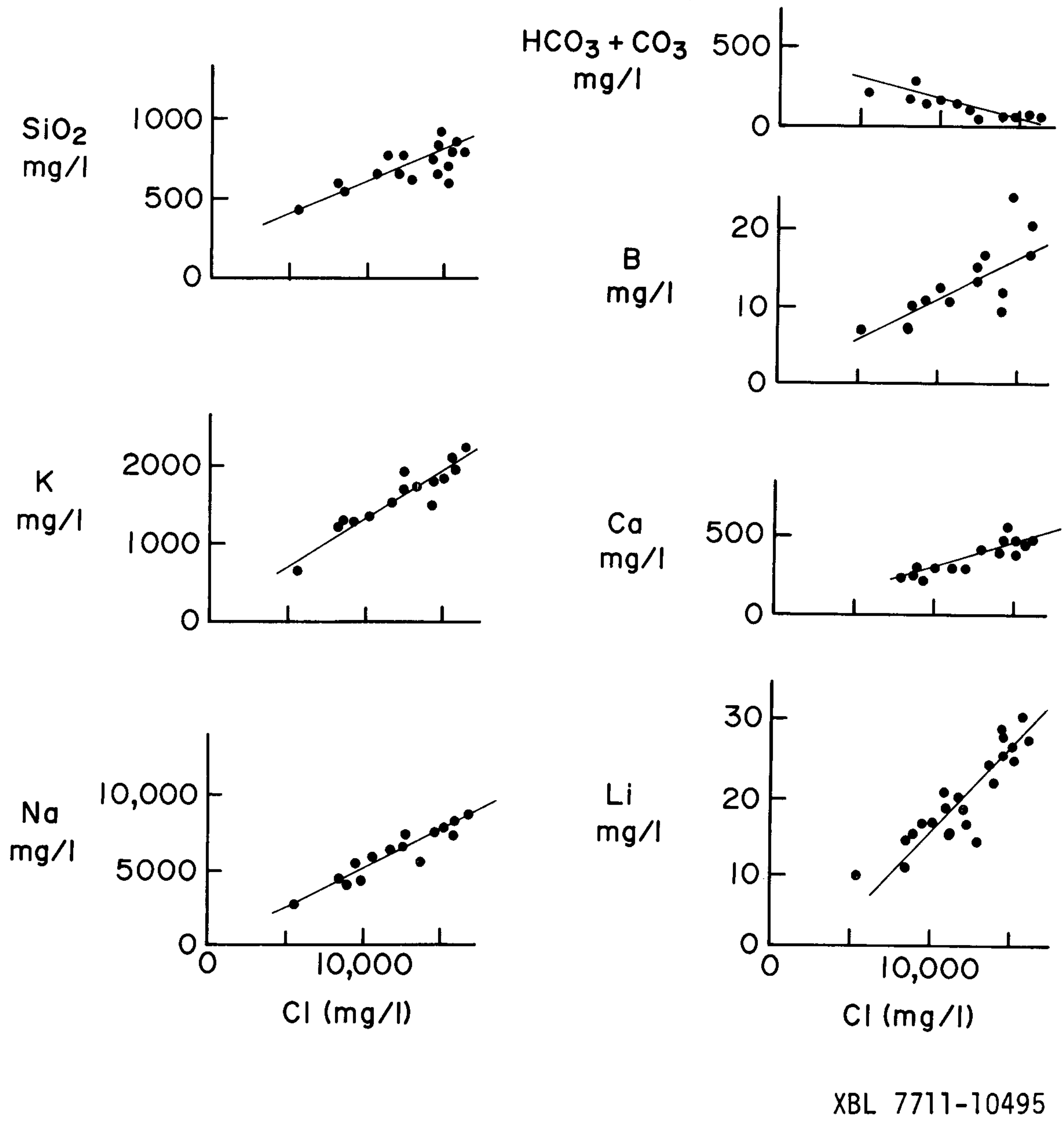


Figure 8. Ion contents in repeatedly collected samples from Well No. 11 as a function of the Cl content. The mean deviations from the best-fit in each case were used to estimate upper limits for the analytical errors (text and Table I).

Figure 9a.

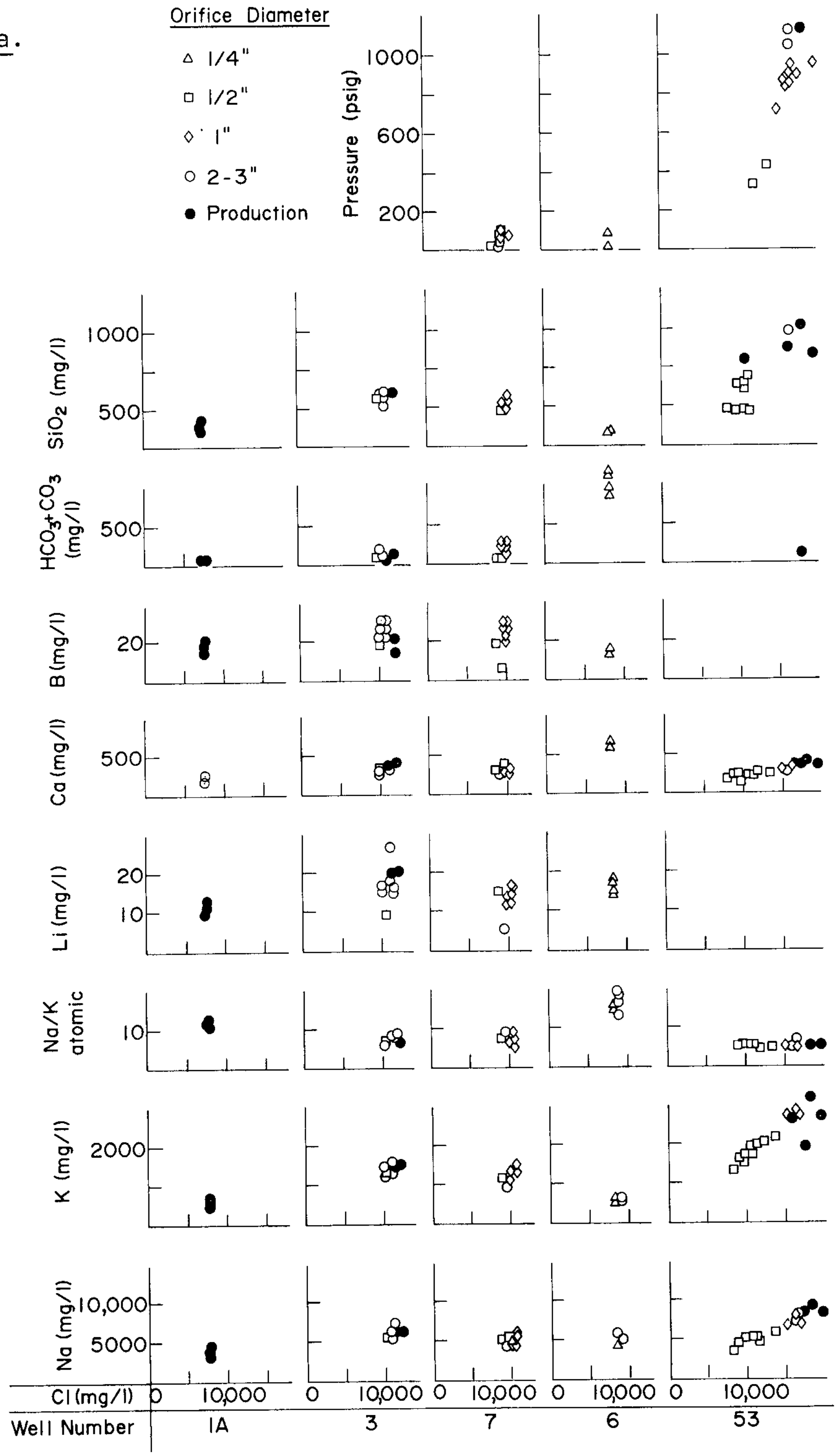


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Figure 9. Ion contents and pressure plotted as a function of the Cl content in repeatedly collected samples. The wells are arranged from left to right (successively) in the following order: first remote wells, then wells of the producing field arranged from north to south. Data were taken from Table 4 of Part II of this report.

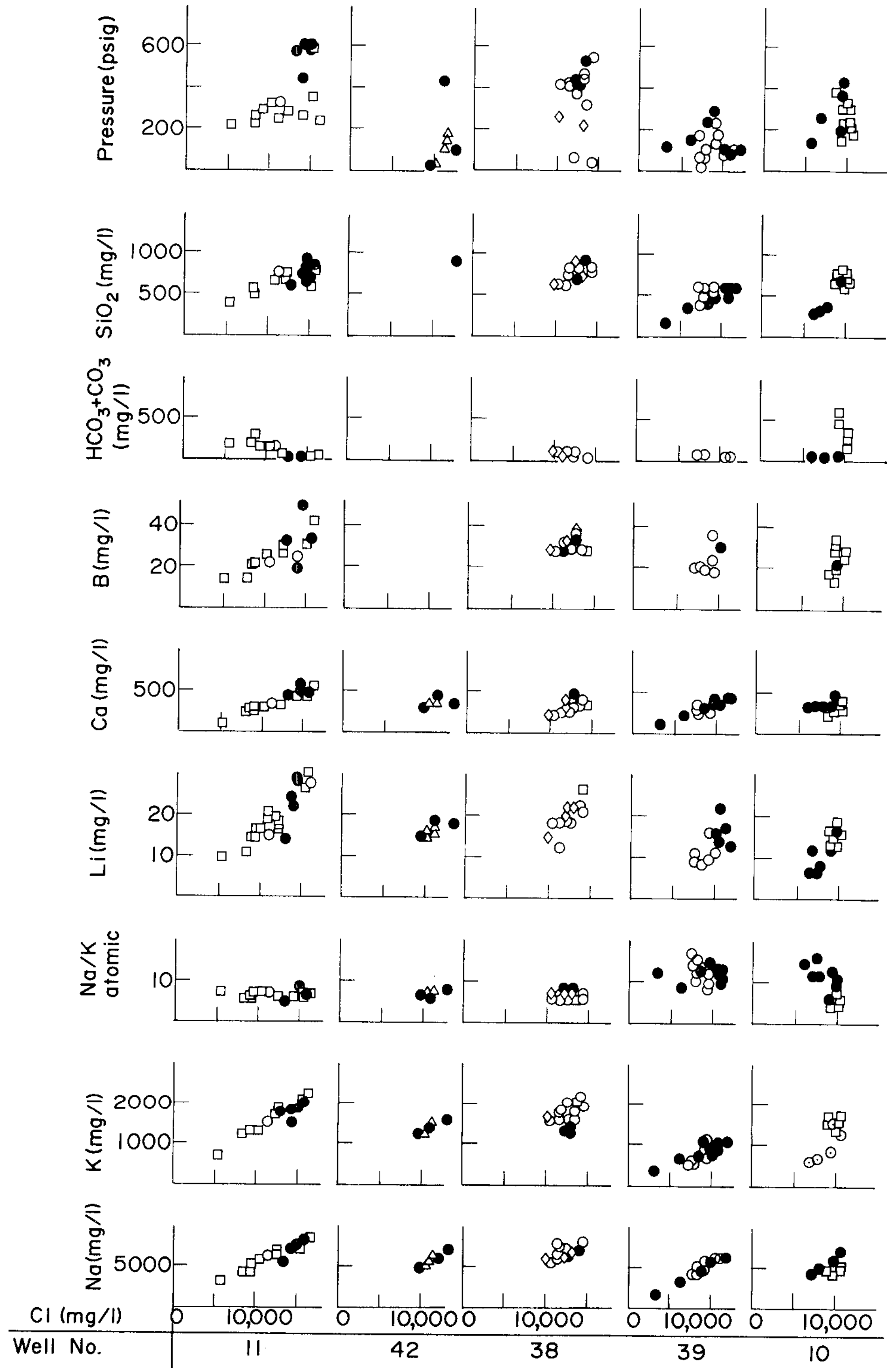

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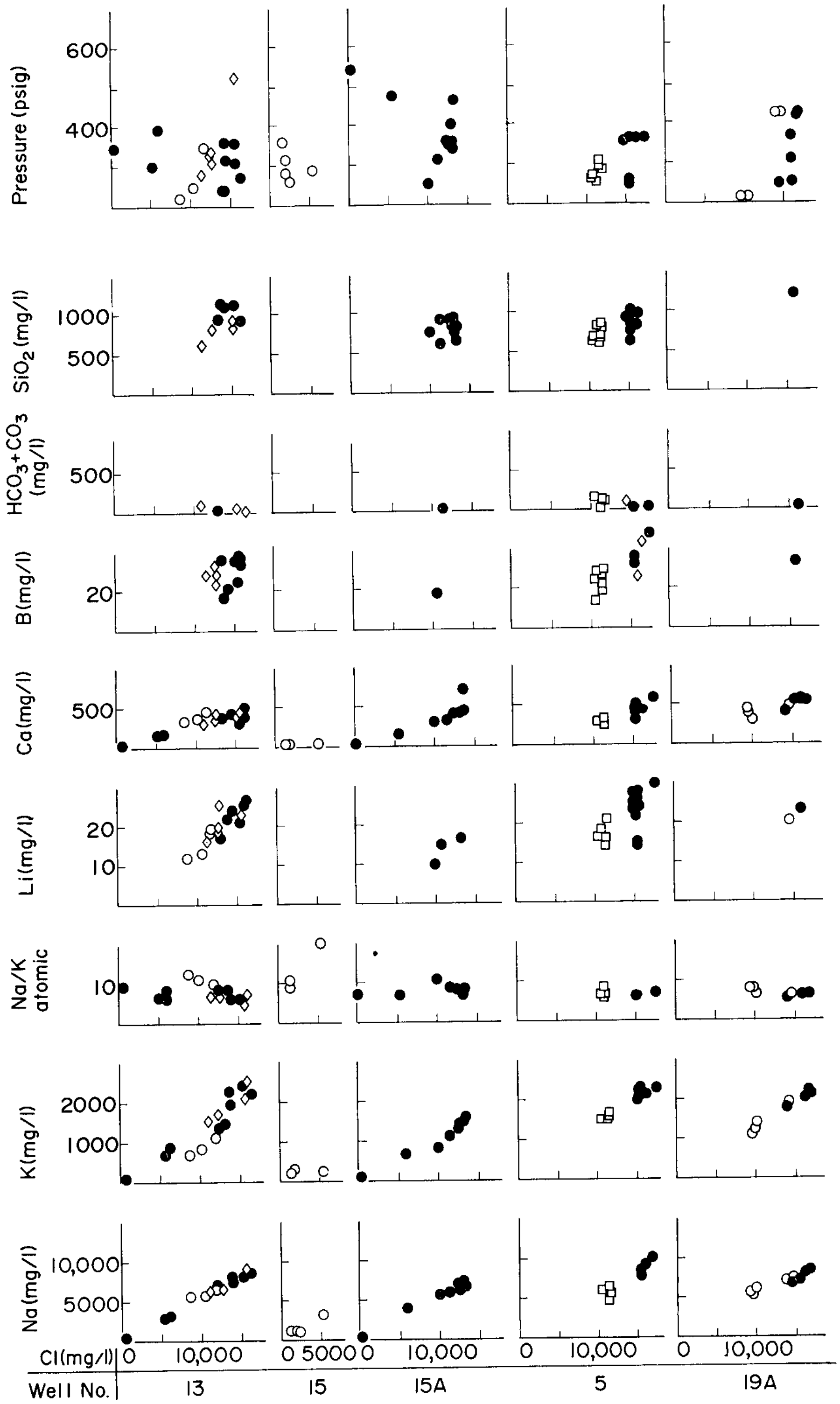
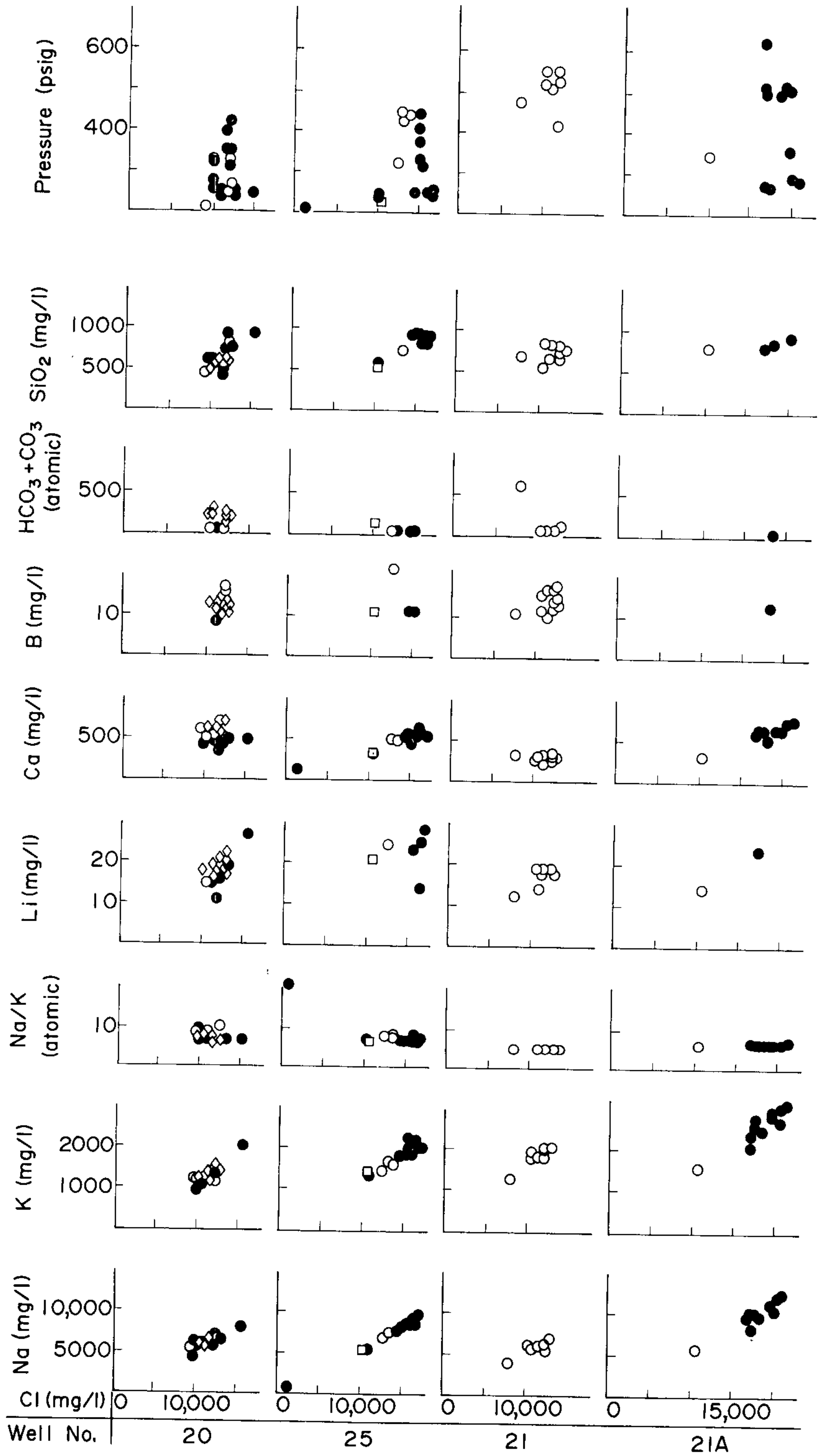
Figure 9b. (Continued . .)



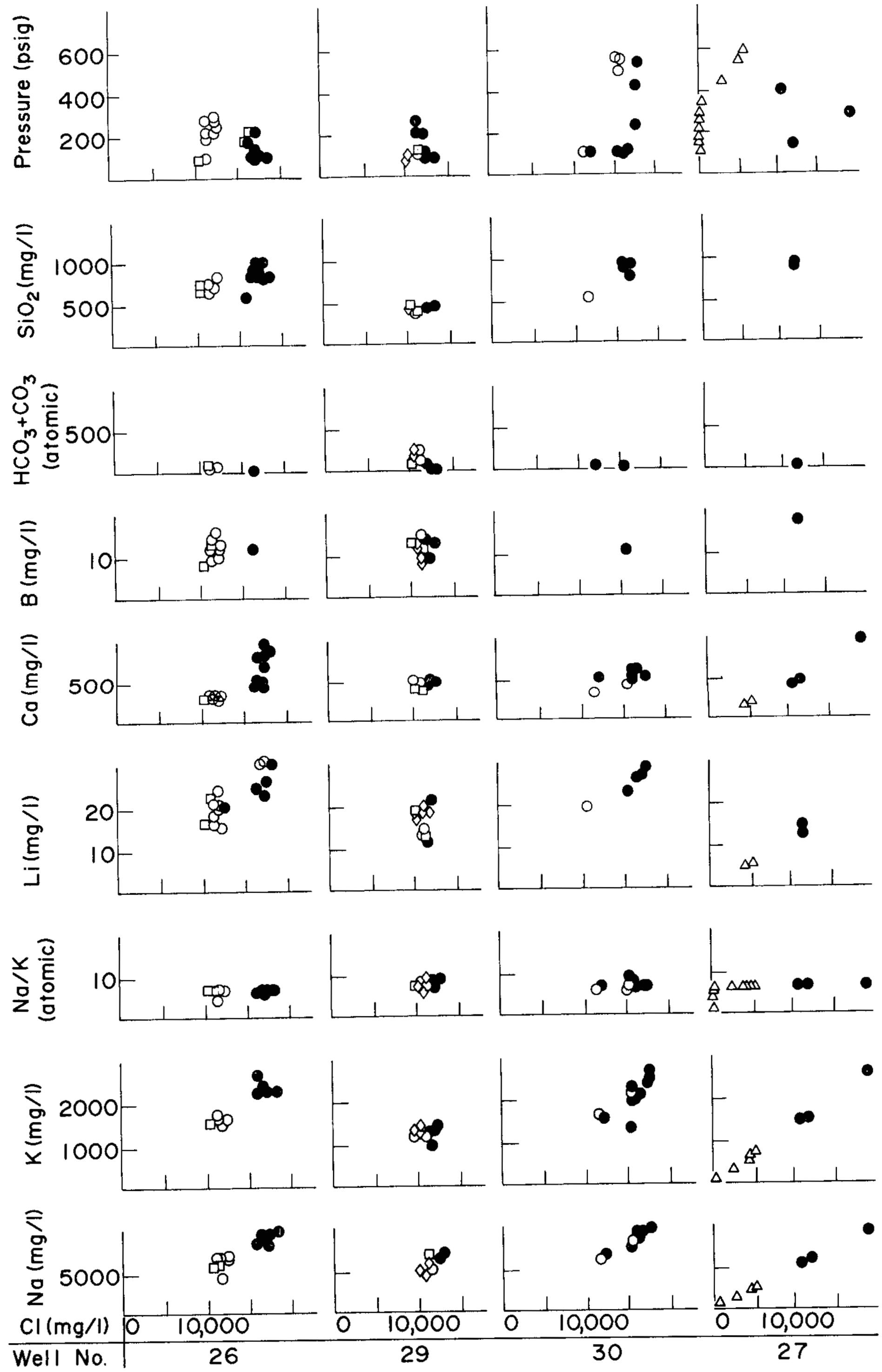
XBL 7711-10503

Figure 9c. (Continued . .)



XBL 7711-10501

Figure 9d. (Continued . .)



XBL 7711-10502

Figure 9e. (Continued . .)

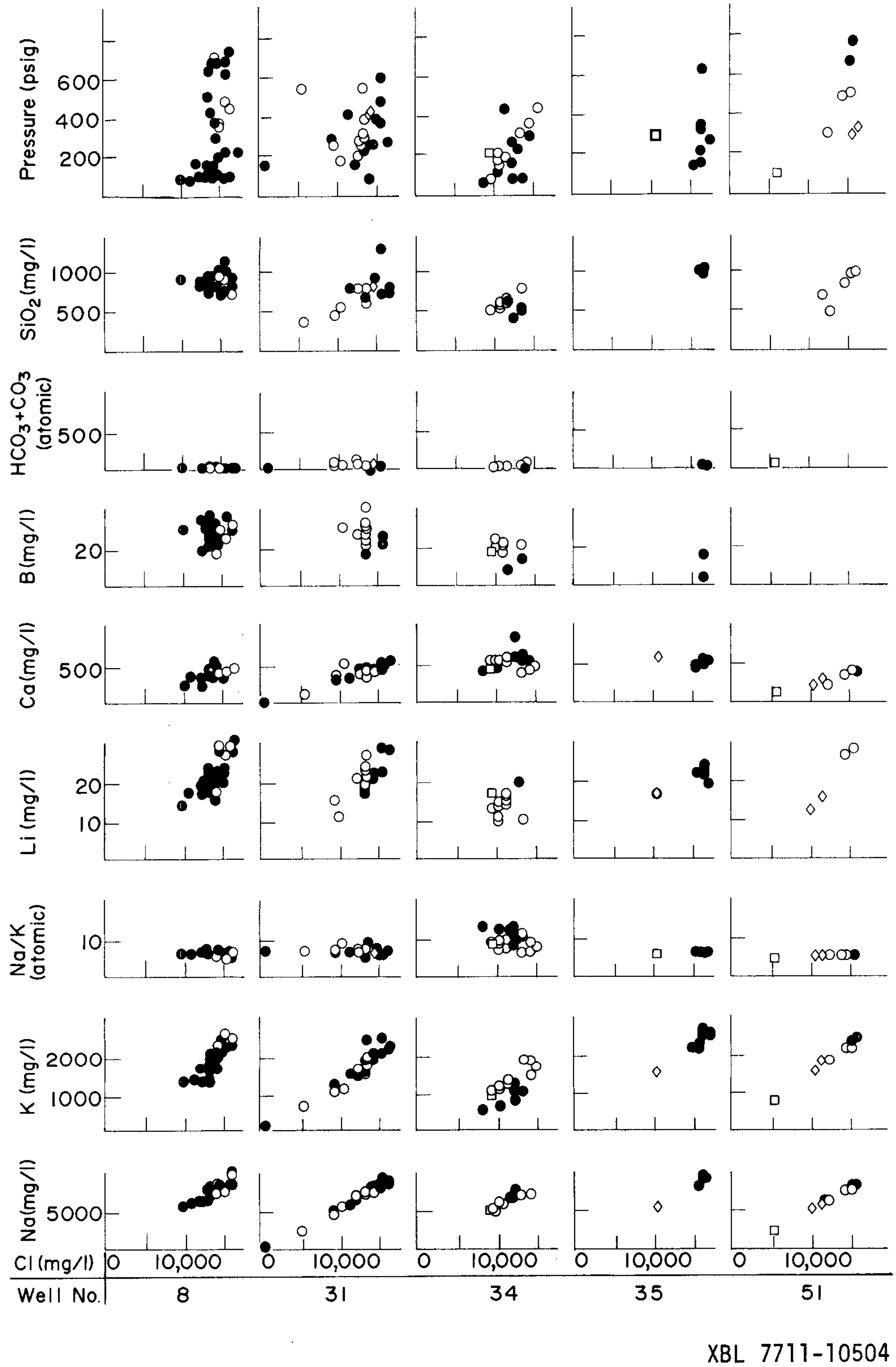


Figure 9f. (Continued . .)

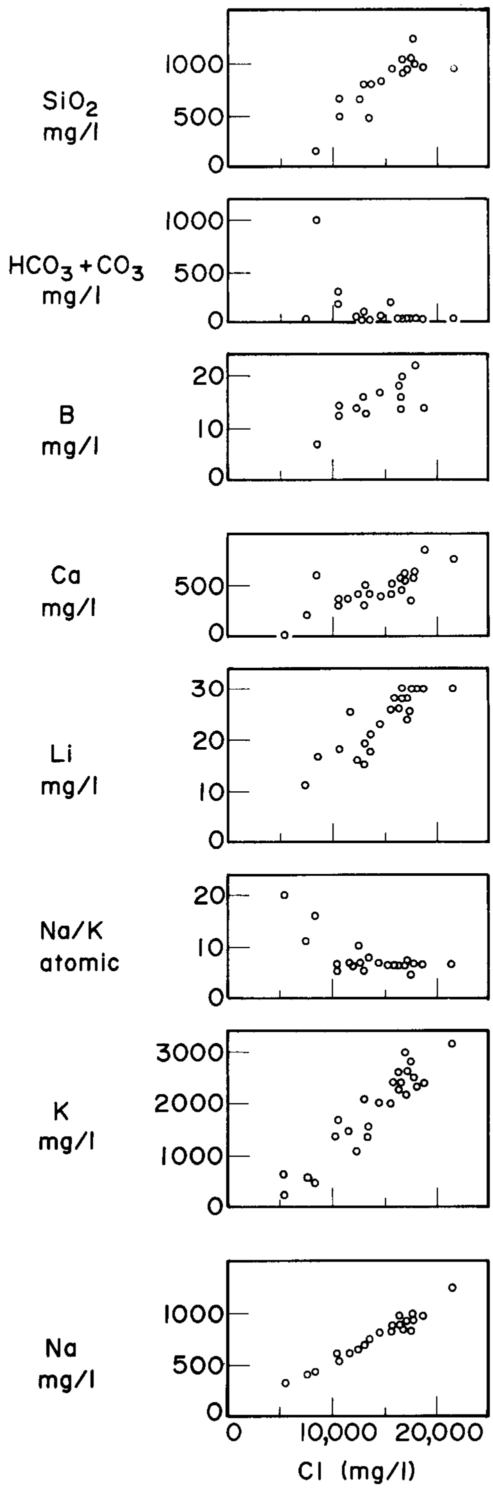


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Figure 10. Ion contents in the weighted most concentrated samples in the various well plotted as a function of the Cl content (data from Table 2 in Part II).

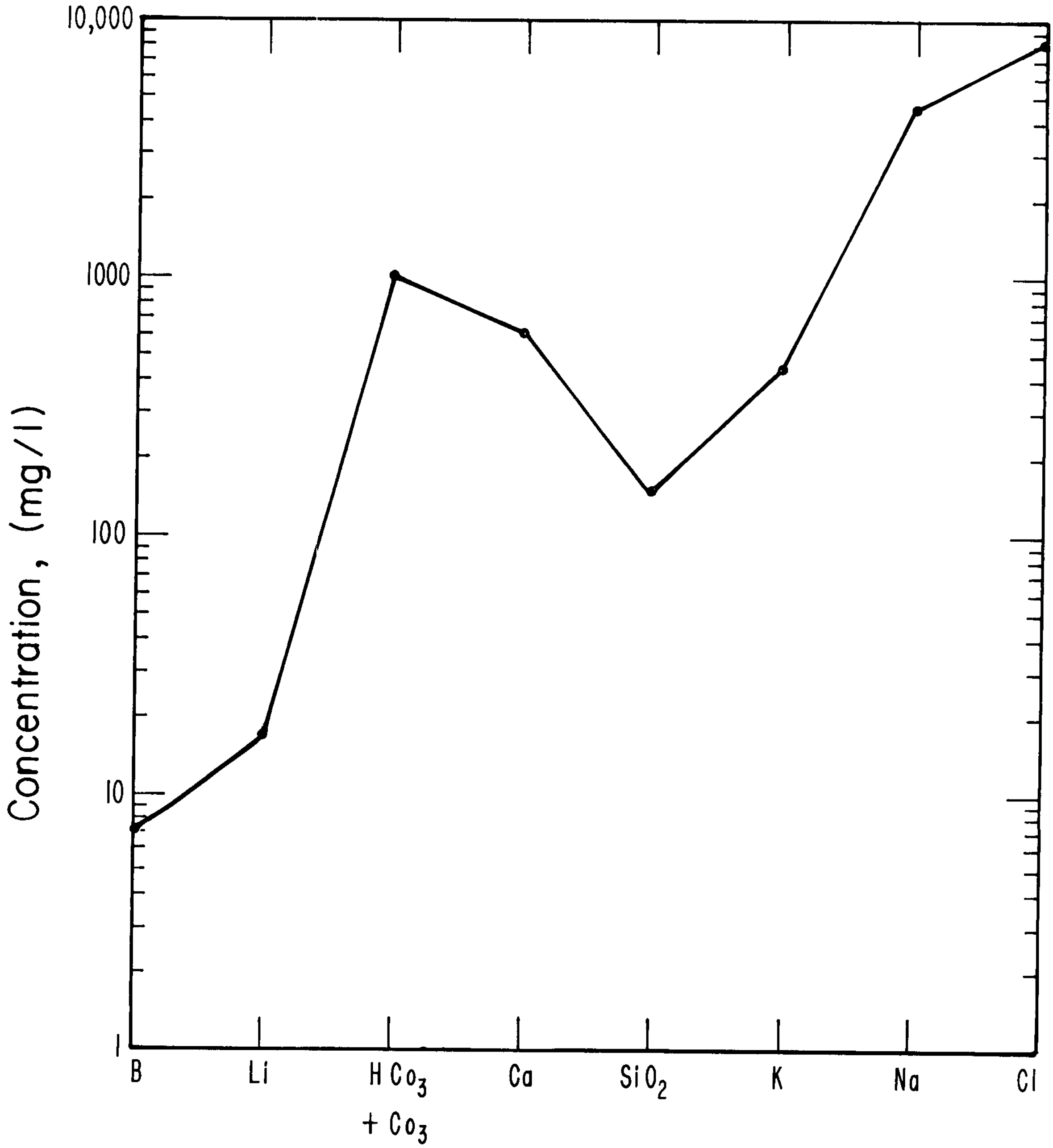
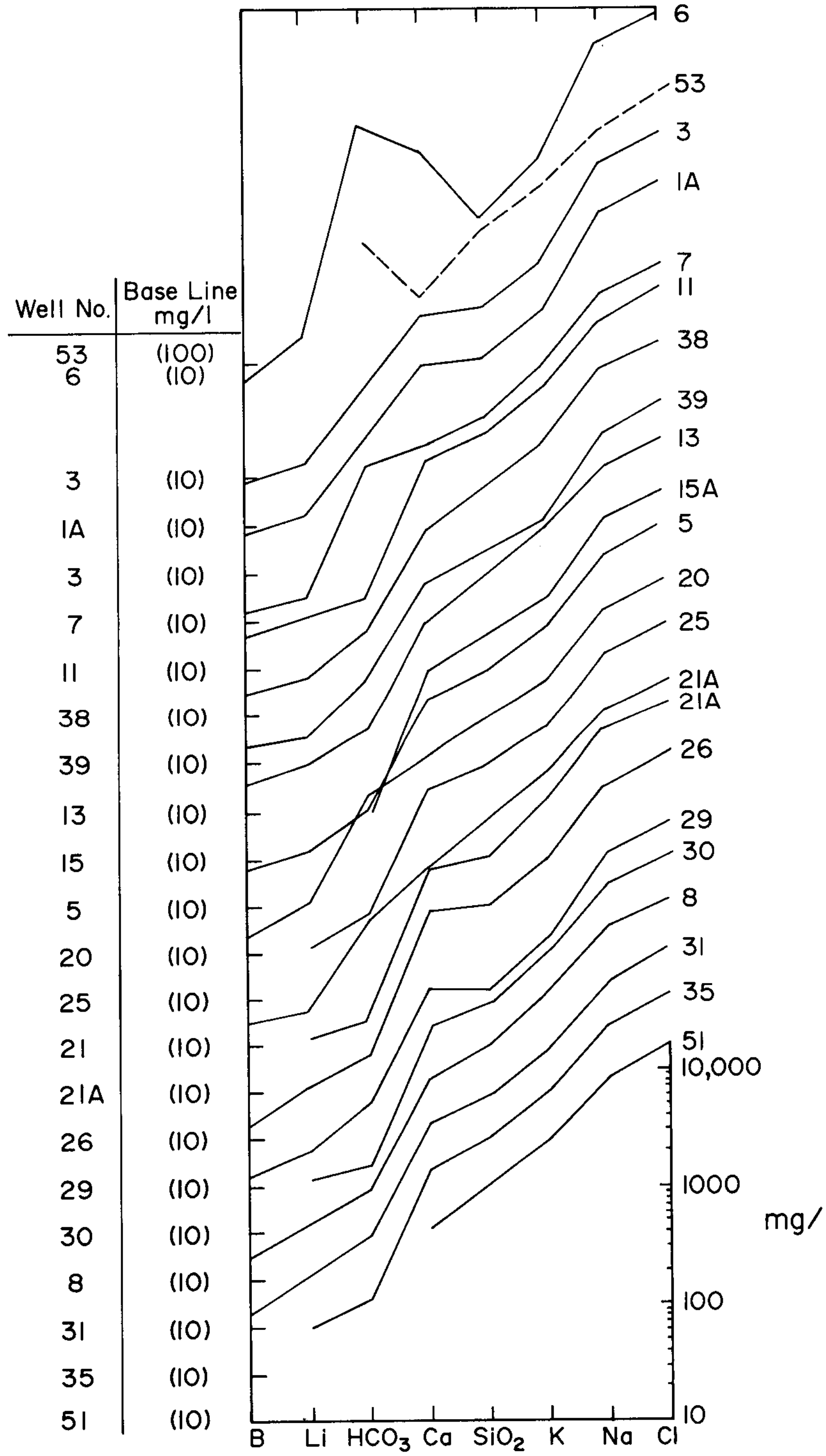


Figure 11. Schoeller diagram of Well No. 6. This mode of data presentation provides a visual "fingerprint" of the composition.



XBL 7711-10496

Figure 12. Schoeller diagrams for the weighted most concentrated samples of the various wells. The base line for each well is marked on the left side (compare to Figure 11). On the top are the wells remote from the producing field and the producing wells follow in north to south order.

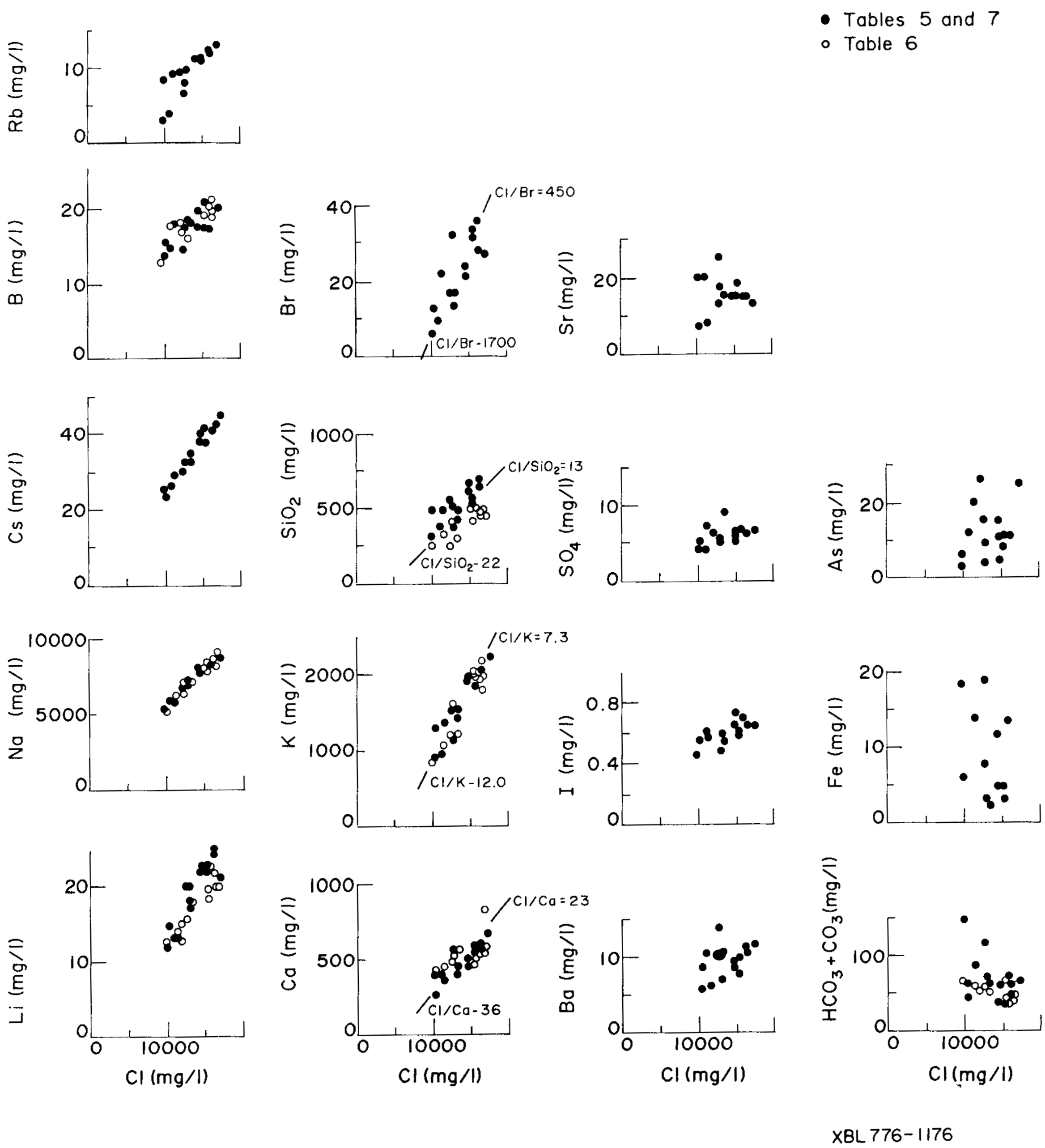
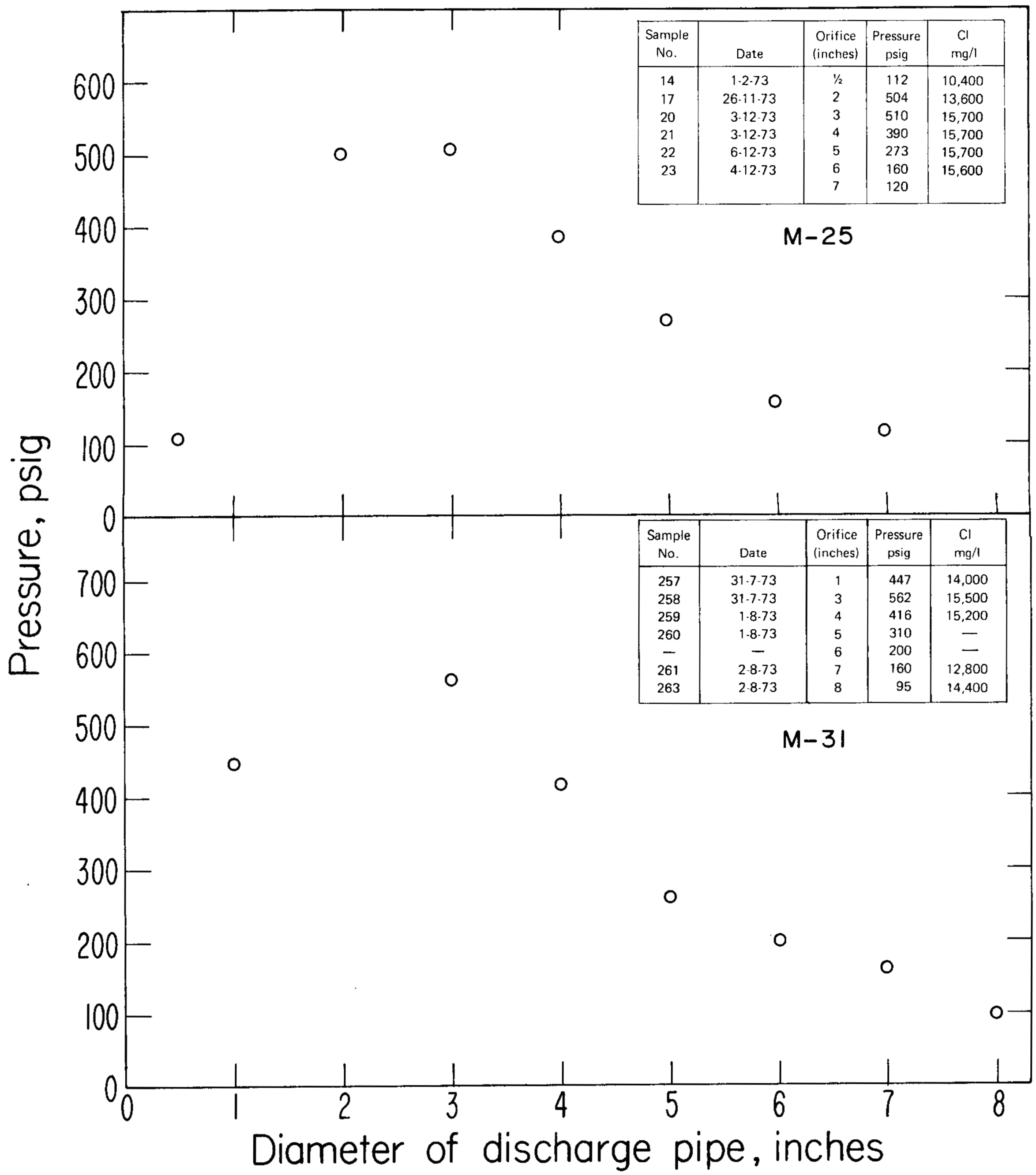
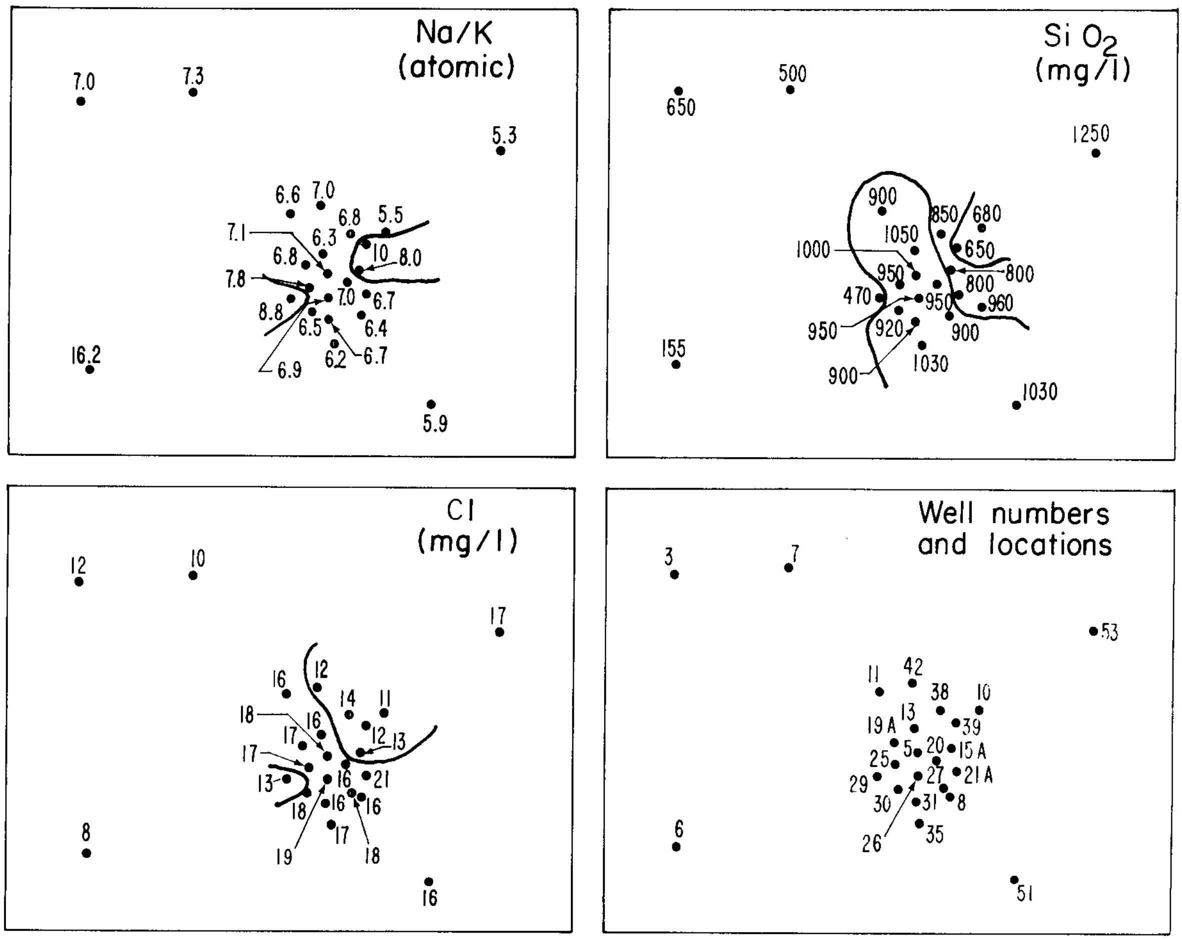


Figure 13. Trace elements (Table 7, Part II) and major elements (Table 5, Part II) in samples collected on September 23, 1976, plotted as a function of the Cl content. A- conservatively behaving elements; B-reactive elements; C- elements revealing poor correlation; D-elements revealing no correlation to the Cl content (text).



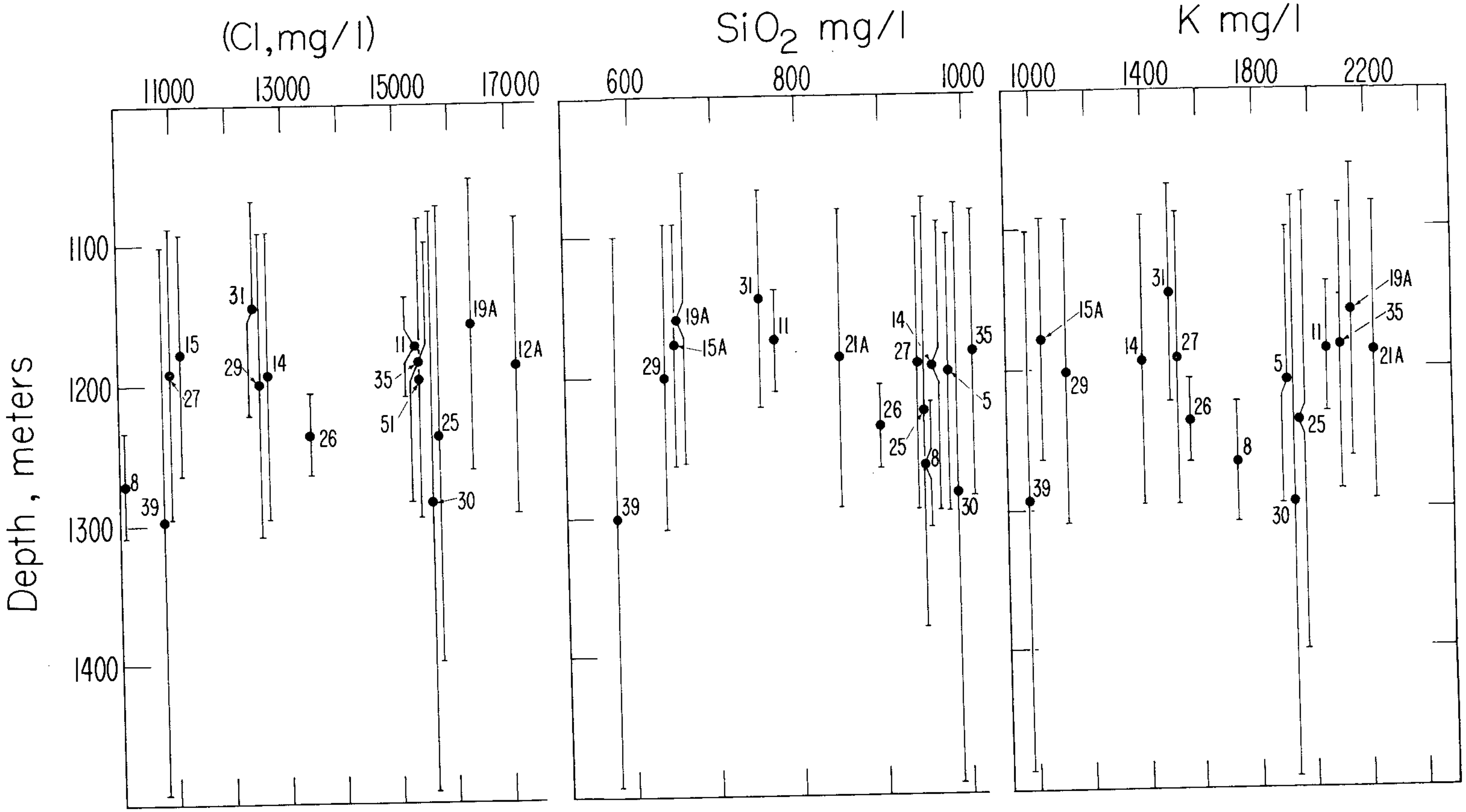
XBL 775-1038

Figure 14. Observed pressures as a function of the orifice diameter. Relevant data in the small tables give reference to corresponding chemical compositions (samples may be looked up in Table 4, Part II).



XBL 775-1040

Figure 15. Maps with SiO_2 and Cl contents and Na/K values of most weighted concentrated samples at each well (from Table 2, Part II).



XBL775-1037

Figure 16. Concentration-depth graphs for Cl, SiO_2, and K (average values of several years) for the producing wells. The vertical bars show the depths of the slotted casing intervals.

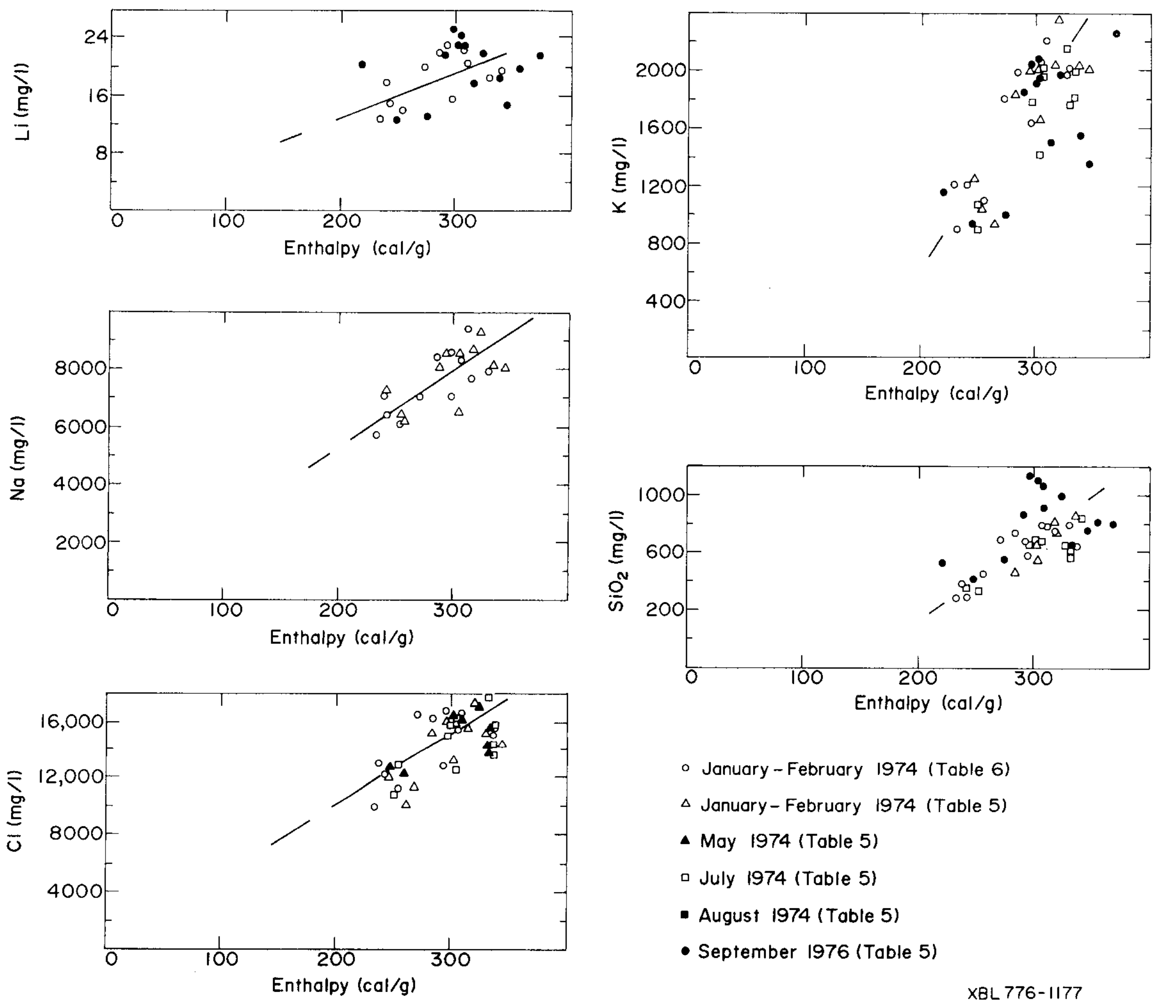


Figure 17. Enthalpy-ion content correlations in samples of the producing wells, collected at different dates (Tables 5 and 6, Part II).

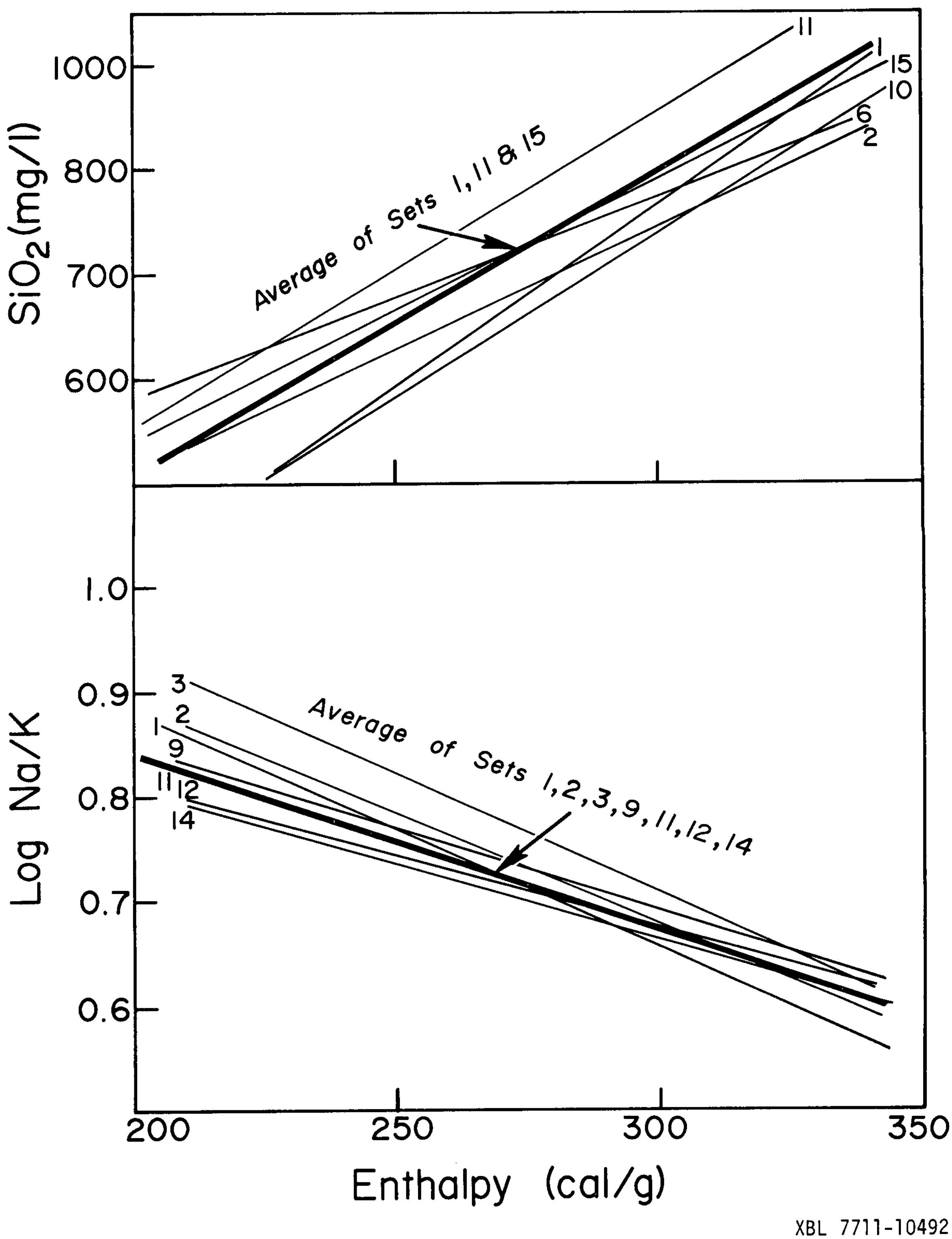


Figure 18. Best-fit lines (Table 3, Part II) or the correlations between enthalpy and the SiO_2 content and log Na/K values. Numbers refer to the sampling data (set number) in Table 5, Part II.

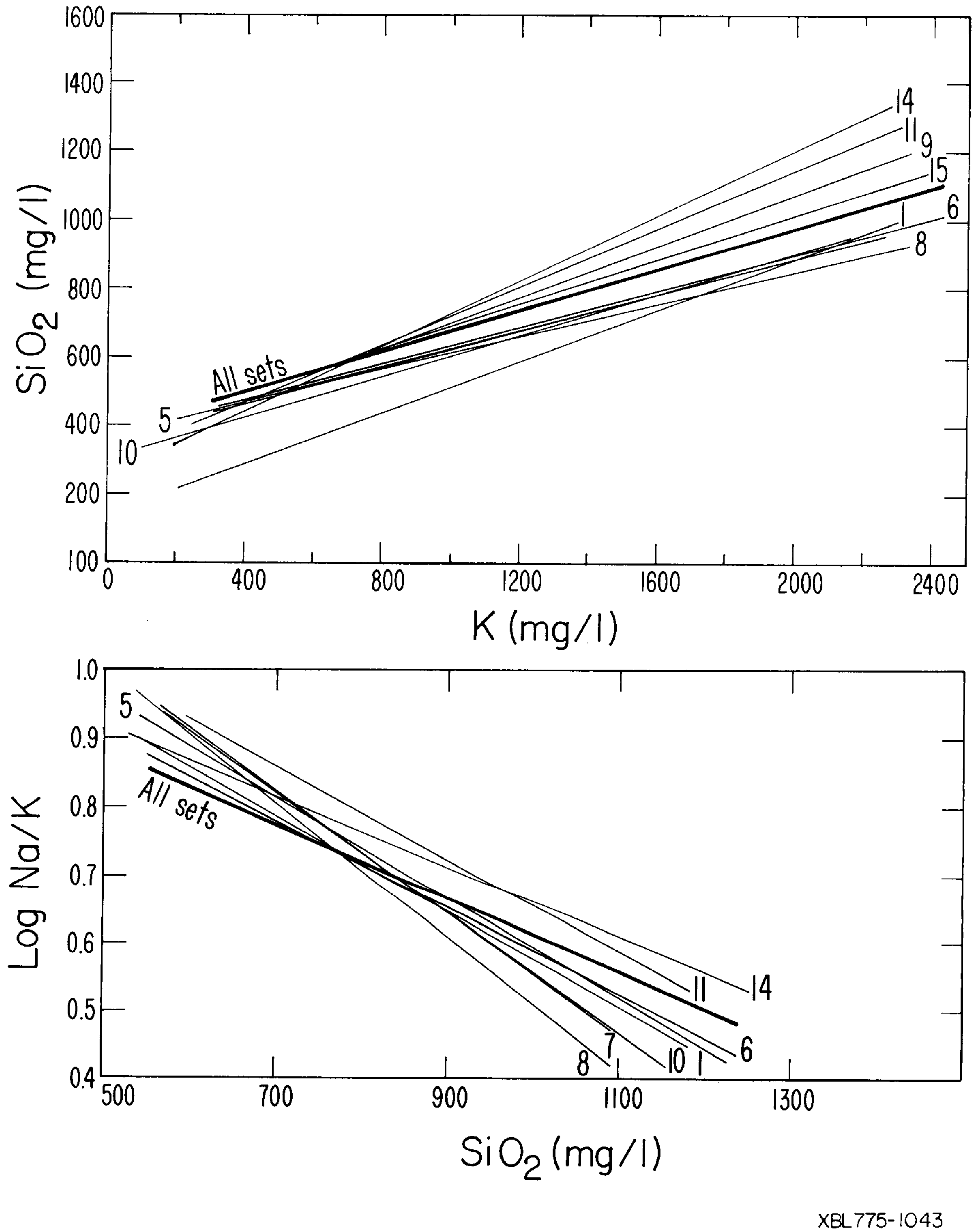


Figure 19. Best-fit lines (Table 3, Part II) for the correlations between SiO_2-K and log Na/K-SiO_2. Numbers refer to sampling data (set number) in Table 5, Part II.

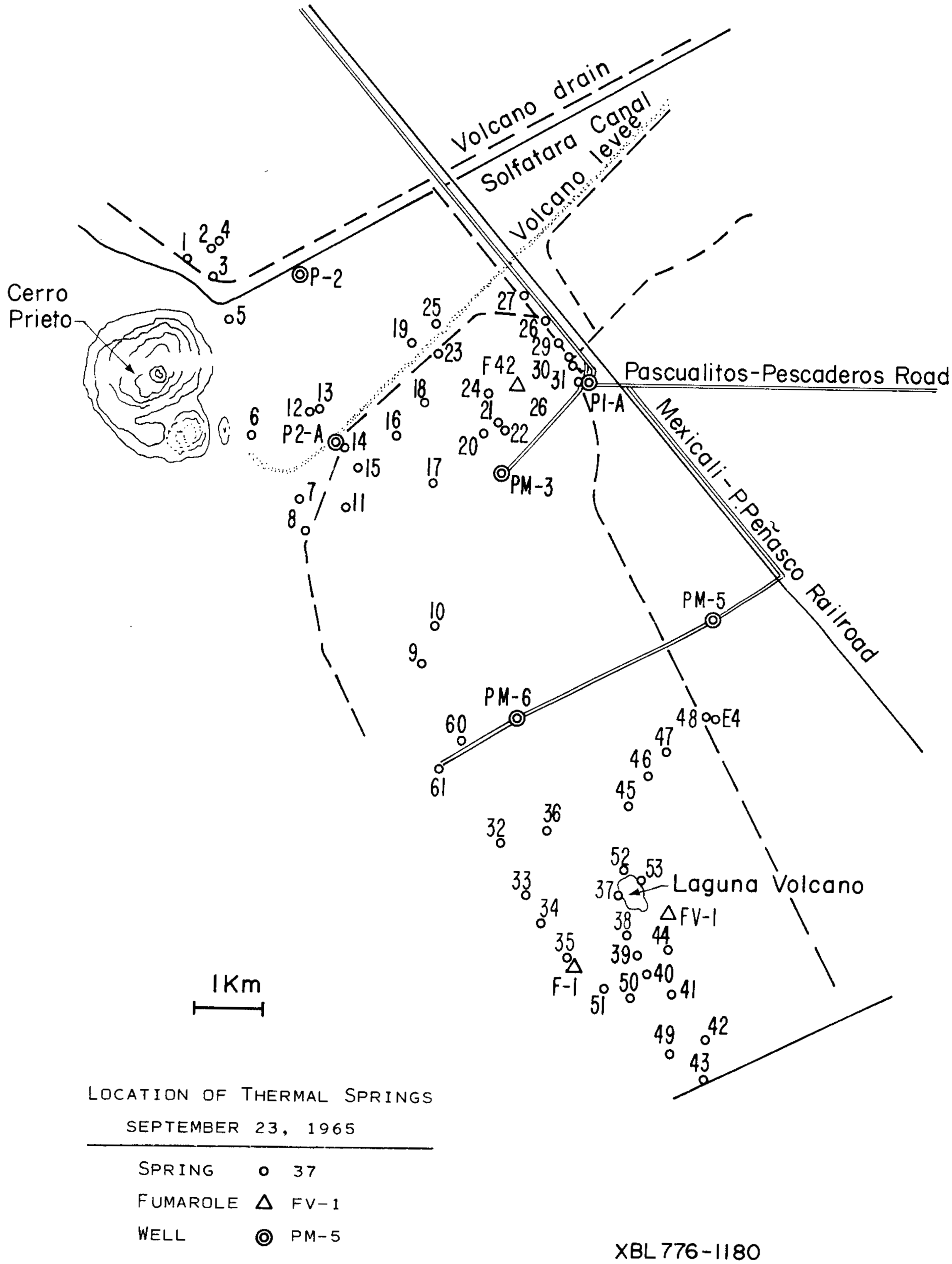
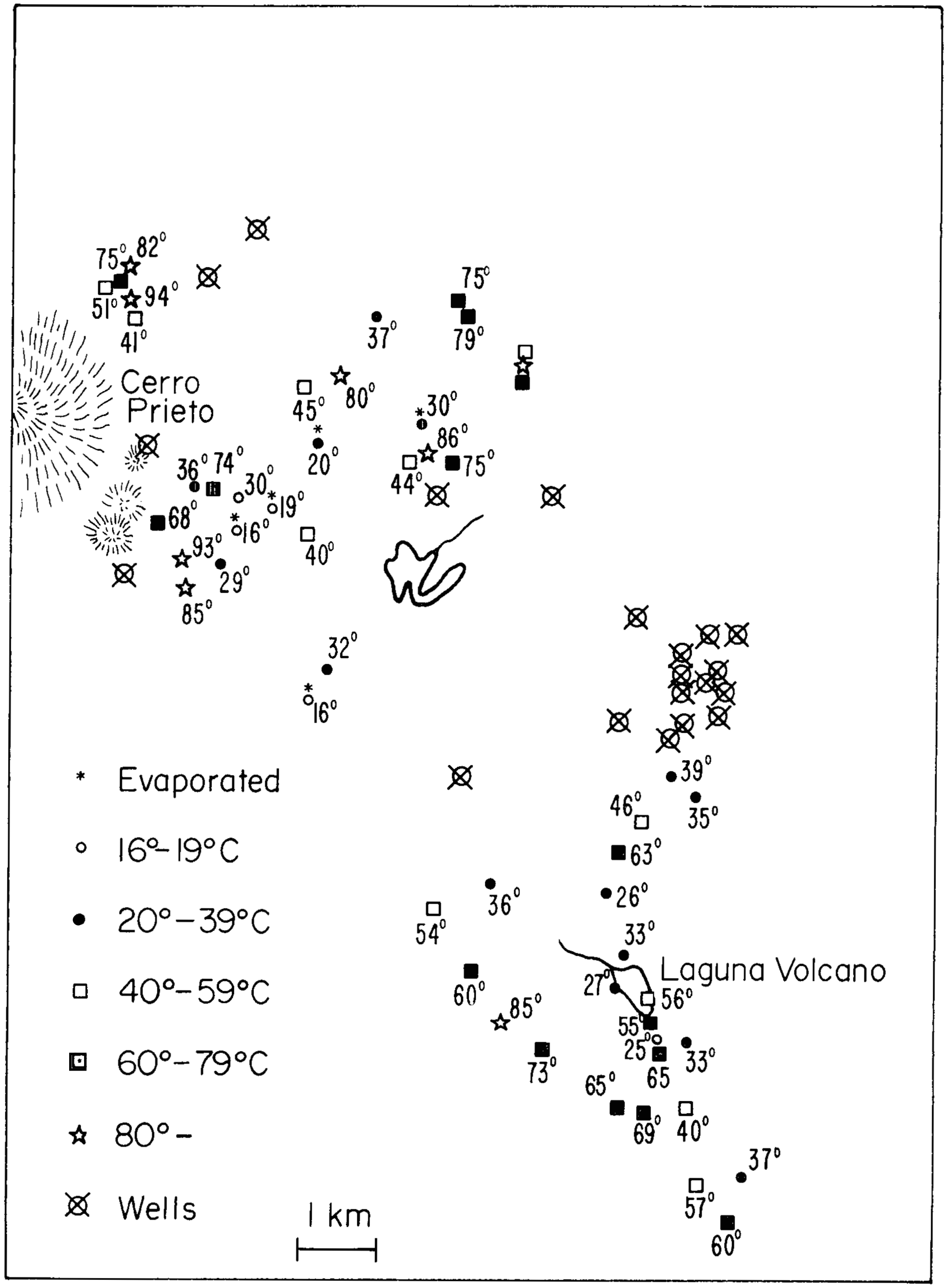


Figure 20. Location map of springs and prospection wells.



XBL 775-1044

Figure 21. Temperatures measured in the springs (Mercado, 1968).

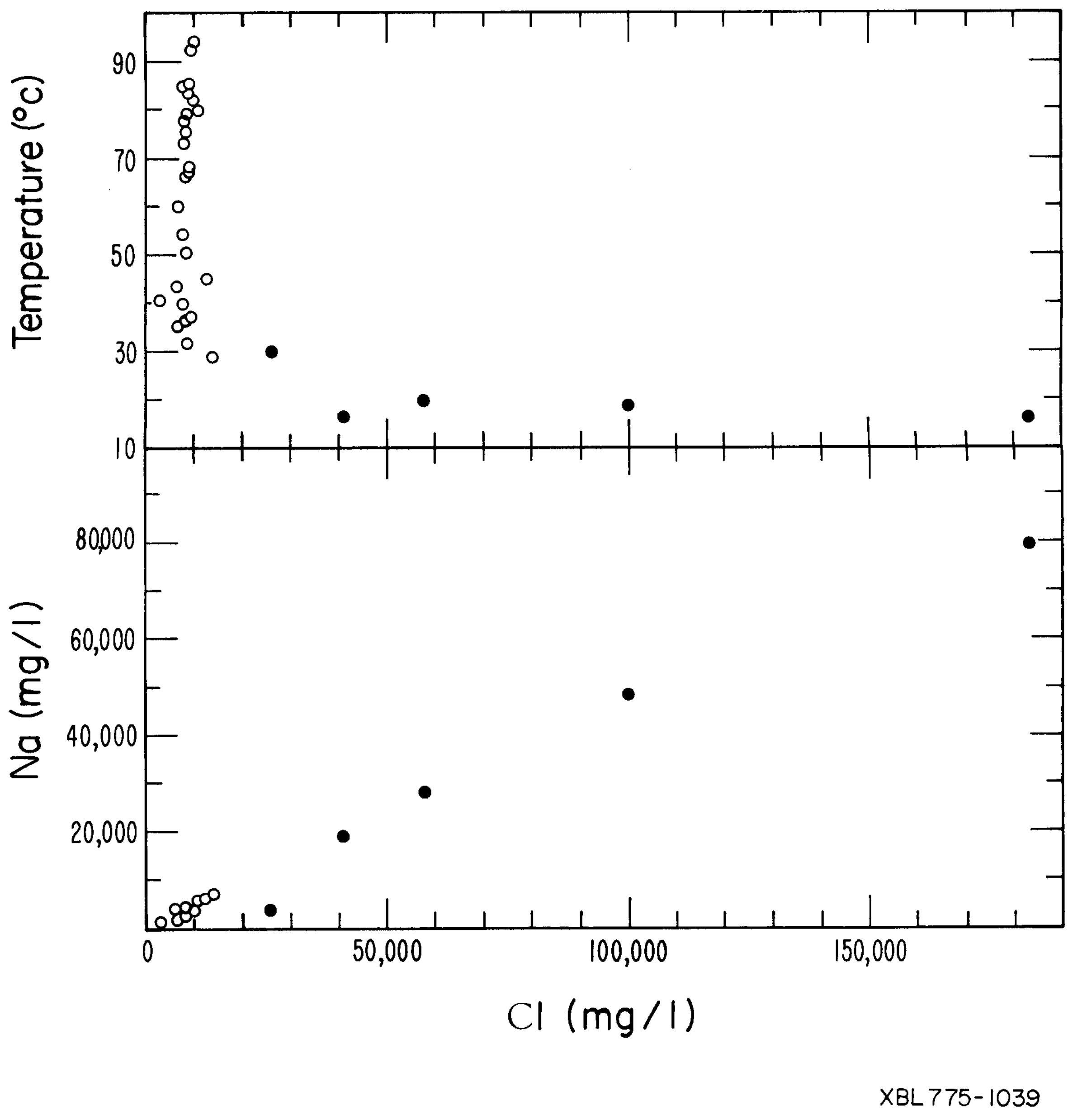
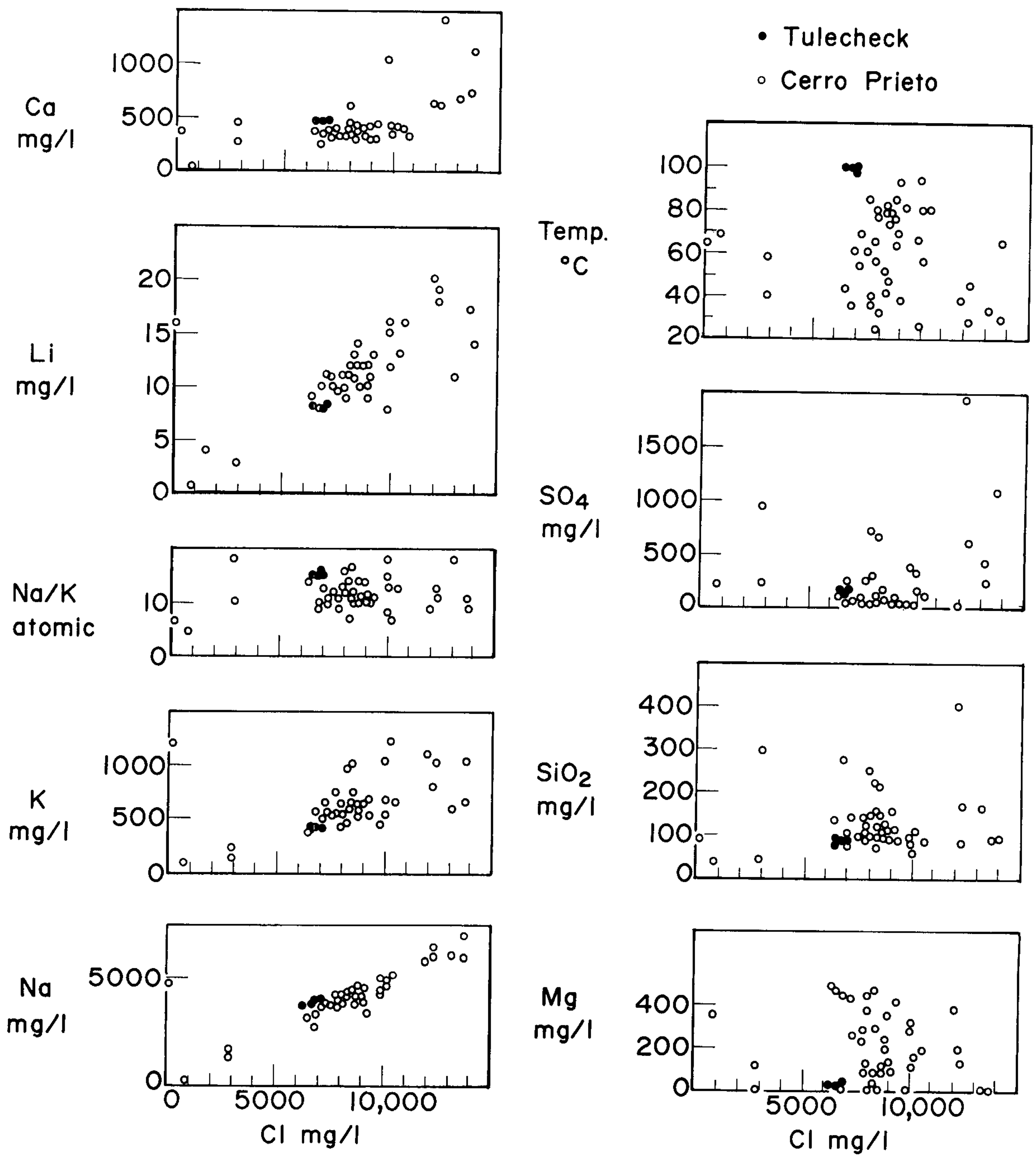
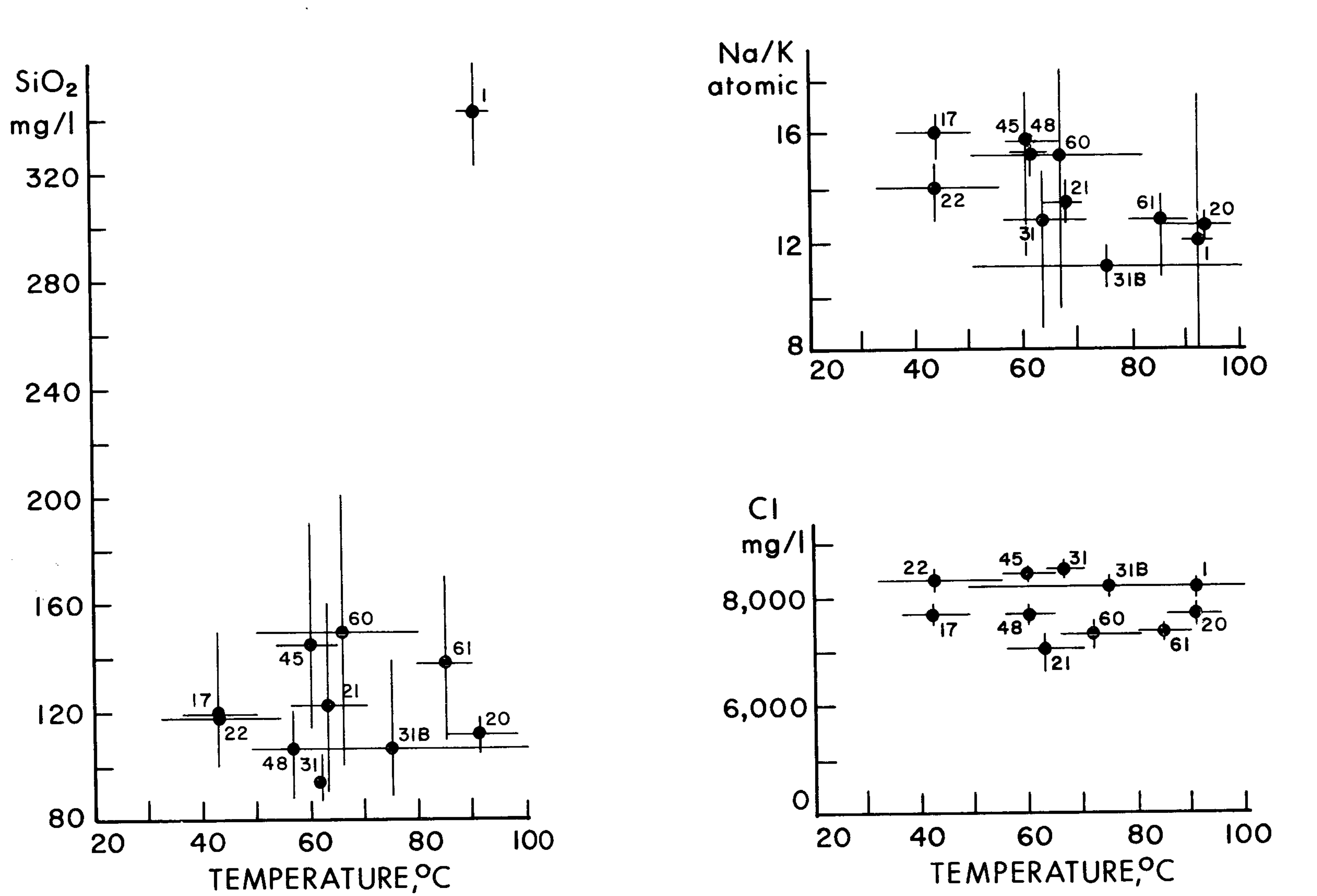


Figure 22. Temperature and Na content of the springs as a function of the Cl content (solid circles are evaporated samples; text).



XBL 7711-10498

Figure 23. Ion contents of the springs as a function of Cl; results of the general survey by Mercado (1968), Table 9, Part II.



XBL 7711-10493

Figure 24. Variations of SiO_2 and Cl content and the Na/K values in the springs that were recollected six times in one year (Table 10, Part II).

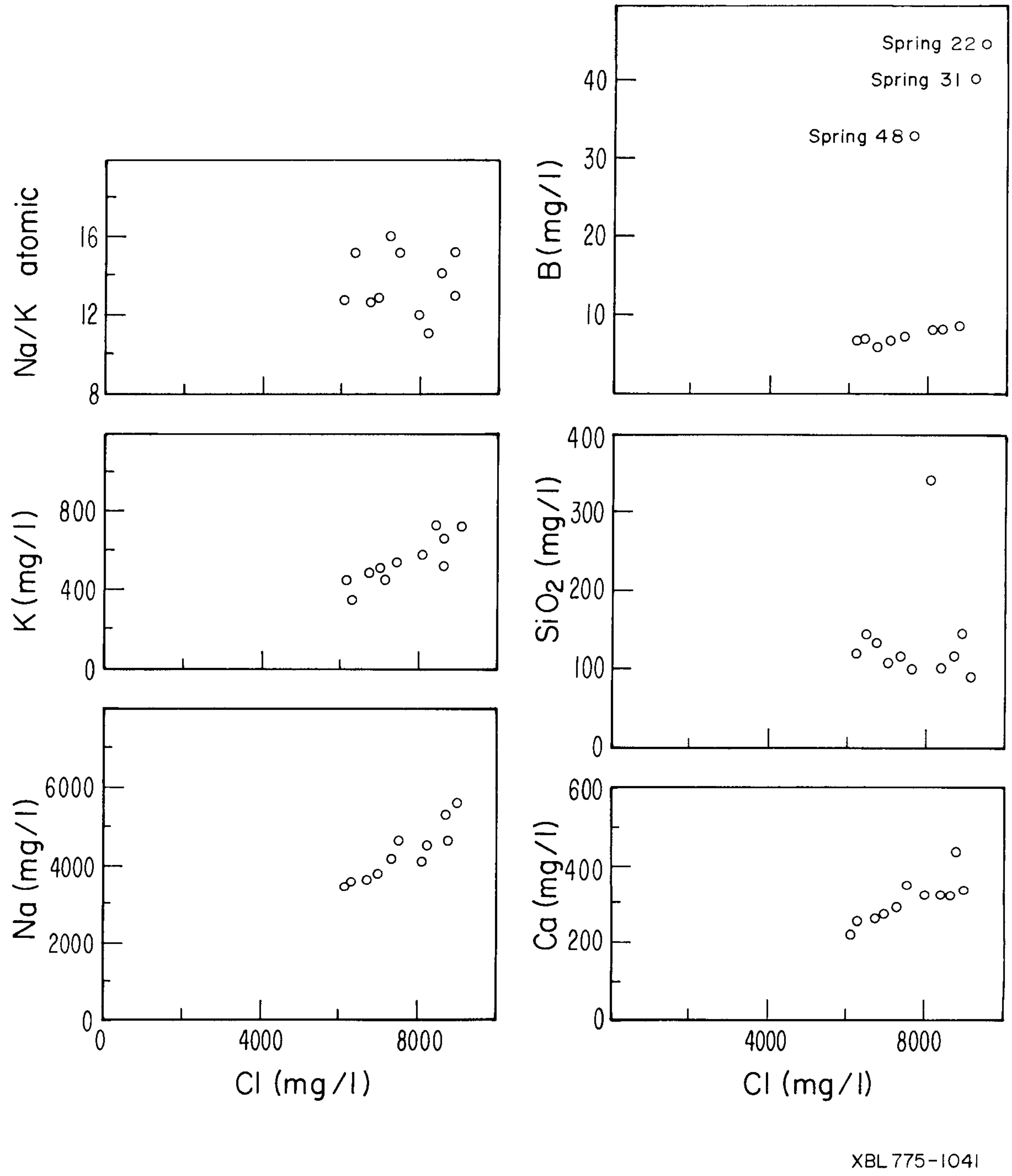


Figure 25. Average ion concentrations as a function of the Cl content in the springs (Table 10, Part II).

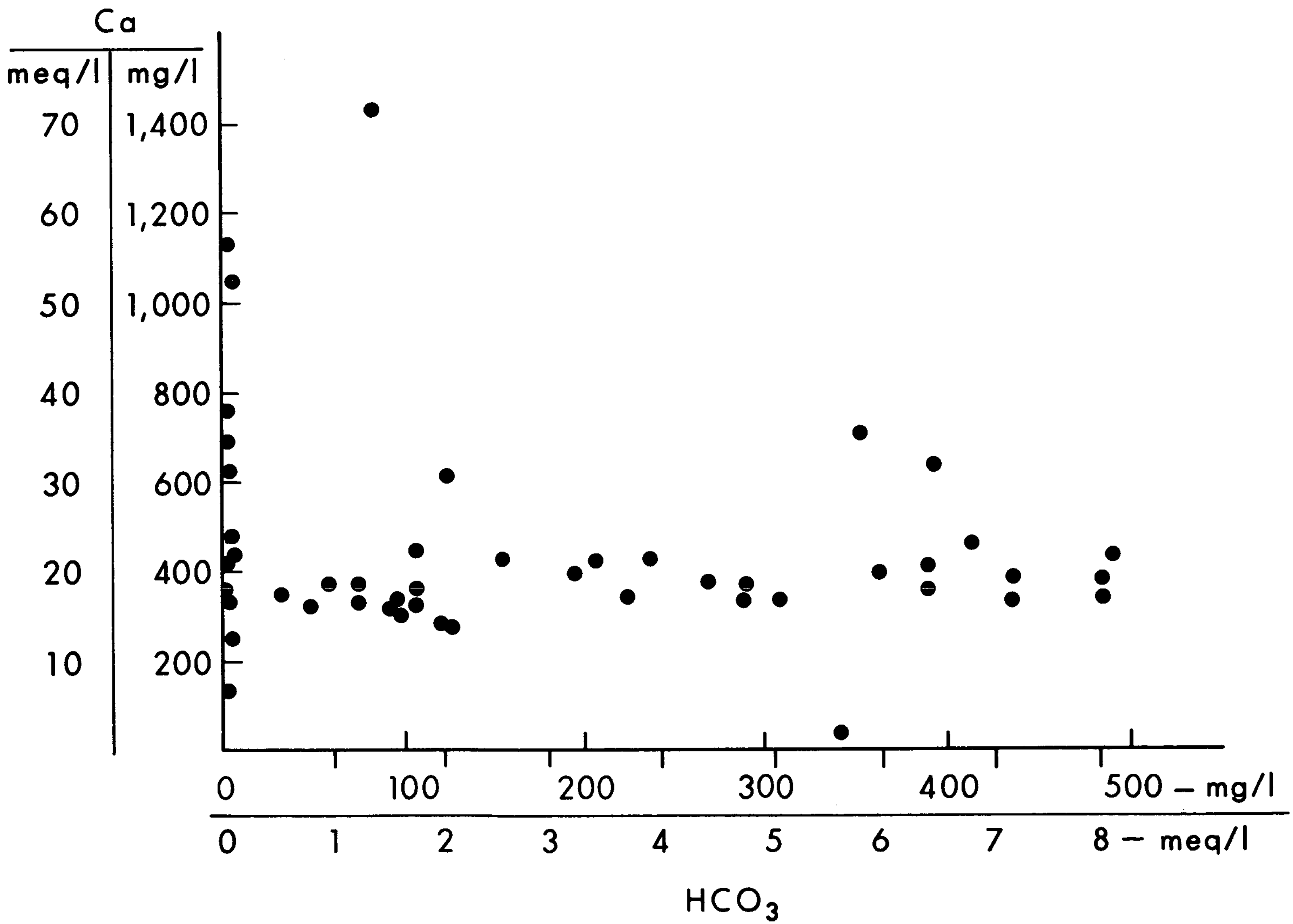


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Figure 26. Ca contents as a function of the HCO_3 content in the springs.

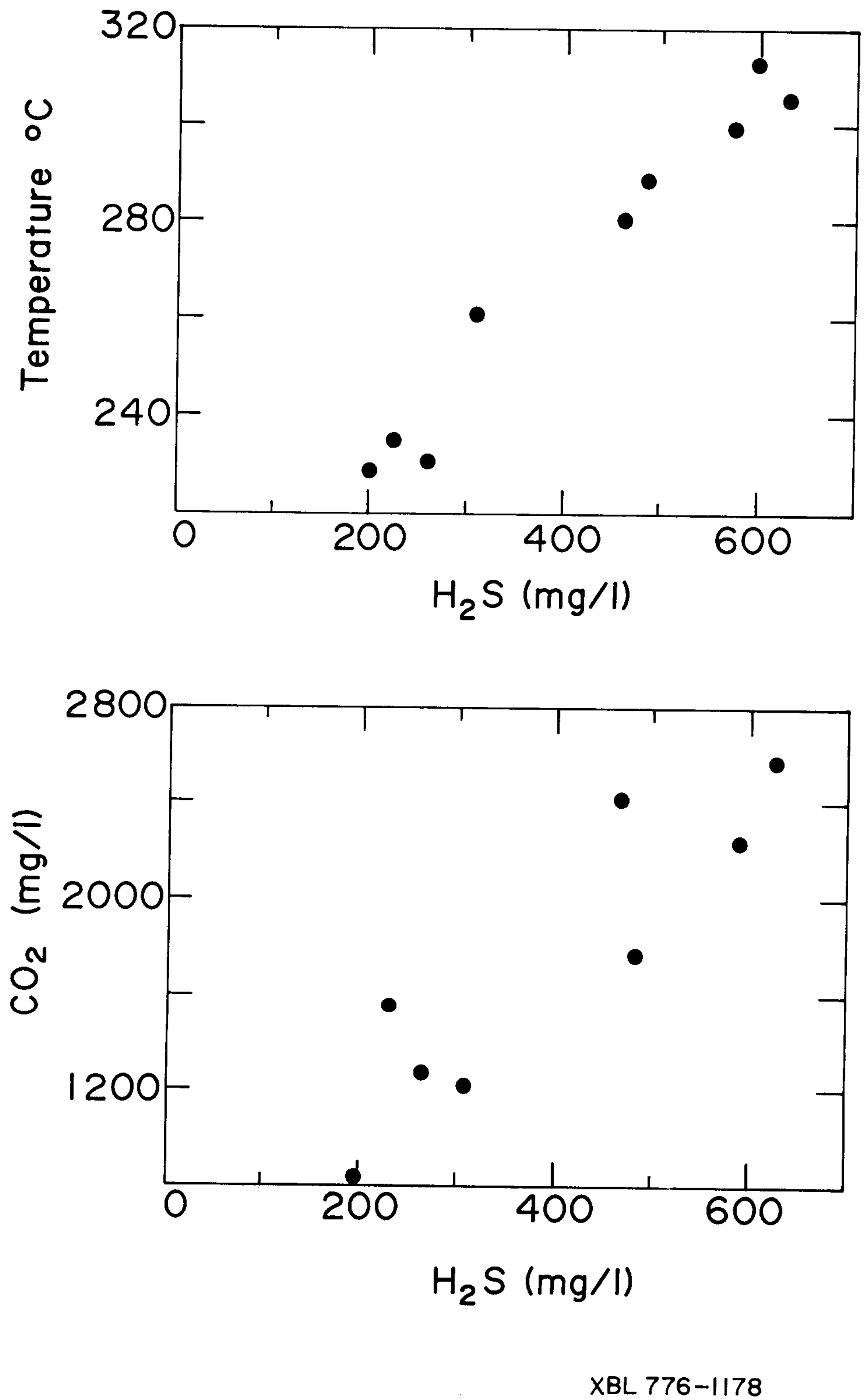

Figure 27. Temperature and CO_2 content as a function of the H_2S content in the producing wells (Table 6, Part II).

PART II

APPENDIX B - TABLES

Table of Contents

Table 1. Well Construction Data with Time Intervals Relevant to the Chemistry Tables.

Well	Time Interval	Production Interval Meters	Production Casing Diameter	Remarks
M-1A	4/ 4/66 - 4/27/74	311.9 - 523.5	10-3/4"	
M-2	All Data	35.7 - 726.5	26"	
M-2A	4/27/74 - 1/21/75	98.5 - 402.6	22"	
M-3	/ /66 - 9/ 2/72	650.6 - 894.5	11-3/4"	
M-4	No Chemistry Data	927.5 - 2001.3	11-3/4"	
M-5	/ /65 - 2/ 1/77	1097.2 - 1298.0	7-5/8" & 7"	
M-6	3/31/66 - 12/ 5/72	534.7 - 740.8	11-3/4"	
M-7	6/11/66 - 12/22/76	723.7 - 991.5	11-3/4"	
M-8	7/20/66 - 2/11/77	1120.0 - 1313.6	7-5/8"	
M-9	4/20/67 - 12/22/76	1060.9 - 1416.0 1060.9 - 1416.0 220.9 - 864.1	7-5/8" 7-5/8"	Original liner Liner and shuttings
M-10	1/27/67 - 1/ 3/72	1079.0 - 1449.0	7-5/8"	
M-11	8/21/67 - 10/16/71 5/27/76 - 2/17/77	868.0 - 956.8 1133.0 - 1229.0 1133.0 - 1229.0	7-5/8" 5-1/2"	Production casing was replaced by 5-1/2" ϕ and cancelled the 868 to 966.8 production interval.
M-13	7/18/68 - 2/16/72 1/26/74 - 3/25/74	1020.0 - 1312.0 1020.0 - 1312.0	8-5/8 & 11-2/4" 7-5/8"	Braked casing 11-3/4" at 200m was replaced by 7-5/8" on 2/7/73. After 3/25/74 the well was filled with mud.
M-14	10/ 3/74 - 3/1/77	1090.0 - 1297.0	7-5/8"	
M-15	8/18/67 - 11/ 9/73	1165.0 - 1256.0	7-5/8' & 5"	Collapsed casing from 160 to 614m were detected 3/10/72 and was abandoned in 1973.
M-15A	7/10/74 - 2/10/77	1091.0 - 1264.0	7-5/8"	
M-19A	6/28/74 - 2/ 7/77	1045.0 - 1263.0	7-5/8"	Originally open from 1045 to 1488 m but without flow data.
M-20	11/21/67 - 2/ 7/77	812.0 - 1386.0	7-5/8 & 11-3/4"	Collapsed casing of 11-3/4" from 252 to 784 m was replaced by 7-5/8"ϕ on 3/20/73.
M-21	7/10/68 - 11/ 7/72	1096.0 - 1504.0	7-5/8 & 11-3/4"	11-3/4" braked casing at 504 m was replaced by 7-5/8" ϕ on 1/2/73 but abandoned.
M-21A	4/24/74 - 2/ 7/77	1081.0 - 1300.0	7-5/8"	
M-25	1/25/73 - 2/ 8/77	1140.0 - 1271.0	7-5/8"	
M-26	9/12/67 - 2/ 9/77	1140.0 - 1271.0	7-5/8"	A cement plug was installed from 1140 to 1206 m on 2/24/75.
M-27	4/ 7/76 - 2/10/77	1087.0 - 1296.0	7-5/8"	
M-29	11/16/68 - 2/ 8/74 12/23/75 - 2/ 9/77	830.0 - 918.0 1100.0 - 1309.0	11-3/4" 7-5/8"	In 1975 the well was repaired (redrilled from 1054 to 1309 m).

Table 1. (Continued)

Well	Time Interval	Production Interval Meters	Production Casing Diameter	Remarks
M-30	9/22/73 - 2/10/77	1077.0 - 1497.0	7-5/8"	
M-31	3/12/68 - 2/11/75	1062.0 - 1222.0	7-5/8"	3/2763 the 11-3/4" casing was replaced by one 7-5/8"
M-34	3/25/68 - 11/10/75 No Chemistry Data	797.0 - 927.0 1095.0 - 1516.0	11-3/4" 7-5/8"	The well was closed and repaired in 1975 There are no data of flow after reparation
M-35	9/22/73 - 2/14/77	1082.0 - 1286.0	7-5/8"	
M-38	2/ 6/68 - 3/31/73	1086.0 - 1490.0	8-5/8"	On 6/23/73 collapses on the 8-5/8" were found from 104 to 470 m, it was repair-but later abandoned
M-39	4/17/68 - 1/24/77	1104.0 - 1493.0	7-5/8"	On 7/31/72 collapses on the 11-3/4" casing were found from 115 to 630 m and replaced by a 7-5/8"
M-42	5/ 7/76 - 2/11/77	974.0 - 1326.0	7-5/8"	
M-45	No Chemistry Data	1079.0 - 1396.0	5-1/2"	On 4/18/77 the 7-5/8" casing was replaced by the 5-1/2" production casing due to collapse in the 7-5/8"
M-46	No Chemistry Data	1086.0 - 1422.0	7-5/8"	7-5/8" collapsed casing - needs to be repaired
M-51	8/24/73 - 1/24/77	1122.0 - 1599.0	7-5/8"	
M-53	10/31/74 - 12/22/76	1785.0 - 1996.0	7-5/8"	
M-92	No Chemistry Data		Drilling Stage	Exploratory Well.
M-48	No Chemistry Data		Drilling Stage	Not concluded until 4/23/77 - 973 m
M-84	No Chemistry Data		Drilling Stage	Not concluded until 4/23/77
M-91	No Chemistry Data		Drilling Stage	Not concluded until 4/23/77

Table 2. Condition of Temperature Profile Measurements in Wells Prior to Commercial Production (1969).

Well No.	Flow Condition
M-3	Flowing by small diameter pipe (2 inches) at a well head pressure of 3.7 psig.
M-5	Flowing throttled with a 2 inch diameter orifice at a well head pressure of 693 psig.
M-6	Non flowing, water level at 12.5 mts. depth.
M-7	Non flowing, water level at unknown depth.
M-8	Flowing throttled with a 2 inch diameter orifice at a well head pressure of 625 psig.
M-9	Flowing throttled with a 3 inch diameter orifice at a well head pressure of 287 psig.
M-10	Non flowing, water level at unknown depth.
M-20	Flowing throttled with a 3 inch diameter orifice at a well head pressure of 475 psig.
M-26	Flowing with the well head valve partially open, at a well head pressure of 698 psig.
M-29	Flowing throttled with a 3 inch diameter orifice at a well head pressure of 265 psig.
M-34	Non flowing, water level at unknown depth.
M-38	Flowing throttled with a 3 inch diameter orifice at a well head pressure of 475 psig.
M-39	Non flowing, water level at unknown depth.

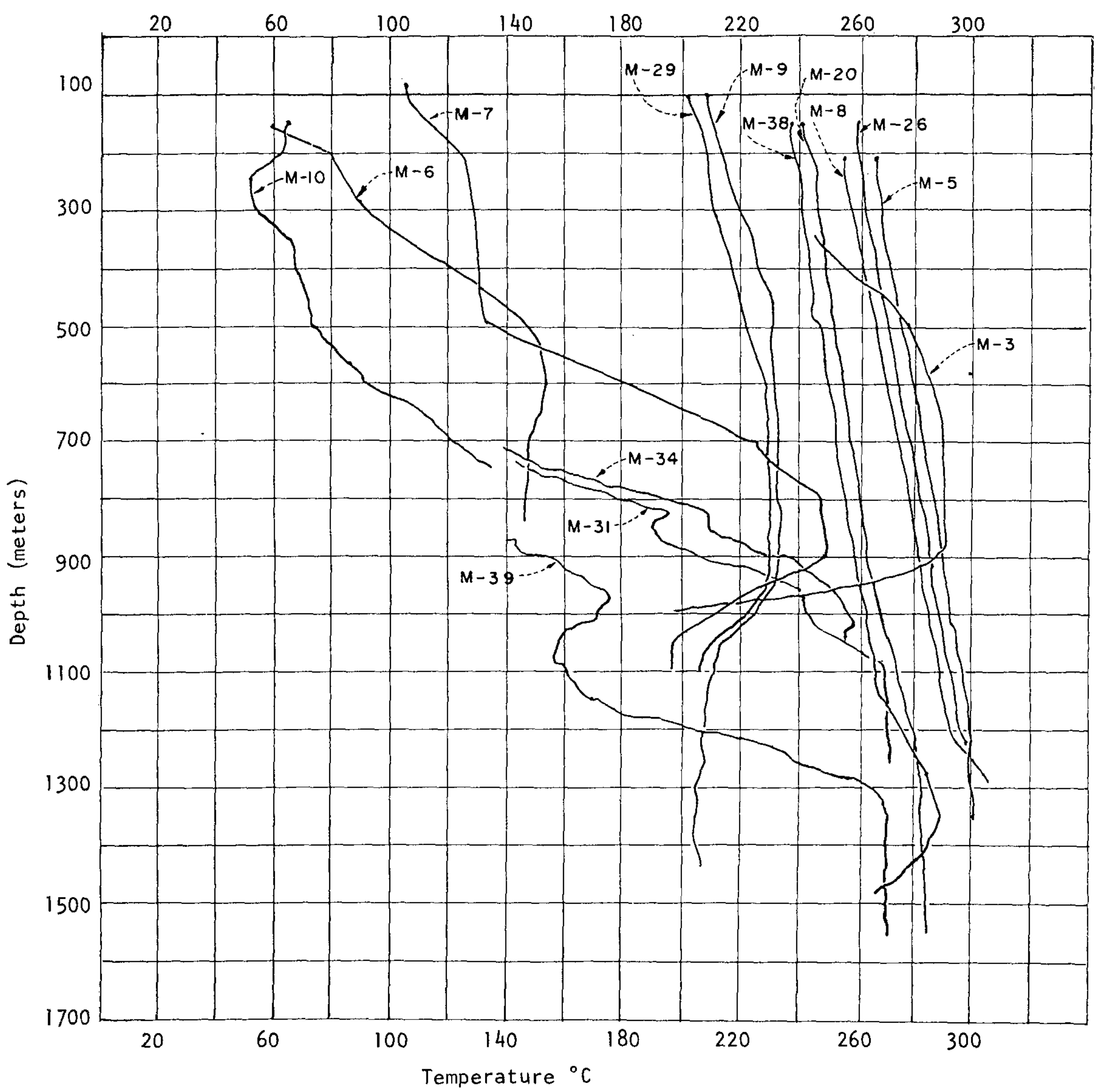

Table 3. Analytical Methods Applied at the Cerro Prieto Laboratory - Dissolved Ions

Constituent	Dates	Method	Reference
Al	9/23/76 - Present	AA - Flame Absorbance Mode	1
As	7/ 9/76 - 9/23/76 9/23/76 - Present	Mercuric Bromide Stain AA - Absorbance Mode	2 3
B	6/ 9/72 - Present	Colorimetric with Carminic Acid	4-5
Ba	9/23/76 - Present	AA - Flame Emission Mode	6
Be	9/23/76 - Present	AA - Flame Emission Mode	7
Br	6/ 9/72 - Present	Colorimetric with Phenol Red	8
Ca	9/18/68 - Present 1975 - Present	EDTA Titration AA - Flame Emission Mode	9 10
Co	9/23/76 - Present	AA - Absorbance Mode	11
Cs	9/23/76 - Present	AA - Flame Emission Mode	12
CO_3	9/18/68 - Present	Titration to Phenolphthalien Endpoint	13
Cl	9/18/68 - Present	Mohr Method	14
Cr	9/23/76 - Present	AA - Absorbance Mode	15
Cu	9/23/76 - Present	AA - Absorbance Mode	16
F	6/ 9/72 - Present	Thorium Nitrate Titration	17-18
Fe	6/ 9/72 - 9/23/76 9/23/76 - Present	Colorimetric with Phenanthroline AA - Absorbance Mode	19 20
HCO_3	9/18/68 - Present	Titration from Phenolphthalien to Methyl Orange Endpoint	21
I	6/ 9/72 - Present	Photometric with Ceric Sulfate	22
K	9/18/68 - 7/15/76 7/15/76 - Present	Flame Photometric AA - Flame Emission Mode	23 24
Li	9/18/68 - 7/15/76 7/15/76 - Present	Flame Photometric AA - Flame Emission Mode	25 26
Mg	9/18/68 - 7/15/76 7/15/76 - Present	EDTA - Titration AA - Absorbance Mode	27 28
Mn	9/23/76 - Present	AA - Absorbance Mode	29
Na	9/18/68 - 7/15/76 7/15/76 - Present	Flame Photometric AA - Flame Emission Mode	30 31
Ni	9/23/76 - Present	AA - Absorbance Mode	32
Pb	9/23/76 - Present	AA - Absorbance Mode	33
Rb	9/23/76 - Present	AA - Flame Emission Mode	34
SiO_2	7/15/77 - 7/ 9/77 7/ 9/77 - Present	Gravimetric AA - Absorbance Mode	35 36
SO_4	9/18/68 - 9/23/76 9/23/76 - Present	Turbidimetric TQH (Tetrahydroxiquinone) Method	37 38
Sr	9/23/76 - Present	AA - Flame Emission Mode	39
Zn	9/23/76 - Present	AA - Absorbance Mode	40

Table 3. References.

1. "Methods for Chemical Analysis of Water and Wastes," (1971) Environmental Protection Agency, National Environmental Research Center, Cincinnati, Ohio 45268. Analytical Quality Control Lab. p.98.

2. "Standard Methods for the Examination of Water and Wastewater," 12th Edition (1965). American Public Health Association, Inc., New York, N.Y. 10019. Pages 58-60, Method B.

3. "Application of Sodium Borohydride for Atomic Absorption Determination of Volatile Hydrides," Duncan, L., and Parker, C.R., Springvale, Austria, Varian Techtron.

4. "Standard Methods for the Examination of Water and Wastewater," 12th Edition (1965). American Public Health Association, Inc., New York, N.Y. 10019. Pages 58-60, Method B.

5. Annual Book of ASTM Standards, Part 31, July 1971 American Society for Testing and Materials, Philadelphia, Pa. 19103. Pages 246-248, Method D-3082-74.

6. Water Quality Division Labs. Manual, (1971) Ottawa and Burlington, Ontario; Calgary, Alberta and Moncton, N.B. Water Chemistry Subdivision, p.59.

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11. Water Quality Division Labs. Manual (1971) Ottawa and Burlington, Ontario; Calgary, Alberta and Moncton, N.B. Water Chemistry Subdivision, p. 66.

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13. "Standard Methods for the Examination of Water and Wastewater," 12th Edition (1965). American Public Health Association, Inc. New York, N.Y. 10019. Pages 48-52.

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17. "Methods for Collection and Analysis of Geothermal Fluids," Ellis, A.J. and Ritchies J.A. (1961). Lower, Hutt, New Zealand, D.L. Report No. 2039, pages 42-43.

18. "Standard Methods for the Examination of Water and Wastewater," 12th Edition (1965). American Public Health Association, Inc. New York, N.Y. pgs. 138-140.

19. Ibid. pages 156-159.

20. "Standard Methods for the Examination of Water and Wastewater," 12th Edition (1965). American Public Health Association, Inc. New York, N.Y.10019. Pages 48-52.

22. Ibid., Pages 152-154.

23. Ibid., Pages 239-240.

24. "Methods for Chemical Analysis of Water and Wastes," (1971). Environmental Protection Agency, Natonal Environmental Research Center, Analytical Qualtity Control Laboratory, Cincinnati, Ohio 45268.

25. "Standard Methods for the Examination of Water and Wastewater," 12th Edition (1965). American Public Health Association, Inc., New York, N.Y.10019. Pages 166-167.

26. Water Quality Division Labs. Manual (1971). Ottawa and Burlington, Ontario, Calgary, Alberta and Moncton, N.B. Water Chemisty Subdivision, p.70.

27. "Standard Methods for the Examination of Water and Wastewater," 12th edition (1965). American Public Health Association, New York, N.Y. 10019. Pages 74-77.

28. "Methods for Chemical Analysis of Water and Wastes" (1071) Environmental Protection Agency, National Environmental Research Center, Analytical Quality Control Laboratory, Cincinnati, Ohio 45268. Pages 112-113.

29. Ibid. Page 114.

30. "Standard Methods for the Examination of Water and Wastewater," 12th Edition (1976). American Public Health Association, Inc. New York, New York 10019. Pages 274-277, Method A.

31. "Methods for Chemical Analysis of Water and Wastes"(1971) Ottawa and Burlington, Ontario, Calgary, Alberta, and Moncton, N.B. Water Chemistry Subdivision, Page 81.

33. Ibid., Page 69.

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35. "Standard Methods for the Examination of Water and Wastewater," 12th Edition (1965). American Public Health Association, Inc., New York, N.Y. 10019. Pages 259-260,

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Table 4. Chemical Analyses (mg/l; Na/K ratio is atomic) in Repeatedly Collected Samples of the Wells.

Flow Condition Dictionary for Table 4

(Spanish - English)

	Spanish	English
1.	Cono = C	Cone, throttle, or equal to orifice but by vertical discharge.
2.	Descarga Lat.	Lateral or horizontal discharge.
3.	Desc. Agua Laguna	Water discharge to the evaporation pond (lake).
4.	Descontrolado	Blowout.
5.	Linea = L	Line - pipe (lateral pipe).
6.	Linea Lateral = Linea Lat.	Lateral pipe.
7.	Fondo Sep = Fondo Separator	Sample from the bottom of the separator.
8.	P = Purga	Small pipe (flowby).
9.	P.Sep. = P.S.	Separator pressure.
10.	Primeros Flujos	First flow.
11.	S = Sep.=Separador	Centrifugal separator.
12.	Sp and SV	Flow by separator and silencer.
13.	O = Orificio	Orifice.
14.	ϕ	Diameter of.
15.	Vert.= Vertedor = V	Weir.
16.	S.V.	Vertical silencer.
17.	Nivel Bajo	Low water level in the separator.
18.	Med.	Measuring flow of.
19.	Tubo	Pipe.
20.	V.R.	Partially open valve
21.	N.D.	Not analyzed.

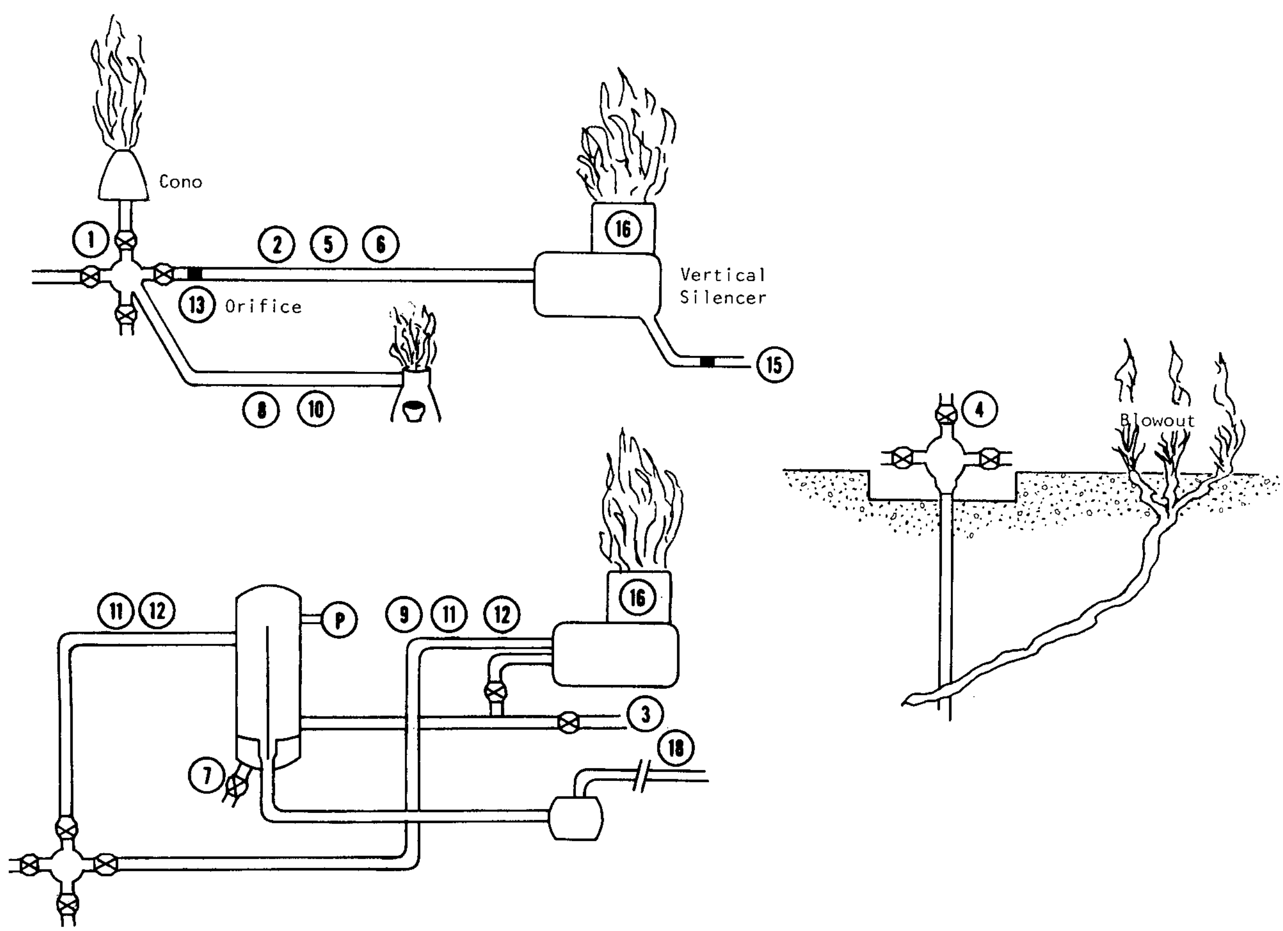

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-1A

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
5	-	-	/ 4/66	4450	570	12.2	210	n.d.	7420	5.2	0.95	trace	n.d.	54.2	7.2	9.0	51.8	229	8.1	13.25
6	-	-	7/67	5025	644	15.3	220	n.d.	7900	11.3	3.7	trace	n.d.	44.5	71.5	6.0	48.8	241	8.2	13.04
10	-	Linea 7-5/8"	10/ 7/72	4335	610	11.0	208	-	7511	-	-	-	-	8.0	-	17.9	27.9	240	-	12.1
11	-	V.R.	1/ 8/72	4125	526	9.9	222	-	7497	-	-	-	-	7.1	-	11.0	54.5	260	-	12.4
12	-	V.R.	2/ 9/72	4150	632	11.72	228	-	7674	-	-	-	-	9.5	-	5.2	58.6	205	-	11.1
13	-	V.R.	3/10/72	4200	612	13.25	224	-	7741	-	-	-	-	7.3	-	4.8	43.9	240	-	11.7
14	-	V.R.	7/11/72	3737	587	11.75	236	-	7669	-	-	-	-	8.4	-	10.5	47.9	250	-	10.8
15	-	V.R.	5/12/72	4175	575	11.62	212	-	7470	-	-	-	-	8.7	-	0	62.5	235	-	11.3
16	-		4/ 1/73	4575	590	11.8	232	-	7719	-	-	-	-	9.2	-	8.0	68.0	200	-	13.18
18	-		1/ 2/73	4375	587	11.8	228	-	7636	-	-	-	-	10.0	-	8.2	59.8	300	-	12.65
19	-		20/ 4/74	4396	587	8.2	233	-	7498	-	-	-	-	-	-	-	-	-	-	12.70

Well M-2A

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
1	-		17/ 4/74	2278	278	5.2	228	14.6	4038	-	-	-	-	-	-	-	-	78.7	-	12.3
3	-		21/ 1/75	3375	434	4.0	274	0	6400	-	-	-	-	-	-	-	-	-	-	13.2

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-3

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
451	110	P. 1/2"φ	18/ 9/68	5750	1353.0	9.95	348.0	-	10365	-	-	-	-	8.4	-	-	17.1	586.2	-	7.15
687	325	S. 10"	6/ 3/70	6562	1568.0	20.7	392.0	-	12019	-	-	-	-	7.6	-	-	81.7	629.0	-	7.11
787	272	S.10"	12/10/70	6468	1442.0	20.4	360.0	-	11426	-	-	-	-	10.8	-	-	3.6	n.d.	-	7.62
788	242	P. 2"φ	2/ 3/71	7125	1387.0	27.7	352.0	-	11040	-	-	-	-	10.8	-	-	488.0	524.5	-	8.73
790	204	P. 2"φ	26/ 1/72	7312	1372.0	16.75	312.0	-	11279	-	-	-	-	13.1	-	-	58.5	570.0	-	9.06
792	204	P. 2"φ	17/ 2/72	6250	1502.0	14.75	316.0	-	10836	-	-	-	-	15.2	-	-	87.3	525.0	-	7.0
793	201	P. 2"φ	11/ 3/72	6500	1600.0	16.25	324.0	-	11026	-	-	-	-	14.6	-	-	96.4	650.0	-	6.9
794	210	P. 2"φ	18/ 4/72	5775	1362.5	15.12	281.4	-	10831	-	-	-	-	14.3	-	-	93.63	590.0	-	7.2
795	198	P. 2"φ	9/ 5/72	5800	1387.0	17.37	316.2	-	10998	-	-	-	-	13.0	-	-	42.7	537.5	-	7.10
798	205	P. 2"φ	9/ 6/72	6125	1380.0	19.0	322.5	10.4	11279	1.9	0.5	2.12	0.33	15.2	13.8	11.9	63.1	630.0	8.03	7.54
800	205	P. 2"φ	7/ 7/72	6125	1390.0	18.75	355.8	-	11120	-	-	-	-	11.3	-	-	55.9	485.0	-	7.6
801	200	P. 2"φ	1/ 8/72	5875	1312.0	15.0	331.0	-	11261	-	-	-	-	11.0	-	13.7	64.2	507.0	-	7.6
802	130	P. 2"φ	2/ 9/72	5175	1287.0	16.5	320.0	-	10216	-	-	-	-	10.9	-	13.1	175.0	512.0	-	6.8

Well M-5

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
427	570	orifice 3" φ	18/ 9/68	8637.5	2317.5	29.1	506	-	16473	-	-	-	-	21.5	-	-	3.66	1176	-	6.33
482	570	3" φ	10/ 4/69	9062.5	2287.0	-	520	-	16045	-	-	-	-	13.7	-	-	74.4	-	-	6.7
557	110	1/2"φ	6/ 3/70	6000.0	1518.0	17.4	316	-	10504	-	-	-	-	7.1	-	-	174.4	639	-	6.71
560	150	1/2"φ	12/ 9/70	6475.0	1681.0	21.4	344	-	11278	-	-	-	-	11.7	-	-	15.6	-	-	6.54
561	150	1/2"φ	2/ 3/71	5812.0	1612.0	21.6	324	-	11038	-	-	-	-	11.6	-	-	13.42	785	-	6.13
563	190	1/2"φ	27/ 1/72	4825.0	1630.0	16.25	316	-	11230	-	-	-	-	13.2	-	-	104.9	785	-	5.03

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-5 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
565	180	1/2"ϕ	17/ 2/72	6200.0	1587.0	16.75	334.8	-	11624	-	-	-	-	15.0	-	-	113.0	810	-	6.6
566	185	1/2"ϕ	14/ 3/72	6000.0	1560.0	14.25	332	-	11416	-	-	-	-	14.2	-	-	112.9	805	-	6.54
567	170	1/2"ϕ	17/ 4/72	6125.0	1667.5	16.8	255.2	-	11241	-	-	-	-	15.1	-	-	110.2	675	-	6.2
568	169	1/2"ϕ	8/ 5/72	6200.0	1675.0	15.50	262.0	-	11057	-	-	-	-	13.5	-	-	129.5	757	-	6.29
569	170	P. 1/2"ϕ	9/ 6/72	6125.0	1487	15.7	301.0	-	11131	-	-	-	-	14.1	-	0	108.7	672	-	7.0
571	174	P. 1/2"ϕ	7/ 7/72	6312.0	1337	15.4	347	-	11315	-	-	-	-	14.2	-	0	132.1	792	-	8.0
573	180	P. 1/2"ϕ	1/ 8/72	5687	1567	15.2	279	-	11290	-	-	-	-	10.1	-	0	138.3	795	-	6.2
579	180	P. 1/2"ϕ	5/ 9/72	5875	1450	19.7	332	-	11382	-	-	-	-	9.5	-	0	133.2	798	-	6.9
580	180	P. 1/2"ϕ	3/10/72	5625	1512	19.5	360	-	11187	-	-	-	-	10.5	-	7.86	117.2	790	-	6.3
581	193	P. 1/2"ϕ	3/11/72	6012	1487	18.0	312	-	11354	-	-	-	-	12.0	-	0	146.5	695	-	6.9
583	166	P. 1/2"ϕ	5/12/72	5950	1525	16.6	320	-	10657	-	-	-	-	12.1	-	5.35	111.5	665	-	6.6
584	166	P. 1/2"ϕ	3/ 1/73	5800	1440	18.0	266	-	10956	-	-	-	-	14.2	-	0.0	141	660	-	6.8
585	204	P. 1/2"ϕ	1/11/73	6250	1560	17.5	328	-	11108	-	-	-	-	11.7	-	5.3	106	840	-	6.8
591	320	123 P.	23/ 4/73	8750	2225	15.0	504	-	15195	17.7	0.5	0.25	0.09	16.2	2.0	0.0	73	683	7.5	6.7
597	300	123 p.s. 4-3/4"ϕ	24/ 5/73	9950	2350	30.7	584	-	17864	-	-	-	-	24.0	-	0.0	67	n.d.	-	7.2
598	300	L. agua 100 p.s.	21/ 6/73	8914	2187	27.9	506	-	16747	-	-	-	-	n.d.	-	-	-	986	-	6.9
599	300	Vertedor 100p.s.	21/ 6/73	8333	2070	28.3	456	-	15346	-	-	-	-	-	-	-	-	707	-	6.8
600	300	" "	25/ 7/73	8300	2210	27.5	521	2.4	16431	-	-	-	-	-	-	6.1	44	864	-	6.4
601	300	L. agua. 100p.s.	25/ 7/73	7950	2075	26.0	487	2.4	15597	-	-	-	-	-	-	5.1	30	n.d.	-	6.5
602	300	" "	26/ 7/73	8135	2030	26.5	485	4.8	15577	-	-	-	-	-	-	6.1	29	879	-	6.8
603	290	" "	26/ 7/73	8250	1977	27.4	455	-	15344	-	-	-	-	-	-	-	-	950	-	7.1
604	290	" "	22/ 9/73	8053	1949	28.4	441	-	14999	-	-	-	-	-	-	-	-	958	-	7.0
605	89.6	vert. 86.7p.s.	31/ 1/74	8750	2070	24.8	489	-	15850	-	-	-	-	-	-	-	-	1035	-	7.2

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-5 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
605																		1000		
608	98.0	vert. 95.0p.s.	29/ 4/74	8582	2095	14.4	481	-	15241	-	-	-	-	-	-	-	-	611	-	6.3
609	2w96 2s95	sep. 54" s.v. vert	10/ 7/74	8825	2028	25.9	500	-	15720	-	-	-	-	-	-	-	-	1048	-	7.4
610	96-95	" "	30/ 8/74	9013	2066	26.2	450.5	-	15834	-	-	-	-	-	-	-	-	-	-	7.4
615	103	Sep. 54"	15/ 1/75	8079	1970	22.0	332	7.3	15600	-	1.42	1.34	0.7	18.5	1.3	9.6	28.0	949	-	6.97
620	100	Sep. 54"	10/ 3/75	8037	1994	-	463	-	15005	-	-	-	-	-	-	-	-	884	-	6.8
625	90	" "	20/ 5/75	8007	1877	-	461	-	15407	-	-	-	-	-	-	-	-	901	-	7.20
632	110	" "	15/ 7/75	7950	1950	22.3	460.5		15150	-	-	-	-	-	-	-	-	958.4	-	6.93
651	108	" "	11/ 9/75	7900	1950	21.2	456.0	-	15466	-	-	-	-	-	-	-	-	1097	-	6.89
657	105	Sep. 54"	12/11/75	7550	1820	21.6	455.0	-	15600	-	-	-	-	-	-	-	-	930	-	7.05
662	100	" "	8/ 3/76	7976	1892	21.8	455	0.5	15210	-	-	-	-	-	-	-	-	1159	-	7.17
663	108	Sep. 54"	24/ 5/76	7921	1922	18.9	523	0.48	14990	-	-	-	-	-	-	-	-	900	-	7.01
666	106	" "	21/ 9/76	8016	1899	22.90	504.0	0.50	14828	23.75	0.74	2.0	1.50	17.74	13.0	-	59.11	1318	7.89	7.18
667	"	" "	21/12/76	8487	1969	21.4	403.0	0.24	15599	-	-	-	-	23.0	-	-	-	1034	-	7.08

Well M-7

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
115	80	1/2"φ	18-9-68	5156	1125	12.5	348	-	9603	-	-	-	-	2.3	-	-	26.8	481	-	25.82
122	23.4	1/2"φ	12-10-70	5000	1087	15.4	320	-	8815	-	-	-	-	9.3	-	-	38.4	-	-	7.81
123	76.0	1"φ	17-2-72	4575	1187.0	11.75	292	-	9900	-	-	-	-	13.0	-	-	197.6	465	-	6.55
125	78.0	1"φ	11-3-72	5875	1287.0	14.5	322	-	10245	-	-	-	-	14.0	-	-	257.9	485	-	6.7

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-7 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
126	80.0	1"φ	18-4-72	4300	1287,0	14.5	316	-	10346	-	-	-	-	13.6	-	-	264.4	445	-	5.68
127	77.0	1"φ	18-4-72	5050	1125.0	13.75	268.3	-	9924	-	-	-	-	14.8	-	-	258.9	520	-	7.6
128	Sin Man.	1"φ	9-5-72	5400	1250.0	15.37	275.2	-	10176	-	-	-	-	12.3	-	-	187.3	475	-	7.55
132	79	1"φ	8-6-72	6012	1187	15.12	311	-	10422	-	-	-	-	13.8	-	21.1	187.9	505	-	8.6
133	74	1"φ	7-7-72	6000	1362	14.45	312	-	10340	-	-	-	-	13.1	-	8.2	201.1	527	-	7.5
134	79	1"φ	1-8-72	5250	1187	12.75	295	-	10166	-	-	-	-	11.0	-	9.6	203.9	597	-	7.5
135	77	1"φ	2-9-72	5250	1237	14.75	320	-	10266	-	-	-	-	13.0	-	2.62	207.7	482	-	7.2
136	75	1"φ	3-10-72	5625	1262	16.25	304	-	10030	-	-	-	-	10.0	-	7.2	156.16	560	-	7.5
137	71	1"φ	7-11-72	5800	1175	16.0	316	-	10258	-	-	-	-	14.0	-	7.86	197.0	530	-	8.4
139	75	1"φ	5-12-72	5800	1262	16.0	304	-	10109	-	-	-	-	13.8	-	26.8	136.0	480	-	7.8
140	81	P1/2"φ	3-1-73	5800	1125	14.5	308	-	10060	-	-	-	-	13.6	-	5.4	190.4	485	-	8.7
143	88	P1/2"φ	1-2-73	5500	1137	15.6	316	-	10066	-	-	-	-	11.4	-	5.4	204.0	545	-	8.2
146	114	Turbine 1"φ	8-11-73	5562	1099	-	264	-	9665	-	-	-	-	-	-	-	-	-	-	9.5
147	50	P1/2"φ	23-5-74	5759	936	10.4	304	-	9900	-	-	-	-	-	-	-	-	454	-	10.4
148	35	P2"φ	20-1-75	4669	932	5.0	287	-	9100	-	-	-	-	-	-	-	-	-	-	8.51
150	68	P2"φ	22-12-76	6125	922m	13.80	421	3.7	11060	-	-	-	-	-	-	-	-	546	-	7.02

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-8

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
176	134	Cono 5.9"	3/10/67	-	-	-	401	30	15251	-	-	-	-	101.6	-	-	-	797	-	-
293	-	Cono 7"	4/11/67	8028	1948	-	395	18.6	14362	-	-	-	-	93	-	-	-	824	-	7
296	-	Cono 7"	4/11/67	8562	1993	-	497	50.4	14645	-	-	-	-	84.6	-	-	-	1039	-	7.3
299	-	-	4/11/67	8512	2106	-	415	19.2	14835	-	-	-	-	89.6	-	-	-	954	-	6.8
307	300	Nivel bajo	4/11/67	8580	2123	-	398	34.7	14805	-	-	-	-	82.1	-	-	-	899	-	6.8
311	200	"	4/11/67	8782	2123	-	353	75.3	14909	-	-	-	-	84.4	-	-	-	1024	-	7.0
322	113	-	4/11/67	8488	2171	-	405	36.2	14919	-	-	-	-	80.9	-	-	-	905	-	6.64
445	648	Cono 4" orif. 4"	2/ 6/69	8305	2223	-	394	24.7	15841	-	-	-	-	12.3	-	-	-	1083	-	6.35
665	380	Sep. 54" Vert.	6/ 3/70	7656	1787	22.8	428	-	14503	-	-	-	-	10.7	-	-	68.3	1044	-	7.28
688	530	"	12/10/70	7156	1795	22.0	380	-	13366	-	-	-	-	13.6	-	-	1.22	-	-	6.77
691	507		2/ 7/70	7738	1912	-	378	14.1	13414	-	-	-	-	12.8	-	-	-	933	-	6.88
697	648	Sep. 54"	2/ 3/71	7125	1862	23.1	404	-	13642	-	-	-	-	10.5	-	-	2.44	864.5	-	6.5
705	670	Sep. 20"	28/ 1/72	7437	1990	19.25	404	-	13840	-	-	-	-	17.7	-	-	46.3	770.0	-	6.35
709	225	Sep. 20" y 54"	17/ 2/72	7750	1800	20.12	388	-	13889	-	-	-	-	17.4	-	-	66.8	810.0	-	7.3
710	157	Sep. 20" y 54"	14/ 3/72	7800	1845	20.0	412	-	13563	-	-	-	-	14.7	-	-	77.12	940.0	-	7.18
711	160	Sep. 54"	17/ 4/72	6775	1687.5	18.75	337	-	13417	-	-	-	-	18.2	-	-	68.8	870.0	-	6.8
712	168	Sep. 54"	8/ 5/72	6825	1825	19.50	342	-	12133	-	-	-	-	17.0	-	n.d.	10.7	865	-	6.34
721	159	Sep. 54"	9/ 6/72	7025	1675	20.50	347	-	13052	-	-	-	-	15.6	-	10.9	44.68	850	-	7.10
726	159	Sep. 54"	8/ 7/72	8000	2075	20.0	425	-	14242	-	-	-	-	16.2	-	0	33.5	995	-	6.54
729	363	P. 2" ϕ	1/ 8/72	7750	2300	18.75	375	-	14858	-	-	-	-	9.1	-	13.7	44.7	995	-	5.72
738	690	Sep. 54"	4/ 9/72	7250	1800	23.00	398	-	14153	-	-	-	-	13.0	-	23.6	14.6	910	-	6.8
739	490	P. 2" ϕ	3/10/72	7400	2600	27.00	424	-	15732	-	-	-	-	12.7	-	18.3	37.28	915	-	4.83
741	740	S.V.	3/11/72	8850	2500	31.75	472	-	16284	-	-	-	-	16.7	-	5.24	45.27	875	-	6.02

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-8 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^{=}$	$CO_3^{=}$	HCO_3^{-}	SiO_2	pH	Na/K atomic
743	705		5/ 7/72	8400	2425	28.25	436	-	15089	-	-	-	-	16.0	-	0	57.12	765	-	5.88
744	463	P. 2" ϕ	3/ 1/73	9925	2550	29.75	488	-	16439	-	-	-	-	16.1	-	8.02	48.96	765	-	6.61
749	700	P. 2" ϕ	1/ 2/73	8250	2250	29.0	400	-	14976	-	-	-	-	15.2	-	2.7	57.1	1020	-	6.2
752	435	Cono 3-1/2	16/ 4/73	7775	2075	-	381.6	-	14514	-	-	-	-	-	-	-	-	780	-	6.4
753	432	"	16/ 4/73	6625	1984	-	315.3	-	13905	-	-	-	-	-	-	-	-	-	-	5.7
754	120	Cono 7" ϕ	17/ 4/73	6775	2062	-	368	13885	-	-	-	-	-	-	-	-	-	-	-	5.6
755	232	Descarga Lat.v. 6"	27/ 6/73	7995	2125	24.4	427	-	15885	-	-	-	-	18	-	5.56	74	1218	-	6.4
756	105	valv. 2"	22/ 9/73	8483	2236	28	497	-	16241	-	-	-	-	-	-	-	-	918	-	6.4
757	102		22/2/74	8066	2066	23.7	487	-	15400	-	-	-	-	-	-	-	-	979	-	6.6
758	112		30/ 4/74	3525	1958	15.1	577	-	14408	-	-	-	-	-	-	-	-	943	-	7.4
759	103 100	Sep. 54" sv-medic	11/ 7/74	8213	1835	22.8	445	-	14384	-	-	-	-	-	-	-	-	914	-	7.61
761	101 103	"	29/ 8/74	7919	1893	20.8	408	-	15158	-	-	-	-	-	-	-	-	-	-	7.1
765	111 112	"	16/ 1/75	6535	1675	17.0	244	9.7	12700	-	1.28	0.8	2.2	9.5	4.3	19.2	17.0	896	-	6.63
768	110	Sep. 54"	12/ 3/75	6526	1557	-	324	-	11994	-	-	-	-	-	-	-	-	893	-	7.1
772	98	"	21/ 5/75	6625	1557	-	315	-	12140	-	-	-	-	-	-	-	-	863	-	7.27
773	106	"	17/ 7/75	6100	1664	18.0	303	-	11800	-	-	-	-	-	-	-	-	872.8	-	6.23
781	115	"	11/ 9/75	6420	1470	16.2	323	-	11863	-	-	-	-	-	-	-	-	1098	-	7.42
784	113	"	11/11/75	6300	1440	20.0	314	0	11900	-	-	-	-	-	-	-	-	895	-	7.43
790	111	"	8/ 3/76	6435	1419	17.1	297	0.3	12110	-	-	-	-	-	-	-	-	1045	-	7.71
791	105	"	24/ 5/76	5591	1371	15.3	281	0.1	10580	-	-	-	-	-	-	-	-	840	-	6.93
792	98	"	23/9/76	5257	1310	14.50	258	0.04	10128	12.50	0.45	-	0.60	15.52	10.0	11.38	32.49	974	8.21	6.82
793	94	"	21/12/76	6411	1456	18.60	382	0.14	11945	-	-	-	-	-	-	-	-	974	-	6.80

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-9

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
430	300	Cono 4.9"	17/12/67	7430	1358	16.9	505	21.5	12313	-	-	-	-	93.9	-	-	-	308	-	9.3
432	250		17/12/67	7292	1345	16.2	504.4	19	12208	-	-	-	-	86.9	-	-	-	272	-	9.22
434	635		17/12/67	7545	1399	16.8	523	22.4	12299	-	-	-	-	35.9	-	-	-	359	-	9.17
717	300	Purga 1/2"	6/ 3/70	5968	1160	15.0	424	21.8	10706	-	-	-	-	8.1	-	-	-	489.5	-	8.75
720	75	"	12/10/70	5718	12063	17	400	17	9850	-	-	-	-	6.1	-	-	-	-	-	8.2
721	100	"	2/ 3/71	4750	1187	14.5	396	10.9	9652	-	-	-	-	8.7	-	-	-	379.5	-	6.8
723	128	P. 2" ϕ	27/ 1/72	5575	1128	11.28	412	2.9	10540	-	-	-	-	11.5	-	-	-	410	-	8.4
725	122	"	17/ 2/72	5675	1475	12.75	410	-	10545	14	-	-	-	11.3	-	n.d.	76.4	355	-	6.5
726	126	"	11/ 3/72	6200	1300	17.5	442	-	10245	-	-	-	-	11.9	-	n.d.	82.6	655	-	8.1
727	143	"	18/ 4/72	5600	1250	15.0	406	-	11192	-	-	-	-	13.1	-	n.d.	77.1	470	-	7.6
728	140	"	9/ 5/72	5700	1340	19.25	416.8	-	11497	-	-	-	-	11.6	-	-	26.2	652	-	7.22
729	140	"	9/ 6/72	5762	1212	19.25	468.6	-	11771	-	-	-	-	13.0	-	18.5	34.9	640	-	8.1
731	245	"	8/ 7/72	7000	1375	19.0	512.1	-	12291	-	-	-	-	13.4	-	13.7	30.7	410	-	8.65
732	220	"	4/ 8/72	6500	1400	17.75	512.1	-	12284	-	-	-	-	9.7	-	10.48	46.6	572.5	-	7.89
733	220	"	2/ 9/72	6425	1385	19.5	512.0	-	12309	-	-	-	-	12.7	-	2.62	61.2	515.0	-	7.87
734	165	"	3/10/72	6550	1350	19.0	480.0	-	11936	-	-	-	-	9.8	-	9.6	29.28	530.0	-	8.24
755	192	"	7/11/72	6850	1340	20.30	492.0	-	12001	12.7	-	-	-	12.7	-	18.34	39.94	510.0	-	8.69
762	150	"	5/12/72	6000	1300	17.0	448.0	-	10657	-	-	-	-	12.0	-	0	73.44	540.0	-	7.84
738	160	"	1/ 2/73	6125	1260	17.2	468	-	11008	-	-	-	-	9.6	-	13.4	40.8	540.0	-	8.3
739	110	S. 54" ϕ	24/ 4/73	5437	1150	13.7	517	-	12773	-	-	-	-	16.8	-	10.7	57.1	532	-	8.0
741	105	fondo S. 54" ϕ	24/ 5/73	6450	1070	17.3	499	-	11662	-	-	-	-	22.7	-	8.4	61.7	-	-	10.2
742	100	"	14/ 6/73	6331	1067	n.d.	447	-	11459	-	-	-	-	11.5	-	7.8	65.3	495	-	10.1
743	100	Des. agua Laguna	5/ 9/73	6128	1030	18.5	465	-	11537	-	-	-	-	-	-	-	-	-	-	10.2

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-9 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
744	100	"	22/ 9/73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	527	-	-
745	82	fondo sep.	26/ 2/74	5842	941	16.1	422	-	10076	-	-	-	-	-	-	-	-	-	-	10.5
746	90	"	30/ 4/74	5550	838	12.2	437	-	10144	-	-	-	-	-	-	-	-	512	-	11.2
747	168		5/ 7/74	6100	778	14.7	371	-	9538	-	-	-	-	-	-	-	-	-	-	13.39
748	70	Purga 1"φ	20/ 1/75	4058	532	4.0	343	-	7450	-	-	-	-	-	-	-	-	-	-	12.98
749	200	Cono 3-1/2"	21/ 8/75	5820	910	13.6	500	-	11162	-	-	-	-	-	-	-	-	346.5		10.87
750	200	Orif. 4"	"	5870	879	13.30	470	-	11032	-	-	-	-	-	-	-	-	342.3	-	-
751	190	Orif. 6"φ	22/ 8/75	5730	848	13.35	465	-	10645	-	-	-	-	-	-	-	-	357.3	-	11.49
752	80	Cono 6" φ	"	5820	860	13.60	472	-	10845	-	-	-	-	-	-	-	-	353	-	12.31
753	230	P. 2"	25/ 8/75	5590	772	12.35	438	-	10311	-	-	-	-	-	-	-	-	347.6	-	-
754	108	Sep. 54"	11/ 9/75	6020	910	13.8	440	-	10862	-	-	-	-	-	-	-	-	594.0	-	11.25
757	108	"	11/11/75	5800	944	14.2	442	-	11100	-	-	-	-	-	-	-	-	495.0	-	10.44
762	5	Linea Lateral	9/ 3/76	5358	730	13.6	396	1.9	10020	-	-	-	-	-	-	-	-	-	-	12.48
763	150	"	11/ 8/76	3918	522	-	317.6	-	7098.4	-	-	-	-	-	-	-	65.9	-	-	12.76
764	115	P° 1"	22/12/76	4977	661	11.80	500.0	0.75	9350	-	-	-	-	-	-	-	-	641.0	-	9.75

Well M-10

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
3	360	27/ 1/67	Linea Lateral	7530	1155	-	-	-	10530	-	-	-	-	-	-	-	-	-	-	11.1
4	465	27/ 1/67	"	5900	1100	-	-	-	10700	-	-	-	-	-	-	-	-	-	-	9.1
5	360	27/ 1/67	"	5950	1094	-	-	-	10670	-	-	-	-	-	-	-	-	520	-	9.2
24	350	30/ 1/67	"	5100	950	15.4	390	-	-	15.4	3.24	0.3	-	43.8	16.1	-	73.2	451	5.9	9.12

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-10 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
101	280	17/ 3/67	" Orif. 3"	4425	582	10.9	311	-	7020	7.0	-	-	-	11.5	20.7	-	61.0	351	5.6	12.9
155	265	12/ 5/67	Lin. Lat Orif.3"	4900	670	7.9	332	-	8100	6.0	2.5	0.7	-	65.3	20.8	-	59.9	381	-	12.4
160	218	31/ 5/67	" Orif.3-4"	4850	520	7.4	-	-	7670	-	-	-	-	-	-	-	-	309	-	15.8
161	219	2/ 4/67	"	4225	465	6.4	-	-	6680	-	-	-	-	-	-	-	-	306	-	15.4
162	220	2/ 6/67	"	4310	468	6.4	-	-	6600	-	-	-	-	-	-	-	-	301	-	15.6
171	182	3/ 7/67	" Orif.3"	4600	486	10.0	348	-	7760	4.0	3.0	trace	-	24.4	25.1	-	48.2	306	5.5	16.1
167	175	21/ 6/67	"	3875	370	6.9	276	-	6150	-	-	-	-	-	-	-	91.5	-	5.5	17.8
174	255	8/ 8/67	"	5375	705	8.3	316	-	7870	7.3	2.5	0.7	-	41.3	14.6	-	79.3	351	5.7	12.9
183	202	8/ 9/68	P. 1/2"	5437	1620	12.4	316	-	9613	6.9	trace	-	-	-	2.8	6.0	26.8	746	-	5.7
187	190	27/ 3/69	P. 1/2"	5040	1781	-	283	17.8	10639	-	-	-	-	12.2	-	-	-	-	-	4.81
207	395	6/ 3/70	"	4968	1500	16.4	216	21.8	8958	-	-	-	-	8.8	-	-	-	674.5	-	5.63
225	195	12/10/70	Orif. 4.5"	5968	825	16.8	460	27.9	9653	-	-	-	-	10.7	-	-	-	-	-	12.3
249	462	2/ 3/71	P. 1/2"	4562	1592	15.2	276	4.8	9405	-	-	-	-	6.6	-	-	-	684.5	-	4.87
251	234	27/ 1/72	"	4750	1665	13.62	304	2.4	9686	-	-	-	-	17.0	-	-	-	615	-	4.85
253	212	17/ 2/72	P. 1/2"ϕ	4875	1600	15.62	332	-	9555	-	-	-	-	14.8	-	n.d.	570.5	635	-	5.10
254	210	11/ 3/72	"	5375	1550	15.25	300	-	9465	-	-	-	-	15.6	-	"	454.4	780	-	5.89
255	210	17/ 4/72	"	4675	1580	14.87	261	-	9875	-	-	-	-	17.1	-	"	462.7	700	-	5.00
256	222	8/ 5/72	"	5500	1625	18.75	300	-	10200	-	-	-	-	14.6	-	"	354.3	622.5	-	5.74
266	151	Purga 1/2"	3/ 1/73	4687	1362	15.0	284	-	9162	-	-	-	-	15.3	-	-	217	625	-	5.8

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-11

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
80	599	Purga 1/2"	27/ 8/67	9210	2168	26.6	443	23.6	15525	-	-	-	-	100.5	-	-	-	599.8	-	7.22
181	275	"	23/ 4/69	2040	7331	-	443.7	24.7	14353	-	-	-	-	12.2	-	-	-	-	-	6.11
201	252	"	6/ 3/70	1637	6281	19	318	28.9	11059	-	-	-	-	4.75	-	-	-	674.5	-	6.52
204	262	"	12/10/70	1887	6281	19.9	336	13.3	11130	-	-	-	-	10.7	-	-	-	-	-	6.33
206	283	"	27/ 1/72	1787	6387	18	332	12.15	12530	-	-	-	-	13.6	-	-	-	780	-	6.07
208	283	"	17/ 2/72	6750	1825	16.2	358	-	12412	-	-	-	-	13.6	-	n.d.	96.1	695	-	6.2
209	260	"	11/ 3/72	7000	1762	19.7	330	-	12292	-	-	-	-	14.0	-	"	104.6	665	-	6.7
213	295	"	8/ 6/72	1362	1362	15.7	279	-	10540	-	-	-	-	12.0	-	-	147.6	680	-	7.3
214	214	"	8/ 7/72	3120	720	9.5	86.8	-	5511	-	-	-	-	6.9	-	-	220.7	402	-	7.9
215	215	"	4/ 8/72	4250	1242	10.45	243	-	8157	-	-	-	-	7.2	-	-	186.4	595	-	5.8
249	360	"	2/ 9/72	8350	2260	28.2	544	-	16445	-	-	-	-	21.5	-	3.9	39.9	840	-	6.3
261	360	"	5/10/72	7000	2075	30.0	596	-	15732	-	-	-	-	14.9	-	-	39.9	815	-	5.7
267	270	"	7/11/72	4625	1250	14.2	280	-	8954	-	-	-	-	10.3	-	5.2	316.9	525	-	6.3
269	306	"	5/12/72	4300	1337	14.2	276	-	9262	-	-	-	-	11.5	-	16.0	152.3	535	-	5.4
270	308	"	3/ 1/73	5300	1300	15	310	-	9263	-	-	-	-	12	-	-	168	520	-	6.9
271	362	P. 2"ϕ	1/ 2/73	6425	1530	18	344	-	11256	-	-	-	-	11	-	-	136	775	-	7.1
275	580	Sep 54" 3-5/32"	23/ 4/73	5500	1787	14	452	153	13150	1	.5	.1	-	16	6.2	-	46	597	7.6	5.2
280	580	Sep. 54" med. nivel	24/ 5/73	7775	1825	28	498	-	15032	-	-	-	-	25	-	-	66	652	-	7.2
281	578	" m.n. 3-5/8"	14/ 6/73	8281	1987	n.d.	494	-	15965	-	-	-	-	17	-	-	59	870	-	7.1
282	570	" ext. tub.	22/ 9/73	8416	1846	27	551	-	15324	-	-	-	-	-	-	-	-	927	-	7.7
284	587	" ver. 3-5/32"	18/ 2/74	8166	1880	26	565	-	15300	-	-	-	-	-	-	-	-	682	-	7.4
285	603	"	29/ 5/74	8333	1806	24	551	-	14800	-	-	-	-	-	-	-	-	838	-	7.9

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-11 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
286	608	Sep. 54" ver.3-5/32"	10/ 7/74	8600	1818	25.1	563	-	15088	-	.9	-	-	-	-	-	-	873	-	8.04
287	615	"	30/ 8/74	8875	1834	24.4	527	-	15284	-	-	-	-	-	-	-	-	-	-	8.2
298	450	"	20/ 1/75	7504	1496	22.0	561	7.3	14450	-	1.3	0.4	0.4	9.8	4.3	9.6	44	758	-	8.5
311	445	Sep. 54"	10/ 3/75	7829	1510	-	639	-	14791	-	-	-	-	-	-	-	-	n.d.	-	8.8
315	225	Orif.5/32	22/ 5/75	6332	801	-	645	-	12160	-	-	-	-	-	-	-	-	551	-	13.4
316	180-190	Sep. 54"	27/ 5/75	6360	772	-	653	-	11994	-	-	-	-	-	-	-	-	-	-	14.0
318	200	Purga 2"	13/10/75	6380	630	-	747	-	12750	-	-	-	-	-	-	-	-	535.7	-	17.21
319	175	Cono 3-1/2	13/10/75	6400	650	-	742	-	12750	-	-	-	-	-	-	-	-	482.1	-	16.74
320	187	Orif.3"	13/10/75	6600	668	-	813	-	13300	-	-	-	-	-	-	-	-	582.8	-	16.80
321	128	Cono 5"	13/10/75	6300	630	-	780	-	12300	-	-	-	-	-	-	-	-	531.4	-	17.16
322	133	Lat. 6"	14/10/75	6100	600	-	696	-	12100	-	-	-	-	-	-	-	-	525.0	-	17.28
323	79	Cono 6"	14/10/75	5950	570	-	620	-	11400	-	-	-	-	-	-	-	-	514.0	-	17.75
324	65	Cono 7"	16/10/75	6010	560	-	600	-	11000	-	-	-	-	-	-	-	-	546.5	-	18.24
325	197	Orif. 3"	16/10/75	5600	560	-	618	-	11300	-	-	-	-	-	-	-	-	525.0	-	17.00
326		Pga. 1/4"	27/ 5/76	6765	1466	18.4	479	-	11850	-	-	-	-	-	-	-	-	-	-	7.84
327	312	Pga. 1"	7/ 6/76	7272	1581	20.1	454	-	12850	-	-	-	-	-	-	-	-	-	-	6.82
328	275	Cono 2"	7/ 6/76	7871	1955	23.7	521	-	15167	-	-	-	-	-	-	-	-	-	-	6.84
329	150	Orif. 3"	8/ 6/76	8365	2069	24.8	524	-	15342	-	-	-	-	-	-	-	-	-	-	6.87
330	92	Orif. 4"	14/ 6/76	8106	2048	25.0	521	-	15372	-	-	-	-	-	-	-	-	-	-	6.73
331	98	"	23/ 9/76	8229	2031	25.20	550	0.34	16129	36.50	0.70	1.70	1.10	-	12.00	-	59.11	1345.0	7.90	6.89
332	105	"	22/12/76	8366	2124	23.60	389	0.22	15588	-	-	-	-	-	-	-	-	-	-	6.70

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-13

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
5	240		26/ 7/68	7928	2245	21.8	406.9	6.15	13920	-	-	-	-	9.1	-	-	-	1169	-	6.0
56	555	Cono 5" Orifice 6"	27/ 3/69	8559	2396	27	417	29.8	15675	-	-	-	-	12.9	-	-	-	1149	-	6.07
129	555	Orif. 3.5	6/ 3/70	7406	1975	24.5	436	21.8	14140	-	-	-	-	11.2	-	-	-	1109	-	6.37
138	247	Purga 1"	12/10/70	6593	1718	25.7	408	21.8	12854	-	-	-	-	14.1	-	-	-	-	-	6.52
139	270	Purga 1"	2/ 3/71	6687	1780	18.7	384	14.6	12721	-	-	-	-	11.8	-	-	-	754	-	6.58
141	231	"	26/ 1/72	6262	1705	19.5	328	17.0	12560	-	-	-	-	17.6	-	-	-	840	-	6.24
143	660	P. 1"φ	16/ 2/72	8937	2162	23.5	460	-	15761	-	-	-	-	19.0	-	n.d.	57.3	951	-	7.0
144	160	"	11/ 3/72	6225	1587	16.0	296	-	11172	-	-	-	-	14.1	-	n.d.	107.4	635	-	6.7
147	S.M.	Descontro Lado.	18/ 4/72	8000	2525	21.1	406	-	15642	-	-	-	-	19.2	-	n.d.	79.9	870	-	5.4
174	220	14" L. 7-5/8"	9/ 5/72	8750	1950	22.8	492	-	15949	-	-	-	-	16.6	-	n.d.	40.3	910	-	7.6
217	148	L. 8 & 6 v.r.	9/ 6/72	8775	2200	26.0	448	-	16254	-	-	-	-	18.5	-	11.9	26.8	880	-	6.7
263	104	P. 2"φ	26/ 1/74	5690	841	13	372	29	10120	-	-	-	-	-	-	-	-	-	-	11.7
264	300	"	12/ 2/74	6608	1152	19	461	5	11950	-	-	-	-	-	-	-	-	-	-	9.9
265	50	"	25/ 3/74	5463	745	12	360	22	8821	-	-	-	-	-	-	-	-	-	-	12.5

Well M-14

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
2	210	V.R. Pga L"	1/ 7/76	2811	789	-	150	-	5409	-	-	-	-	-	-	-	-	-	-	6.05
3	-	PGA. 1"	12/ 7/76	3202	919	-	158	-	6098	-	-	-	-	-	-	-	-	-	-	5.92
4	395	Cono 3-1/2"	14/ 7/76	3087	617	-	21	-	5864	-	-	-	-	-	-	-	-	-	-	8.51
5	325	Cono 3-7/8"	15/ 7/76	318	58	-	17.8	-	550	-	-	-	-	-	-	-	-	-	-	9.26

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-14 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
6	340	Lat. 4"	15/ 7/76	6988	1377	-	461.0	-	12677	-	-	-	-	-	-	-	-	-	-	8.63
7	235	Cono 4-7/8"	15/ 7/76	151	33	-	10.3	-	1300	-	-	-	-	-	-	-	-	-	-	7.71
8	238	Lat.7-5/8"	16/ 7/76	7092	1391	-	480.0	-	12697	-	-	-	-	-	-	-	-	-	-	8.67
9	240	"	16/ 7/76	6927	1370	-	470.0	-	12677	-	-	-	-	-	-	-	-	-	-	8.60
10	235	"	20/ 7/76	6928	1426	-	472.0	-	12757	-	-	-	-	-	-	-	-	-	-	8.26
11	120		23/ 9/76	7079	1439	17.70	445.0	0.61	13113	17.50	0.59	2.38	1.50	18.38	11.00	6.32	43.70	960.0	8.05	8.51
12	105	"	21/12/76	7357	1469	17.00	346.0	0.41	13383	-	-	-	-	-	-	-	-	877.0	-	8.54

Well M-15

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
25	192	Purga 2"	7/11/73	3187	270	-	36	-	5231	-	-	-	-	-	-	-	-	-	-	20.0
26	340	"	8/11/73	1200	190	-	28	-	1494	-	-	-	-	-	-	-	-	-	-	10.7
27	230	"	8/11/73	1000	277	-	44	-	1793	-	-	-	-	-	-	-	-	-	-	8.7
28	166	"	8/11/73	1000	277	-	44	-	1993	-	-	-	-	-	-	-	-	-	-	-
29	150	"	9/11/73	1000	-	-	-	-	1993	-	-	-	-	-	-	-	-	-	-	-
30	140	"	9/11/73	1000	-	-	-	-	2142	-	-	-	-	-	-	-	-	-	-	-
31	140	"	9/11/73	1000	-	-	-	-	2142	-	-	-	-	-	-	-	-	-	-	-

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-15A

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
1	686	Purga 1/2" v.r.	10/ 7/74	10.3	2.4	-	-	-	41	-	-	-	·	-	-	-	-	n.d.	-	7.00
2	563	Cono 3"	15/ 7/74	3000	722.7	-	164.3	-	5730	-	-	-	-	-	-	-	-	"	-	7.05
3	526	Orif.3"	15/ 7/74	7530	1640	-	432.8	-	13505	-	-	-	-	-	-	-	-	728	-	7.61
4	395	Orif.4-1/4"	16/ 7/74	6833	1541	-	448.8	-	13011	-	-	-	-	-	-	-	-	846	-	7.53
5	389		16/ 7/74	7150	1563	-	416.8	-	12991	-	-	-	-	-	-	-	-	823	-	7.78
6	300	Orif.5-1/2	17/ 7/74	7100	1525	-	420.8	-	13042	-	-	-	-	-	-	-	-	817	-	7.91
7	293	Linea 6"	17/ 7/74	7083	1565	-	420.8	-	13193	-	-	-	-	-	-	-	-	820	-	7.69
8	300	"	19/ 7/74	7544	1480	-	420.8	-	13068	-	-	-	-	-	-	-	-	n.d.	-	8.66
9	298	"	22/ 7/74	7360	1437	-	801.6	-	13158	-	-	-	-	-	-	-	-	"	-	8.70
10	321	"	29/ 7/74	7566	1360	-	408.6	-	12868	-	-	-	-	-	-	-	-	"	-	9.45
11	280	"	30/ 8/74	7731	1405	16.6	425.0	-	13042	-	-	-	-	-	-	-	-	"	-	9.40
17	212	Sep. 54"	15/ 1/75	6003	1125	15.0	321.0	13.1	11500	n.d.	1.0	1.7	2.3	9.1	29.8	24.0	19.5	678	n d	9.07
20	200	"	11/ 3/75	5992	1107	-	413.0	-	10926	-	-	-	-	-	-	-	-	668	-	9.1
22	288	"	23/ 5/75	6141	1044	-	405.0	-	11311	-	-	-	-	-	-	-	-	636	-	10.0
28	165	"	28/ 7/75	5980	1004	12.64	265.0	-	11100	-	-	-	-	-	-	-	-	619	-	9.74
32	158	"	11/ 9/75	6350	1010	13.0	432.0	-	11315	-	-	-	-	-	-	-	-	717	-	10.69
38	100	"	10/11/75	5830	1000	13.0	375.0	-	11140	-	-	-	-	-	-	-	-	600	-	9.91
43	97	"	8/ 3/76	5810.5	984	13.3	381.0	1.5	10900	-	-	-	-	-	-	-	-	717	-	9.62
44	102	"	24/ 5/76	5822	1001	13.5	409.0	1.6	10890	-	-	-	-	-	-	-	-	580	-	9.89
45	100	"	23/ 9/76	5051	984	12.90	407.0	1.57	11057	9.25	0.63	-	1.20	14.72	8.0	9.84	54.51	746	8.25	10.28
46	100	"	21/12/76	5819	855	10.90	313.0	1.70	10286	-	-	-	-	-	-	-	-	781.0	-	11.57
47	100	"	24/ 1/77	5630	799	10.90	345.0	1.70	9877	-	-	-	-	-	-	-	-	781.0	-	11.98

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-19A

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
1	0	Purga 2" v.r.	29/ 6/74	5890	1095	n.d.	490	n.d.	9488	n.d.	n.d.	n.d.	-	-	-	-	-	-	-	7.90
2	0	"	19/ 7/74	5608	1203	n.d.	353	n.d.	9975	n.d.	n.d.	n.d.	-	-	-	-	-	-	-	7.91
3	0	"	12/ 8/74	6120	1438	n.d.	305	n.d.	10145	n.d.	n.d.	n.d.	-	-	-	-	-	-	-	7.22
4	445	"	20/ 1/75	7518	1872	20.0	464	n.d.	14320	n.d.	n.d.	n.d.	-	-	-	-	-	-	-	6.81
5	445	"	10/ 2/75	7233	1877	-	455	n.d.	14740	n.d.	n.d.	n.d.	-	-	-	-	-	-	-	6.55
6	440	Orif. 3"	11/ 2/75	8722	2183	-	553	n.d.	17000	n.d.	n.d.	n.d.	-	-	-	-	-	-	-	6.79
7	315	Orif. 4"	11/ 2/75	8607	2177	-	557	n.d.	16960	n.d.	n.d.	n.d.	-	-	-	-	-	-	-	6.72
8	200	Linea 6"ϕ	12/ 2/75	8648	2157	-	549	n.d.	16970	n.d.	n.d.	n.d.	-	-	-	-	-	-	-	6.84
9	88	Cono 7" ϕ	12/ 2/75	7122	1825	-	449	n.d.	14360	n.d.	n.d.	n.d.	-	-	-	-	-	-	-	6.62
10	415	Orif. 3"	13/ 2/75	8540	2124	-	547	n.d.	16750	n.d.	n.d.	n.d.	-	-	-	-	-	-	-	6.83
11	558	Linea 6"ϕ	14/ 2/75	8066	2058	-	505	n.d.	15850	n.d.	n.d.	n.d.	-	-	-	-	-	862	-	6.7
14	102	Sep. 54"	10/ 3/75	8606	3157	-	525	n.d.	16025	n.d.	n.d.	n.d.	-	-	-	-	-	923	-	6.9
19	99	"	20/ 5/75	8702	2105	-	517		16431					-	-	-	-	880		7.03
23	120	Sep. 54"	15/ 8/75	8320	2260	24.33	525	-	16950									975		6.25
26	115	"	11/ 9/75	7580	1890	20.3	441	-	14666	-	-	-	-	-	-	-	-	1296	-	6.82
35	114	"	9/ 3/76	8232	2087	22.9	493	0.4	16200	-	-	-	-	-	-	-	-	1121	-	6.71
36	110	"	24/ 5/76	8490	2110	23.4	572	0.25	16110	-	-	-	-	-	-	-	-		-	6.84
37	114	"	23/ 9/76	8238	2058	24.40	556	0.21	16329	28.33	0.65	-	1.11	17.26	12.00	0.0	43.70	1291	8.25	6.81
38	109	"	21/12/76	8707	2118	21.30	440	0.18	16148	-	-	-	-	-	-	-	-	1094	-	6.98

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-20

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
74	442	Orif. 4.5" L. desc. 6"	18/ 1/68	7625	1530	-	428	34	12780	-	-	-	-	81.8	-	-	-	776	-	8.47
443	267	Purga 2"φ	27/ 1/72	7125	1212	16.75	628	7.29	12708	-	-	-	-	16.2	-	-	-	835	-	9.99
445	276	Purga 2"φ	17/ 2/72	6000	1175	15.2	508	-	10885	-	-	-	-	11.8	-	n.d.	84.6	480	-	8.68
446	110	Purga 2"φ	14/ 3/72	5875	1180	19.2	700	-	12051	-	-	-	-	17.0	-	n.d.	88.12	579.5	-	8.46
447	93	Purga 1"φ	17/ 4/72	5632	1255	16.6	549	-	11309	-	-	-	-	11.7	-	n.d.	308.4	610.0	-	7.63
449	95	Purga 1"φ	8/ 5/72	5800	1350	19.0	553	-	11546	-	-	-	-	13.5	-	n.d.	227.4	622.5	-	7.29
451	105	Purga 1"φ	8/ 6/72	6387	1285	19.12	610	-	12215	-	-	-	-	12.6	-	0.0	281.8	537.0	-	8.4
452	109	Purga 1"φ	7/ 7/72	6500	1390	18.7	642	-	11901	-	-	-	-	14.2	-	8.2	262.6	635.0	-	7.94
453	126	Purga 1"φ	5/ 8/72	6675	1500	18.12	707	-	12510	-	-	-	-	10.4	-	0	268.1	605.0	-	7.56
454	128	Purga 1"φ	5/ 9/72	6325	1415	19.6	708	-	12608	-	-	-	-	10.5	-	11.8	174.5	595.0	-	7.60
455	144	Purga 1"φ	3/10/72	6050	1475	23.0	728	-	12935	-	-	-	-	11.0	-	0	170.4	635.0	-	8.01
456	157	Purga 1"φ	3/11/72	6760	1425	20.25	672	-	12948	-	-	-	-	13.7	-	0	154.5	615.0	-	8.04
457	120	Purga 1"φ	5/12/72	6200	1450	21.75	656	-	12250	-	-	-	-	13.0	-	5.35	108.8	590.0	-	7.44
459	110	Purga 1"φ	3/ 1/73	6187	1275	18.2	664	-	10657	-	-	-	-	13.2	-	0	263	500	-	8.2
460	150	Purga 1"φ	1/ 2/73	6750	1475	21.7	656	-	12645	-	-	-	-	14.2	-	0	185	650	-	8.0
461	30	Purga 2"φ	9/ 4/73	5775	1212	n.d.	628	-	9787	-	-	-	-	-	-	-	-	447	-	8.1
462	400	Cono 2"	7/ 8/73	6090	1375	11	521	-	12060	-	-	-	-	-	-	-	-	-	-	7.5
463	170	Cono 6"	8/ 8/73	5817	1165	-	463	-	10603	-	-	-	-	-	-	-	-	-	-	8.5
464	170	Cono 6"	8/ 8/73	5825	1170	-	473	-	10773	-	-	-	-	-	-	-	-	-	-	8.5
465	255	Tubo 6" s.u.	9/ 8/73	6725	1450	-	555	-	12673	-	-	-	-	-	-	-	-	-	-	7.9
466	137	Cono 7"	9/ 8/73	6000	1275	-	461	-	10773	-	-	-	-	-	-	-	-	-	-	8.0
467	89	Cono 8"	9/ 8/73	5900	1267	-	461	-	11055	-	-	-	-	-	-	-	-	-	-	7.9

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-20 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
468	105	Sep. 54" vert.	22/ 9/73	8286	2058	27	495	-	15494	-	-	-	-	-	-	-	-	951	-	6.8
469	88	Sep. 54" vert.	31/ 1/74	6580	1690	19	501	-	13150	-	-	-	-	-	-	-	-	776	-	6.6
471	107	Sep. 54" vert.	30/ 4/74	7006	1551	16	516	-	12399	-	-	-	-	-	-	-	-	684	-	7.7
472	90 95	Sep. 54" vert.	10/ 7/74	7150	1432	19.6	507	-	12335	-	-	-	-	-	-	-	-	910	-	8.47
473	100 93	Sep. 54" vert.	30/ 8/74	6950	1433	18.8	484.5	-	12227	-	-	-	-	-	-	-	-	-	-	8.2
477	255	Sep. 54" vert.	11/11/74	4835	920	-	457	-	10028	-	-	-	-	-	-	-	-	646.6	-	8.9
478	194		12/11/74	5267	930.6	-	470	-	10574.9	-	-	-	-	-	-	-	-	603.3	-	9.6
479	316		13/11/74	5612	1407.6	-	377.9	-	12014.7	-	-	-	-	-	-	-	-	404.7	-	6.7
480	350		13/11/74	5750	1536.6	-	518.5	-	12312.6	-	-	-	-	-	-	-	-	546.3	-	6.3
482	99	Sep. 54" vert.	10/ 1/75	6035	1222.0	15	451.0	-	11496.0	-	0.9	1.1	0.4	8.2	11.6	21.6	52.5	606.0 (?)	-	8.4
486	95	Sep. 54"	10/ 3/75	6086	1222	-	465	-	11265	-	-	-	-	-	-	-	-	606	-	8.5
488	158	Linea 6" V.R.	28/ 4/75	6210	1267	-	583	-	11897	-	-	-	-	-	-	-	-			8.33
489	262	"	28/ 4/75	5813	1155	-	442	-	11192	-	-	-	-	-	-	-2	-	-	-	8.56
490	240	"	30/ 4/75	5019	909	-	425	-	10083	-	-	-	-	-	-	-	-	-	-	9.39
491	94	"	21/ 5/75	6785	1437	-	491	-	12969									686	-	8.03
496	95	"	15/ 8/75	5700	1216	11.92	470		11350									595		7.96
500	111	Sep. 54"	11/ 9/75	6380	1200	12.8	450		11412	-	-	-	-	-	-	-	-	641	-	9.04
504	128	Linea 6"	10/11/75	6600	1468	14.2	495	-	12700	-	-	-	-	-	-	-	-	675	-	7.64
510	99	Sep. 54"	8/ 3/76	5980	1254	13.5	445	2.1	11580	-	-	-	-	-	-	-	-	735	-	8.11
514	98	"	24/ 5/76	6346	1361	14.7	544.9	0.7	12050	-	-	-	-	-	-	-	-		-	7.93
517	94	"	21/12/76	6266	1234	12.40	448	1.90	11724	-	-	-	-	-	-	-	-	760	-	8.64

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-21

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
59	688	P. 2" φ	27/ 1/72	6300	1950	14.0	31.2	-	10954	-	-	-	-	16.3	-	n.d.	85.4	830	-	5.49
61	680	P. 2" φ	17/ 2/72	6312	1930	18.75	338	-	12461	-	-	-	-	17.2	-	n.d.	98.2	775	-	5.55
62	674	P. 2" φ	14/ 3/72	6325	1972	19.25	376	-	12392	-	-	-	-	13.9	-	n.d.	115.6	694.5	-	5.45
63	420	P. 2" φ	17/ 4/72	5625	2062	18.0	287.9	-	12676	-	-	-	-	15.1	-	n.d.	115.7	840.0	-	4.63
64	422	P. 2" φ	8/ 5/72	5875	1975	18.75	310.5	-	12329	-	-	-	-	17.8	-	n.d.	67.1	852.5	-	5.05
65	607	P. 2" φ	8/ 6/72	6120	1787	19.5	206.4	-	11328	-	-	-	-	16.6	-	17.2	81.9	845.0	-	5.8
67	639	P. 2" φ	8/ 7/72	5875	1750	19.25	295.1	-	10925	-	-	-	-	11.6	-	13.7	95.0	550.0	-	5.69
68	S.M.	P. 2" φ	4/ 8/72	7000	2050	18.25	321.2	-	13052	-	-	-	-	13.5	-	8.2	122.8	772.5	-	5.79
69	650	P. 2" φ	4/ 9/72	5900	1805	19.75	340.0	-	12259	-	-	-	-	12.1	-	26.2	47.9	640.0	-	5.55
70	610	P. 2" φ	3/10/72	5525	1725	18.12	304.0	-	11437	-	-	-	-	10.3	-	13.1	106.5	675.0	-	5.44
71	550	P. 2" φ	7/ 2/72	4325	1265	12.75	352.0	-	7968	-	-	-	-	11.3	-	0	676.4	700.0	-	5.81

Well M-21A

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
1	280	Purga 2" v.r.	24/ 4/74	5803	1628	14.3	318.6	8.8	10301	-	-	-	-	-	-	-	-	804	-	6.0
2	592	Orif. 3" vert.	19/ 8/74	11650	2873	-	664.0	-	19554	-	-	-	-	-	-	-	-	-	-	6.9
2A	592	Orif. 3" muest. a.	19/ 8/74	10300	2540	-	587.0	-	17292	-	-	-	-	-	-	-	-	-	-	6.9
3	615	Orif. 3" vert.	20/ 8/74	11581	2971	-	625.0	-	19956	-	-	-	-	-	-	-	-	-	-	6.6
4	615	muest. arena.	20/ 8/74	10167	2607	-	627.0	-	17745	-	-	-	-	-	-	-	-	-	-	6.6
5	300	Orif. 3" s.v.	21/ 8/74	12401	3022	-	747.0	-	20710	-	-	-	-	-	-	-	-	-	-	7.0
6	165	Linea y lat. 6" 4"	21/ 8/74	12406	3061	-	746.0	-	20821	-	-	-	-	-	-	-	-	-	-	6.9

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-21A (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^{=}$	$CO_3^{=}$	HCO_3^{-}	SiO_2	pH	Na/K atomic
7	136	Cono 7" mues. are	22/ 8/74	10269	2428	-	591.0	-	17091	-	-	-	-	-	-	-	-	-	-	7.2
8	158	na. y Lin. 6 4	23/ 8/74	12708	3163	-	769.0	-	21414	-	-	-	-	-	-	-	-	-	-	6.8
12	840	Lin. Lat. 6" v.r.	11/12/74	9825	2811	-	609.2	-	17705	-	-	-	-	-	-	-	-	830	-	5.9
13	590	Lat. 6" v.r.	12/12/74	10540	2773	-	723.4	-	20720	-	-	-	-	-	-	-	-	961	-	6.5
14	125	Sep. 54"	10/ 1/75	9602	2517	24.0	557.0	-	18700	-	1.3	2.9	2.1	13.3	0.2	12.0	41.5	894	-	6.5
18	120	Sep. 54"	11/ 3/75	9177	2262	-	647.0	-	17190	-	-	-	-	-	-	-	-	903	-	6.8
22	140	"	26/ 5/75	8989	2206	-	605.0	-	17289	-	-	-	-	-	-	-	-	829	-	6.93
26	120	"	28/ 8/75	8020	2150	20.3	571.0	-	16300	-	-	-	-	-	-	-	-	817	-	6.34
30	120	"	11/ 9/75	8500	2120	19.8	555.0	-	16518	-	-	-	-	-	-	-	-	819	-	6.82
34	660	P. 2"	11/11/75	9200	2616	22.2	561.0	-	17700	-	-	-	-	-	-	-	-	890	-	5.97
38	137	lateraorif 3 y 4"	8/ 3/76	8628	2153	20.9	597	0.3	17100	-	-	-	-	-	-	-	-	941	-	6.81
39	130	Sep. 54"	24/ 5/76	8683	2186	20.9	699	0.3	16880	-	-	-	-	-	-	-	-		-	6.75
40	119	"	23/ 9/76	8761	2252	21.70	679	0.18	17271	26.80	0.67	3.16	2.55	20.71	13.0	0.0	63.25	1104	7.95	6.62
41	120	"	21/12/76	8355	2000	17.50	537	0.23	16058	-	-	-	-	-	-	-	-	972	-	7.10

Well M-25

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^{=}$	$CO_3^{=}$	HCO_3^{-}	SiO_2	pH	Na/K atomic
1	3		25/ 1/73	930	20	-	176	-	1487	-	-	-	-	-	-	-	-	-	-	79.9
2	5		25/ 1/73	934	20	-	180	-	1537	-	-	-	-	-	-	-	-	-	-	79.4
3	6		25/ 1/73	930	21	-	180	-	1487	-	-	-	-	-	-	-	-	-	-	74.6
4	6		25/ 1/73	936	22	-	180	-	1487	-	-	-	-	-	-	-	-	-	-	72.4

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-25 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
5	34		25/ 1/73	930	34	-	176	-	1537	-	-	-	-	-	-	-	-	-	-	46.5
8	92		27/ 1/73	5825	1412	-	376	-	10413	-	-	-	-	-	-	-	-	-	-	7.0
9	81		27/ 1/73	5450	1287	-	360	-	10513	-	-	-	-	-	-	-	-	-	-	7.2
10	51		29/ 1/73	5825	1330	-	360	-	10413	-	-	-	-	-	-	-	-	-	-	7.4
11	52		29/ 1/73	5625	1362	-	360	-	10413	-	-	-	-	-	-	-	-	500	-	7.0
12	52		30/ 1/73	5750	1450	-	372	-	10413	-	-	-	-	-	-	-	-	525	-	6.7
14	55	Purga 1/2"	1/ 2/73	5875	1400	21.2	344	-	10413	-	-	-	-	11.4	-	-	166	560	-	7.1
16	265	Purga 2"	24/ 5/73	7040	1440	24.9	500	-	12982	-	-	-	-	22.3	-	-	57	n.d.	-	8.3
17	460	"	26/11/73	7450	1644	-	480	-	13600	-	-	-	-	-	-	-	-	"	-	7.7
18	500	"	27/11/73	7650	1590	-	480	-	13800	-	-	-	-	-	-	-	-	762	-	8.1
19	482	Cono 3"	3/ 3/73	7980	1820	-	521	-	14500	-	-	-	-	-	-	-	-	-	-	7.4
20	480	Orif. 3" vertedor	3/12/73	8520	1990	-	565	-	15750	-	-	-	-	-	-	-	-	-	-	7.3
21	358	Orif. 4" vertedor	3/12/72	8580	1930	-	565	-	15750	-	-	-	-	-	-	-	-	-	-	7.5
22	264	Orif. 5" vertedor	4/12/73	8520	1915	-	565	-	15700	-	-	-	-	-	-	-	-	946	-	7.5
23	236	Orif. 6" vertedor	4/12/73	8510	1835	-	561	-	15600	-	-	-	-	-	-	-	-	956	-	7.9
24	236	"	5/12/73	8490	1850	-	561	-	15650	-	-	-	-	-	-	-	-	-	-	7.8
25	230	"	8/12/73	8700	1850	-	570	-	15950	-	-	-	-	-	-	-	-	901	-	8.0
26	96	Vertedor Sin.Orif.	22/ 1/74	8515	2055	14.6	561	-	16000	-	-	-	-	-	-	-	-	878	-	7.0
26A	96	Lat. 6" vertedor	22/ 1/74	8650	2000	23.0	585	0.6	16900	-	-	-	-	-	7.0	-	44.0	900	-	7.3
27	105	-	30/ 4/74	8950	2055	14.3	561	-	16418	-	-	-	-	-	-	-	-	948	-	7.4
28	89	Sep. 54" vertedor	10/ 7/74	6898	2230	n.d.	628	-	16373	-	-	-	-	-	-	-	-	888	-	5.2
29	91	"	27/ 8/74	9238	1990	28.0	544	-	17041	-	-	-	-	-	-	-	-	-	-	7.9

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-25 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
32	418	Lat. v.r. vertedor	25/11/74	6937	2307	-	505	-	15545	-	-	-	-	-	-	-	-	950	-	5.1
33	94	Sep. 54" vertedor	9/ 1/75	8525	1980	23	457	21.0	15805	-	1.1	1.8	0.6	11.4	7.4	15.6	35.4	905	-	7.3
37	95	Sep. 54"	11/ 3/75	8211	1972	-	539	-	15199	-	-	-	-	-	-	-	-	942	-	7.1
40	565	Linea 6"	5/ 5/75	8021	1944	-	490	-	15430	-	-	-	-	-	-	-	-	-	-	7.02
43	96	Sep. 54"	23/ 5/75	8510	1847	-	525	-	15807	-	-	-	-	-	-	-	-	765	-	7.83
47	94	"	28/ 7/75	7630	1930	22.8	512	-	15400	-	-	-	-	-	-	-	-	893	-	6.72
53	101	"	11/ 9/75	7960	1950	22.4	532	-	15667	-	-	-	-	-	-	-	-	1171	-	6.94
57	106	"	11/11/75	7880	2030	22.0	687	-	15700	-	-	-	-	-	-	-	-	895	-	6.60
62	100	"	8/ 3/76	8081	1935	22.3	465	0.8	15380	-	-	-	-	-	-	-	-	1076	-	7.10
63	107	"	24/ 5/76	7804	1918	23.1	557	0.46	15060	-	-	-	-	-	-	-	-	-	-	6.92
64	90	"	23/ 9/76	8063	1911	23.40	526	0.47	15315	0.75	.63	2,50	0.84	20.75	12.00	-	68.10	1141	7.97	7.08
65	100	"	21/12/76	8138	1942	21.40	372	0.28	15263	-	-	-	-	-	-	-	-	984	-	7.13

Well M-26

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
188	167	Cono 3.22"	7/12/67	9335	2629	24.8	510	29.9	16772	-	-	-	-	13.0	-	-	-	872	-	6.03
451	90	Purga 1/2"	6/ 3/70	60625	1575	16	300	19.4	10605	-	-	-	-	8.25	-	-	-	689.5	-	6.54
455	168	"	12/10/70	5406	1543	21.6	332	19.4	11071	-	-	-	-	10.5	-	-	-	-	-	5.95
458	210	"	27/ 1/72	6287	1575	17.25	324	1.2	11348	-	-	-	-	13.2	-	-	87.8	720	-	6.78
460	275	Purga 2"	17/ 2/72	6375	1650	18.2	336	-	11427	-	-	-	-	14.8	-	n.d.	86.8	660	-	6.56
461	267	"	14/ 3/72	6350	1630	15.0	368	-	12295	-	-	-	-	16.4	-	n.d.	99.14	605	-	6.62

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-26 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
462	196	"	17/ 4/72	6000	1575	16.12	294	-	11417	-	-	-	-	12.9	-	n.d.	99.1	680	-	6.47
463	191	"	8/ 5/72	6525	1750	17.0	306	-	11742	-	-	-	-	14.2	-	n.d.	69.8	725	-	6.32
465	189	"	8/ 6/72	4625	1587	20.5	297	-	11919	-	-	-	-	13.0	-	13.2	52.3	738	-	4.9
466	93	"	7/ 7/72	6500	1610	20.75	338	-	11706	-	-	-	-	9.7	-	13.7	55.9	797	-	7.02
467	204	"	4/ 9/72	6650	1612	16.5	338	-	11771	-	-	-	-	10.7	-	4.12	100.5	755	-	7.0
468	227	"	5/ 9/72	6300	1582	19.75	320	-	12409	-	-	-	-	9.9	-	7,9	58.6	760	-	6.77
469	220	"	3/10/72	6375	1662	21.0	368	-	12336	-	-	-	-	11.3	-	5.24	71.9	745	-	6.51
470	213	"	3/11/72	6400	1565	18.75	328	-	12100	-	-	-	-	13.0	-	2.62	87.87	810	-	6.95
471	208	"	5/12/72	6175	1625	19.5	336	-	11810	-	-	-	-	12.0	-	0	81.6	725	-	6.46
473	289	"	3/ 1/73	6750	1537	24	356	-	12848	-	-	-	-	13.5	-	10	71	740	-	7.5
474	279	"	1/ 2/73	6775	1637	21	364	-	12794	-	-	-	-	14.4	-	8	62	850	-	6.9
475	370	Cono 3"	21/ 8/73	8740	2224	-	481	-	16029	-	-	-	-	-	-	-	-	-	-	6.7
476	210	Cono 4"	21/ 8/73	9300	2464	-	529	-	17289	-	-	-	-	-	-	-	-	-	-	6.4
477	142	Orif. 6"	22/ 8/73	9300	2396	-	525	-	17286	-	-	-	-	-	-	-	-	-	-	6.6
478	100	Sep.54" vertedor	22/ 9/73	9012	2358	30	537	-	17227	-	-	-	-	-	-	-	-	954	-	6.5
479	100	Sep. 54" fondo sep.	22/ 9/73	9175	2398	30	542	-	17347	-	-	-	-	-	-	-	-	961	-	6.5
480	100	Sep. 54" vertedor	27/11/73	9187	2394	-	543	-	17098	-	-	-	-	-	-	-	-	1003	-	6.6
481	98	Sep. vertedor	27/ 1/74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	929	-	-
482	98	"	29/ 1/74	9475	2285	26	773	-	17600	-	-	-	-	-	-	-	-	950	-	7.0
485	105	Vertedor	29/ 4/74	9380	2361	23	966	-	17006	-	-	-	-	-	-	-	-	838	-	6.8
486	89	Sep. 54" Vertedor	31/ 5/74	9300	2251	23	442	-	17153	-	-	-	-	-	-	-	-	-	-	7.02
487	92	"	11/ 7/74	9875	2205	31	838	-	17759	-	-	-	-	-	-	-	-	828	-	7.61

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-26 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
488	100	"	27/ 8/74	9863	2284	29.9	892.5	-	18730	-	-	-	-	-	-	-	-	-	-	7.3
490	539	Linea 6"φ Lateral	15/11/74	7682	2056	-	839	-	16781	-	-	-	-	-	-	-	-	-	-	6.3
491	149	"	18/11/74	8096	2207	-	823.4	-	17376	-	-	-	-	-	-	-	-	902	-	6.23
493	104	Sep. 54" Vertedor	10/ 1/75	8663	2043	23	521.0	9.7	16900	-	1.5	1.8	2.2	11.7	2.0	13.2	15.9	876	-	7.21
496	-	Fondo del sep.	24/ 2/75	9579	2066	-	962	-	18500	-	-	-	-	-	-	-	-	-	-	7.89
497	440	54" φ P. 2" φ	26/ 2/75	8019	2100	18.5	853	-	16700	-	-	-	-	-	-	-	-	570	-	6.49
498	535	Cono 3"	30/ 6/75	8257	2200	19.6	886	-	17200	-	-	-	-	-	-	-	-	-	-	6.38
499	524	"	1/ 7/75	8762	2300	20.0	946	-	18100	-	-	-	-	-	-	-	-	-	-	6.47
500	500	"	2/ 7/75	9048	2366	20.6	826	-	18500	-	-	-	-	-	-	-	-	-	-	6.50
501	680	Orif. 2-1/2	3/ 7/75	8667	2300	19.6	814	-	17900	-	-	-	-	-	-	-	-	-	-	6.41
502	460	Cono 4"	3/ 7/75	8550	2300	15.8	830	-	179500	-	-	-	-	-	-	-	-	806	-	6.32
503	550	Orif.3-1/2"	4/ 7/75	8550	2283	19.7	802	-	17850	-	-	-	-	-	-	-	-	848	-	6.52
504	540	Orif.4"	7/ 7/75	8620	2283	19.4	788	-	17950	-	-	-	-	-	-	-	-	792	-	6.42
505	-	Descarga Lat. 6"φ	8/ 7/75	8550	2283	19.4	780	-	17900	-	-	-	-	-	-	-	-	820	-	6.37
506	530	Orif.4"	15/ 7/75	8550	2293	19.2	780	-	18200	-	-	-	-	-	-	-	-	-	-	6.34
507	538	Sep. 54" Vertedor	24/ 7/75	8701	2300	20.7	840	-	18600	-	-	-	-	-	-	-	-	820	-	6.43
508	530	Sep. 54" Vertedor	28/ 7/75	x	x	x	x	-	18775	-	-	-	-	-	-	-	-	799	-	-
512	511	Sep. 54"	11/ 9/75	8350	2040	19.0	780	-	16418	-	-	-	-	-	-	-	-	962	-	6.96
516	490	"	10/11/75	7830	1910	17.5	687	-	15300	-	-	-	-	-	-	-	-	817	-	6.97
519	140	"	15/12/75	7780	1762	-	695	-	15115	-	-	-	-	-	-	-	-	-	-	7.51
522	326	"	8/ 3/76	6830	1548	16.8	577	0.7	13300	-	-	-	-	-	-	-	-	1000	-	7.50
526	330	"	24/ 5/76	6556	1509	16.7	610	0.61	13480	-	-	-	-	-	-	-	-	-	-	7.39

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-26 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
527	350	L. Lat.	14/ 8/76	6505	1432	-	583.3	-	11960	-	-	-	-	-	-	-	41.5	-	-	7.73
528	312	"	23/ 9/76	6686	1514	19.90	581.0	0.69	12606	32.50	n.d.	n.d.	2.36	14.60	12.0	3.79	118.74	1006	8.0	7.53
529	308	"	21/12/76	6562	1467	15.10	510.0	0.43	14606	-	-	-	-	-	-	-	-	942	-	7.60

Well M-27

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
1	108	Purga 1/4"V.R.	7/ 4/76	1.8	1.9	-	-	-	12	-	-	-	-	-	-	-	-	-	-	1.65
2	180	"	12/ 4/76	11.7	3.6	-	-	-	17	-	-	-	-	-	-	-	-	-	-	5.44
3	210	"	13/ 4/76	8.0	2.9	-	-	-	24	-	-	-	-	-	-	-	-	-	-	4.71
4	162	"	14/ 4/76	9.7	3.4	-	-	-	16	-	-	-	-	-	-	-	-	-	-	4.77
5	250	"	19/ 4/76	32.2	9.3	-	-	-	54	-	-	-	-	-	-	-	-	-	-	5.85
6	295	"	20/ 4/76	34.1	9.8	-	-	-	57	-	-	-	-	-	-	-	-	-	-	5.87
7	340		23/ 4/76	169.5	48.8	-	-	-	350	-	-	-	-	-	-	-	-	-	-	5.90
8	440	"	28/ 4/76	380.0	382.0	-	-	-	2850	-	-	-	-	-	-	-	-	-	-	6.14
9	550	"	11/ 5/76	2108.0	605.5	-	-	-	4500	-	-	-	-	-	-	-	-	-	-	5.92
10	548	"	14/ 5/76	2001.0	508.0	5.09	178.0	-	4340	-	-	-	-	-	-	-	-	-	-	5.87
11	595	"	18/ 5/76	2420.0	676.0	5.95	208.9	-	5020	-	-	-	-	-	-	-	-	-	-	6.09
12	650	Purga 1/2" ϕ	24/ 5/76	3140	843	13.0	271	-	6100	-	-	-	-	-	-	-	-	-	-	6.33
13	715	"	27/ 5/76	3384	844	14.0	298	-	7650	-	-	-	-	-	-	-	-	-	-	6.82
14	520	"	14/ 6/76	1988	598	4.9	181	-	4426	-	-	-	-	-	-	-	-	-	-	5.65
15	703	"	1/ 7/76	3173	990	-	351	-	7278	-	-	-	-	-	-	-	-	-	-	6.37

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-27 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
16	696	"	2/ 7/76	3082	1023	-	345	-	7425	-	-	-	-	-	-	-	-	-	-	6.31
17	700	"	5/ 7/76	3948	1030	-	356	-	7622	-	-	-	-	-	-	-	-	-	-	6.52
18	725	"	6/ 7/76	4147	1184	-	384	-	10498	-	-	-	-	-	-	-	-	-	-	5.95
19	300	Cono3-1/2"	6/ 7/76	9481	2631	-	928	-	18538	-	-	-	-	-	-	-	-	-	-	6.13
20	380	Orif.3-1/2"	7/ 7/76	6046	1581	-	459	-	11267	-	-	-	-	-	-	-	-	-	-	6.50
21	250	Orif.4"ϕ	7/ 7/76	5923	1555	-	428	-	11017	-	-	-	-	-	-	-	-	-	-	6.47
22	400	Orif. 4"	8/ 7/76	5472	1445	-	372	-	10398	-	-	-	-	-	-	-	-	-	-	6.44
23	148	linea Lat. 6"ϕ	12/ 7/76	6024	1511	-	414	-	11097	-	-	-	-	-	-	-	-	-	-	6.78
24	110	"	23/ 9/76	5884	1384	13.10	361	0.04	11366	22.0	0.57	2.44	1.98	18.0	14.00	7.58	77.74	960	8.05	6.55
25	102	"	21/12/76	5752	1314	15.30	471	0.04	11233	-	-	-	-	-	-	-	-	933	-	7.45

Well M-29

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
13	260	Orif.3-1/2"	7/12/68	6550	1331	-	490	21.8	11880	-	-	-	-	13.2	-	-	-	496.5	-	8.3
26	202	Prif.3/4"	27/ 3/69	6531	1462	-	520	20.7	12312	-	-	-	-	9.6	-	-	-	-	-	7.6
80	209	Sep.54"	3/ 3/70	5875	1318	16.7	440	17.0	11211	-	-	-	-	5.84	-	-	-	485.5	-	7.57
92	110	Purga 1/2"	21/ 1/72	6762	1287	12.75	436	1.7	11132	-	-	-	-	11.3	-	-	-	390	-	8.93
94	95	Purga 2"ϕ	17/ 2/72	6000	1225	14.0	484	-	11033	-	-	-	-	14.8	-	n.d.	234.7	410	-	8.32
95	95	"	11/ 3/72	6625	1337	14.7	506	-	11368	-	-	-	-	14.5	-	"	237.6	509	-	8.42
96	90	"	18/ 4/72	5375	1237	14.2	425	-	11222	-	-	-	-	11.8	-	"	209.3	440	-	7.38
97	88	Purga 1"ϕ	9/ 5/72	5425	1262	17.2	507	-	10665	-	-	-	-	11.4	-	"	270.0	437	-	7.29

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-29 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
98	92	"	8/ 4/72	4262	1312	18.0	434	-	0934	-	-	-	-	12.2	-	26.4	166.4	465	-	5.50
100	92	"	7/ 7/72	6187	1255	18.0	486	-	11120	-	-	-	-	9.8	-	12.4	216.5	482	-	8.36
101	92	"	4/ 8/72	6250	1287	15.1	520	-	11230	-	-	-	-	8.5	-	4.12	273.7	435	-	9.94
102	100	"	2/ 9/72	6050	1365	17.6	500	-	11163	-	-	-	-	12.7	-	5.24	189.0	472	-	7.53
103	95	"	3/10/72	6562	1337	18.2	492	-	11387	-	-	-	-	10.1	-	2.4	178.1	500	-	8.33
104	114	"	7/11/72	6550	1287	18.0	508	-	11553	-	-	-	-	13.4	-	7.86	186.4	490	-	8.64
105	109	Purga 2"	5/12/72	6200	1437	19.5	484	-	11553	-	-	-	-	12.8	-	-	108.8	475	-	7.33
107	100	Purga 1/2"	3/ 1/73	5925	1375	17.5	469	-	10657	-	-	-	-	13	-	16	128	480	-	7.3
108	101	Purga 1"	1/ 2/73	6450	1280	20.0	516	-	11405	-	-	-	-	12	-	-	242	470	-	8.5
112	195	Sept. 54" muest.	23/ 4/73	6875	1362	22.0	509	90	12505	10.2	0.7	0.1	0.1	14	10.7	10	91	472	8.2	8.6
114	100	Sep. 54"	24/ 5/73	6780	1305	22.5	506	-	12576	13	-	-	-	-	-	-	38	-	-	8.8
115	95	Sep. 54" Fondo. s.	14/ 6/73	7125	1362	-	493	-	13093	-	-	-	-	13	-	16	32	467	-	8.9
116	93	Sep. 54" ext. tib.	5/ 9/73	6307	1198	19.4	459	-	11929	-	-	-	-	-	-	-	-	-	-	8.7
117	90	Sep. 54" extremos	5/ 9/73	6380	1216	19.8	473	-	11907	-	-	-	-	-	-	-	-	388	-	8.9
118	85	Sep. 54" fondo s.	8/ 2/74	6249	935	11.9	473	-	12000	-	-	-	-	-	-	-	-	479	-	9.1
119	75	P. 2"	23/12/75	4970	490	=	477	-	8980	-	-	-	-	-	-	-	-	-	-	17.24
120	145	"	9/ 1/76	5320	538	-	529	-	9750	-	-	-	-	-	-	-	-	-	-	16.81
121	135	Cono3-1/2"	12/ 1/76	5620	570	-	549	-	10450	-	-	-	-	-	-	-	-	-	-	16.76
122	95	Cono 47/8"	13/ 1/76	4680	464	-	425	-	8300	-	-	-	-	-	-	-	-	-	-	17.15
123	57	Cono 6"	13/ 1/76	5750	583	-	523	-	10500	-	-	-	-	-	-	-	-	-	-	16.77
124	140	Or.4" Lat.	14/ 1/76	5900	622	-	531	-	10550	-	-	-	-	-	-	-	-	-	-	16.13
127	100	Sep. 4"	8/ 3/76	6813	1088	19.2	513	14	12510	-	-	-	-	-	-	-	-	708	-	10.65

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-29 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
128	95	"	3/ 4/76	6801	1121.5	19.5	584	-	12570	-	-	-	-	-	-	-	-	610	-	10.31
129	100	"	24/ 5/76	6841	1152	19.7	529	0.81	12580	-	-	-	-	-	-	-	-	-	-	10.10
131	105	Sep. 54"	21/12.76	7072	1236	19.30	271	0.90	12830	-	-	-	-	-	-	-	-	320	-	9.72

Well M-30

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
1	105	Purga 2"	22/ 9/73	6032	1665	19.3	340	-	11578	-	-	-	-	-	-	-	-	517	-	6.1
2	500	"	5/12/73	8119	2071	-	457	-	15200	-	-	-	-	-	-	-	-	-	-	6.6
3	560	Cono 3"	6/12/73	7930	2230	-	461	-	15100	-	-	-	-	-	-	-	-	-	-	6.0
4	540	Orif. 3"	6/12/73	9640	2360	-	557	-	17800	-	-	-	-	-	-	-	-	-	-	6.9
5	420	Orif. 9"	6/12/73	9590	2460	-	557	-	17750	-	-	-	-	-	-	-	-	-	-	6.6
6	238	Tubo6"s.v.	7/12/73	9560	2450	-	561	-	17500	-	-	-	-	-	-	-	-	-	-	6.6
7	279	"	8/12/73	9450	2640	-	557	-	173200	-	-	-	-	-	-	-	-	-	-	6.5
8	110	Sep. 54" vertedor	24/ 1/74	8270	1962	27.2	565	-	16000	-	-	-	-	-	-	-	-	920	-	7.2
9	118	"	30/ 4/74	9370	2100	28.6	622	-	16565	-	-	-	-	-	-	-	-	778	-	7.6
10	112	"	11/ 7/74	9375	1990	26.2	602	-	15931	-	-	-	-	-	-	-	-	896	-	8.0
11	112	"	27/ 8/74	8825	1973	26.4	612	-	15784	-	-	-	-	-	-	-	-	-	-	7.6
14	540	Purga 2" v.r.	25/11/74	7827	1360	-	541	-	15295	-	-	-	-	-	-	-	-	913.7	-	9.78
15	115	Sep. 54" vertedor	8/ 1/75	8430	1968	23.0	540	7.0	15715	-	0.9	1.2	0.9	10.3	15.2	10.8	28.8	899	-	7.3
18	112	Sep. 54"	13/ 3/75	8111	1929	-	569	-	15345	-	-	-	-	-	-	-	-	877	-	7.1
20	578	Purga 2"	23/ 4/75	8043	2001	-	565	-	16035	-	-	-	-	-	-	-	-	-	-	6.83

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-30 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
21	472	Linea 6" Orif. 3"	24/ 4/75	8330	1941	-	569	-	16338	-	-	-	-	-	-	-	-	-	-	7.29
22	553	"	24/ 4/75	8188	2086	-	571	-	16489	-	-	-	-	-	-	-	-	-	-	6.67
25	110	Sep. 54"	23/ 5/75	8093	1818	-	554	-	15612	-	-	-	-	-	-	-	-	839	-	7.57
31	109	"	16/ 7/75	7600	1880	21.66	561	-	15200	-	-	-	-	-	-	-	-	791.5	-	6.87
35	115	"	11/ 9/75	8100	1850	21.0	560	-	15466	-	-	-	-	-	-	-	-	1070.0	-	7.44
46	114	"	11/ 9/75	7620	1940	20.3	543	-	15100	-	-	-	-	-	-	-	-	870.0	-	
52	435	Lat. Orif. 3"	8/ 3/76	7950	1899	21.6	497	0.7	15400	-	0.6743	-	-	-	-	-	-	1008	-	7.12
56	115	Sep. 54"	24/ 5/76	7952	1864	22.1	625	0.79	15080	-	-	-	-	-	-	-	-	-	-	7.25
58	116	"	10/ 8/76	6913	1592	-	532.1	-	12647.2	-	-	-	-	-	-	-	34.2	-	-	7.38
60	113	"	23/ 9/76	7809	1833	22.00	596.0	0.82	15173	33.50	0.58	1.32	0.47	17.50	13.00	3.79	0.84	1077	8.0	7.39
61	118	"	21/12/76	7881	1927	16.80	514.0	0.50	15263	-	-	-	-	-	-	-	-	947	-	7.85

Well M-31

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
187	601	Cono 3"	22/ 3/69	9040	2439	28.7	495	19.5	15887	-	-	-	-	12.6	-	-	-	1344	-	6.3
228	380	Sep. 54"	4/ 3/70	7793	2038	22.4	441	26.1	15137	-	-	-	-	11.7	-	-	-	712.8	-	6.5
238	540	Purga 2"	2/ 3/71	6937	1940	27.6	412	14.6	13667	-	-	-	-	12.4	-	-	-	824.5	-	6.08
240	400	Sep. 10"	27/ 1/72	6775	1890	20.37	392	2.9	13594	-	-	-	-	15.3	-	-	-	700	-	6.09
242	332	P. 2" φ	17/ 2/72	7375	1800	19.00	404	-	13594	-	-	-	-	16.3	-	n.d.	68.2	730	-	6.96
243	185	"	11/ 3/72	5875	1125	11.25	520	-	10197	-	-	-	-	15.1	-	"	88.12	569	-	8.87
244	309	"	18/ 4/72	6825	1915	17.80	366	-	13173	-	-	-	-	10.6	-	"	81.4	710	-	6.06

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-31 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
245	288	"	9/ 5/72	7187	1800	21.50	399.8	-	13033	-	-	-	-	13.3	-	"	24.8	705	-	6.78
247	265	"	8/ 4/72	7125	1725	21.75	331.1	-	13397	-	-	-	-	20.7	-	10.6	53.7	725	-	7.0
248	294	"	7/ 7/72	7325	1812	21.75	355.9	-	13266	-	-	-	-	12.8	-	20.6	30.7	810	-	6.87
249	258	"	4/ 8/72	7550	1887	19.75	394.9	-	13249	-	-	-	-	11.5	-	8.24	97.7	662	-	6.80
250	245	"	2/ 9/72	7350	1920	23.25	400.0	-	13059	-	-	-	-	14.2	-	-	90.5	650	-	6.51
251	230	"	3/10/72	7250	1725	21.25	396.0	-	13185	-	-	-	-	12.0	-	3.6	73.20	640	-	7.14
252	242	"	3/11/72	7812	1955	24.12	416.0	-	13944	-	-	-	-	14.5	-	5.24	74.56	850	-	6.78
253	269	"	5/12/72	6925	1712	24.25	408.0	-	13396	-	-	-	-	14.2	-	-	78.80	685	-	6.87
254	269	"	1/ 7/73	4982	1117	15	370	1	9650	-	-	1.4	-	-	20	-	105	480	8.3	7.6
255	200	"	1/ 2/73	7000	1717	21.5	384	-	12695	-	-	-	-	13.5	-	8.0	78.9	800	-	6.9
256	430	"	14/ 7/73	7500	1928	n.d.	421	-	14311	-	-	-	-	-	-	11.4	70.8	806	-	6.6
257	425	"	31/ 7/73	7380	1900	-	461	-	14019	-	-	-	-	-	-	8.1	58.7	-	-	6.6
258	500	Orif. 3"	31/ 7/73	8330	2050	-	507	-	15467	-	-	-	-	-	-	9.1	41.1	-	-	6.9
259	400	Orif. 4"	1/ 8/73	8160	2000	-	502	-	15175	-	-	-	-	-	-	8.5	32.8	-	-	6.9
260	310	Cono 5"	1/ 8/73	5000	1250	-	316	-	9648	-	-	-	-	-	-	9.5	92.4	-	-	6.8
261	160	Cono 7"	2/ 8/73	6665	1750	-	420	-	12843	-	-	-	-	-	-	0.0	110.9	-	-	6.5
262	160	"	2/ 8/73	506	225	-	32	-	934	-	-	-	-	-	-	6.6	61.6	-	-	6.9
263	95	Cono 8"	2/ 8/73	7495	1960	-	469	-	14421	-	-	-	-	-	-	0.0	83.1	-	-	6.5
264	290	S.V. 6" ϕ Vertedor	22/ 9/73	8533	2172	28.5	549	-	16341	-	-	-	-	-	-	-	-	767	-	6.7
265	290	"	27/ 9/73	8783	2201	-	553	-	16301	-	-	-	-	-	-	-	-	829	-	6.8
266	270	Vertedor	16/ 2/74	8044	2011	21.6	453	-	14506	-	-	-	-	-	-	-	-	935	-	6.8
267	280	"	30/ 4/74	7850	2447	18.6	430	-	13849	-	-	-	-	-	-	-	-	770	-	5.5

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-31 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
268	277	"	11/ 7/74	7988	1795	-	413	-	13761	-	-	-	-	-	-	-	-	766	-	7.56
269	278	"	27/ 8/74	8100	1432	22.8	476	-	13975	-	-	-	-	-	-	-	-	-	-	9.6
272	540	Purga 2" v.r.	3/12/74	2533	679	-	148	-	5560	-	-	-	-	-	-	-	-	399	-	6.3
273	420	Orif. 6" v.r.	4/12/74	5842	1493	-	311	-	11696	-	-	-	-	-	-	-	-	800	-	6.6
274	255	Sep. 54" vertedor	8/ 1/75	7241	1588	17.0	398	12.8	13295	-	1.1	1.3	1.1	8.8	9.1	20.4	47.6	731	-	7.7
275	245	Sep. 54	12/ 3/75	6907	1604	-	413	-	12470	-	-	-	-	-	-	-	-	657	-	7.3
280	4-5	Linea 6	18/ 4/75	6181	1498	-	373	-	11814	-	-	-	-	-	-	-	-	-	-	7.01
281	470	"	18/ 4/75	5930	1408	-	293	-	11301	-	-	-	-	-	-	-	-	711	-	7.16
285	250	Sep. 54"	21/ 5/75	6965	1563	-	441	-	13262	-	-	-	-	-	-	-	-	-	-	-
289	245	"	17/ 7/75	6320	1500	-	413	-	12750	-	-	-	-	-	-	-	-	744	-	7.16
293	120	"	18/ 9/75	6450	1480	18.5	434	-	13114	-	-	-	-	-	-	-	-	838	-	7.4
298	400	"	10/11/75	6100	1454	16.3	355	-	11800	-	-	-	-	-	-	-	-	740	-	7.13
303	406	Lat. Orif. 3"	8/ 3/76	5950	1356	16.5	307	0.3	11220	-	-	-	-	-	-	-	-	864	-	7.45
304	115	Sep. 54"	24/ 5/76	6551	1494	17.8	437	0.15	13530	-	-	-	-	-	-	-	-	-	-	7.45
305	109	"	23/ 9/76	6913	1540	18.40	463	0.16	13205	13.0	0.54	n.d.	0.89	18.0	18.00	6.32	57.82	833	8.0	7.31
306	108	"	21/12/77	7104	1539	16.70	336	0.11	13076	-	-	-	-	-	-	-	-	800	-	6.95

Well M-34

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
194	465	S. 54" ϕ	5/ 3/70	6591	1362	14.4	584	20.5	11734	-	-	-	-	4.2	-	-	642	-	-	8.23
203	208	S.1/2" ϕ	12/10/70	5062	993.7	16.7	456	14.5	9406	-	-	-	-	9.2	-	-	-	-	-	8.66
206	203	P. 2" ϕ	27/ 1/72	6137	1062	9.12	532	7.3	10245	-	-	-	-	11.2	-	-	-	580	-	9.82

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-34 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
209	327	"	11/ 3/72	7262	1825	20.25	400	-	13173	-	-	-	-	10.5	-	-	82.6	854	-	6.76
208	190	"	16/ 2/72	5575	1142	12.0	564	-	10589	-	-	-	-	12.8	-	-	n.d.	570	-	8.29
210	200	"	18/ 4/72	5000	1132	10.95	497	-	10242	-	-	-	-	10.9	-	-	74.3	605	-	7.5
211	200	"	9/ 5/72	5412	1150	15.25	505	-	10469	-	-	-	-	9.7	-	-	22.0	530	-	7.99
213	195	"	8/ 6/72	6000	1337	16.50	537	-	11234	-	-	-	-	11.1	-	8.4	65.2	657	-	7.60
214	195	"	7/ 7/72	6125	1200	17.0	607	-	11023	-	-	-	-	10.5	-	11.0	33.5	597	-	8.67
215	194	"	4/ 8/72	5875	1262	14.0	599	-	11082	-	-	-	-	9.5	-	5.47	69.8	677	-	7.90
216	190	"	2/ 9/72	6075	1230	16.87	600	-	11063	-	-	-	-	10.8	-	-	63.9	680	-	8.38
217	175	"	3/10/72	6450	1190	15.62	584	-	11137	-	-	-	-	8.6	-	4.8	56.1	2685	-	9.21
218	150	"	3/11/72	5500	1135	14.0	568	-	10806	-	-	-	-	11.9	-	7.86	66.5	625	-	8.23
219	152	"	5/12/72	5550	1237	15.25	556	-	10507	-	-	-	-	11.4	-	-	65.28	8635	-	7.61
221	90	"	3/ 1/73	5250	1050	13.5	524	-	9761	-	-	-	-	12.8	-	-	119.7	530	-	8.5
223	350	"	3/ 7/73	7165	1863	-	427	-	14717	-	-	-	-	-	-	-	-	-	-	6.5
224	475	"	4/ 7/73	-	1725	-	495	-	15225	-	-	-	-	-	-	-	-	-	-	8.2
225	320	Cono 3"	4/ 7/73	-	1426	-	565	-	14869	-	-	-	-	-	-	-	-	-	-	9.7
226	235	Cono 3"	5/ 7/73	-	1083	-	625	-	13245	-	-	-	-	-	-	-	-	543	-	11.4
227	165	"	6/ 7/73	-	932	-	604	-	12586	-	-	-	-	-	-	-	-	436	-	12.6
228	122	0.4 7.8	6/ 7/73	-	733	-	484	-	10048	-	-	-	-	-	-	-	-	-	-	12.9
229	68	Cono 6"	7/ 7/73	-	591	-	409	-	8495	-	-	-	-	-	-	-	-	-	-	13.5
230	115	L. 6" ϕ	9/ ///3	-	875	-	623	-	12606	-	-	-	-	-	-	-	-	-	-	13.5
231	115	"	11/ 7/73	6927	875	-	632	-	12586	-	-	-	-	-	-	-	-	-	-	13.5
232	85	F. Sep.	22/ 9/73	6924	1048	24	637	-	12704	-	-	-	-	-	-	-	-	500	-	11.2
233	80	Sep. 54" vertedor	16/ 2/74	7462	1251	22	597	-	12840	-	-	-	-	-	-	-	-	553	-	10.2

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-34 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
234	100	"	30/ 4/74	6966	1193	25	888	-	12644	-	-	-	-	-	-	-	-	566	-	9.9
235	90	"	11/ 7/74	6975	1045	-	587	-	12858	-	-	-	-	-	-	-	-	554	-	11.36
236	92	"	27/ 8/74	7613	1106	15.4	629	-	12940	-	-	-	-	-	-	-	-	-	-	11.7
239	279	Lat. v.r. vertedor	18/11/74	5980	1273	-	597	-	12709	-	-	-	-	-	-	-	-	-	-	7.98
240	110	"	18/11/74	6037	1218	-	637	-	12759	-	-	-	-	-	-	-	-	-	-	8.42
242	99	"	9/ 1/75	6925	1104	20.0	563	9.3	13096	-	0.6	2.0	0.3	7.7	34.4	16.8	46.4	553	-	10.60
245	99	Sep. 54"	13/ 3/75	6670	1161	-	569	-	12528	-	-	-	-	-	-	-	-	557	-	9.8
247	98	Linea 6"	13/ 5/75	6950	1054	-	593	-	13158	-	-	-	-	-	-	-	-	-	-	11.20
250	95	Sep. 54"	22/ 5/75	7202	1220	-	597	-	13349	-	-	-	-	-	-	-	-	477	-	10.04
254	96	"	16/ 7/75	6650	1142	18.7	593	-	12900	-	-	-	-	-	-	-	-	556	-	9.90
258	110	"	11/ 9/75	6700	1180	18.5	665	-	12964	-	-	-	-	-	-	-	-	714	-	9.65
262	218	"	10/11/75	6350	1240	16.8	494	-	12200	-	-	-	-	-	-	-	-	560	-	8.70

Well M-35

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
1	290	P. 1" φ	22/ 9/73	5661	1576	17.8	569	-	10811	-	-	-	-	-	-	-	-	-	-	6.1
2	640	Orif. 3"	9/ 3/74	9571	2611	23.4	551	13.4	16810	-	-	-	-	-	-	-	-	-	-	6.2
3	350	Orif. 6"	12/ 3/74	9709	2476	23.7	498	1.9	16859	-	-	-	-	-	-	-	-	-	-	6.7
4	290	OF.6"x3"	13/ 3/74	9459	2557	19.6	545	-	17064	-	-	-	-	-	-	-	-	-	-	6.3
5	225	OF.6"x5"	14/ 3/74	9500	2431	24.4	519	-	16859	-	-	-	-	-	-	-	-	-	-	6.6
6	160	S.54" φ	30/ 4/74	8754	2385	26.3	457	-	16104	-	-	-	-	-	-	-	-	1040	-	6.2

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-35 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
7	150	"	10/ 9/74	8600	2215	24.7	459	-	15325	-	-	-	-	-	-	-	-	-	-	6.6
11	352	Lat. v.r. vertedor	18/12/74	8209	2200	-	477	-	16377	-	-	-	-	-	-	-	-	998	-	6.3
12	145	Sep. 54" vertedor	8/ 1/75	8506	2281	22.0	342	35.0	16195	-	0.8	2.1	0.9	8.6	4.8	7.2	30.5	1029	-	6.3
15	148	"	12/ 3/75	8356	2122	-	473	-	15665	-	-	-	-	-	-	-	-	1007	-	6.7
17	688	Linea 6" Orif. 2-1/2	10/ 4/75	8119	2186	-	467	-	16026	-	-	-	-	-	-	-	-	-	-	6.31
18	720	"	10/ 4/75	8114	2183	-	463	-	15977	-	-	-	-	-	-	-	-	-	-	6.32
21	140	Sep. 54"	27/ 5/75	8337	2072	-	459	-	15992	-	-	-	-	-	-	-	-	891	-	6.84
25	140	"	28/ 7/75	7840	2098	21.6	435	-	15600	-	-	-	-	-	-	-	-	1010	-	6.35
29	140	"	11/ 9/75	7500	2090	21.5	434	-	15667	-	-	-	-	-	-	-	-	1070	-	6.10
34	495	"	11/11/75	8070	2070	21.2	445	-	15700	-	-	-	-	-	-	-	-	920	-	6.62
53	135	"	8/ 3/76	7875	1969	21.7	414	0.5	15160	-	-	-	-	-	-	-	-	1129	-	6.80
107	135	"	24/ 5/76	7781	2016	22.2	496	0.27	15100	-	-	-	-	-	-	-	-	-	-	6.56
169	132	"	10/ 8/76	6831	1718	-	422.2	-	1249.2	-	-	-	-	-	-	-	12.2	-	-	6.76
191	127	"	23/ 9/76	7658	1956	22.20	459	0.24	14776	24.0	0.66	1.28	1.00	19.87	10.00	10.11	33.41	1207	-	8.00
192	127	"	21/12/76	7987	2005	20.50	381	0.12	15075	-	-	-	-	-	-	-	-	1037	-	6.77

Well M-38

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
345	330	P. 2 x 1/2"	2/ 3/71	7250	2040	26.2	328	17	13923	-	-	-	-	14.4	-	-	-	9045	-	6.04
347	413	P. 2" ϕ	27/ 1/72	7250	1600	12.75	264	2.4	11624	-	-	-	-	16.2	-	-	-	630.0	-	7.7

Table 4. *Chemical* Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-38 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
349	430	"	17/ 2/72	7500	1862	18.25	270	-	11574	-	-	-	-	16.7	-	n.d.	124.2	800	-	5.75
350	438	"	14/ 3/72	7375	1855	17.75	304	-	13075	-	-	-	-	18.1	-	"	115.8	849	-	6.75
351	440	"	17/ 4/72	5925	1825	17.50	235	-	11612	-	-	-	-	16.3	-	"	126.7	775	-	5.52
352	416	"	8/ 5/72	6275	1950	18.50	240	-	11644	-	-	-	-	13.6	-	"	67.1	855	-	5.47
353	410	"	9/ 6/72	5562	1575	18.0	193	-	10639	-	-	-	-	14.0	-	-	144.9	655	-	6.0
355	70	"	7/ 7/72	7000	2062	18.25	338	-	12872	-	-	-	-	15.7	-	16.5	99.7	762	-	5.76
356	45	"	4/ 8/72	8100	2275	21.25	412	-	14283	-	-	-	-	14.5	-	6.87	75.4	855	-	6.05
363	565	"	5/ 9/72	7800	1950	21.90	416	-	14153	-	-	-	-	13.7	-	10.5	43.9	767	-	6.80
364	540	Sep.	3/10/72	7050	1900	23.60	360	-	13984	-	-	-	-	14.7	-	7.86	58.6	755	-	6.30
365	219	P. 6" ϕ	3/11/72	7050	1600	22.12	408	-	13147	-	-	-	-	16.8	-	13.1	47.9	740	-	7.48
371	264	P. 1" ϕ	5/12/72	5937	1637	15.75	236	-	10159	-	-	-	-	14.0	-	16.0	136.0	680	-	6.15
373	390	"	2/ 1/73	6562	1700	20	392	-	12301	-	-	-	-	16.2	-	16.0	70.7	780	-	6.6
374	430	"	1/ 2/73	6800	1735	21.6	308	-	12595	-	-	-	-	15.5	-	10.7	92.5	920	-	6.6
375	378	"	1/ 3/73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
377	260	"	3/ 3/73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
378	-	-	3/ 3/73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
379	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
381	413	P. 1" ϕ	4/ 3/73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
382	412	Sep. 54" Orif. 4"	9/ 3/73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
383	410	Sep. 54" Orif. 4"	23/ 3/73	7850	1587	21.0	432	40	13000	13.1	0.65	.24	.12	17.0	15.0	-	78	732	7.7	8.3
384	370-440	Sep. 54"	31/ 3/73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-38 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
385	-	-	31/ 3/73	6790	1285	-	-	-	12611	-	-	-	-	-	-	-	-	-	-	8.98
386	"	"	31/ 3/73	7295	1460	-	-	-	13504	-	-	-	-	-	-	-	-	-	-	8.5
387	"	"	31/ 3/73	7025	1345	-	-	-	12859	-	-	-	-	-	-	-	-	-	-	8.9
388	"	"	31/ 3/73	7295	1360	-	-	-	12909	-	-	-	-	-	-	-	-	-	-	9.1
389	"	"	31/ 3/73	7525	1475	-	-	-	12958	-	-	-	-	-	-	-	-	-	-	8.7
390	"	"	31/ 3/73	7750	1500	-	-	-	13504	-	-	-	-	-	-	-	-	-	-	8.8
391	"	"	31/ 3/73	6760	1330	-	-	-	12760	-	-	-	-	-	-	-	-	-	-	8.6
392	"	"	31/ 3/73	7100	1460	-	-	-	13206	-	-	-	-	-	-	-	-	-	-	8.3
393	"	"	31/ 3/73	7375	1500	-	-	-	13653	-	-	-	-	-	-	-	-	-	-	8.4
394	"	"	31/ 3/73	7250	1450	-	-	-	13107	-	-	-	-	-	-	-	-	-	-	8.5
395	"	"	31/ 3/73	6900	1400	-	-	-	12988	-	-	-	-	-	-	-	-	-	-	8.4
396	"	"	31/ 3/73	7250	1485	-	-	-	13604	-	-	-	-	-	-	-	-	-	-	8.3

Well M-39

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
45	235	P. 2" φ	12/10/70	5031	975	16.0	250	14.6	9377	-	-	-	-	8.3	-	-	-	-	-	8.77
59	140	"	27/ 1/72	6012	1100	9	284	1.2	9506	-	-	-	-	12.3	-	-	-	505	-	9.29
61	90	"	17/ 2/72	4374	591	9.5	284	-	7880	-	-	-	-	10.8	-	-	94.2	435	-	12.58
62	110	"	11/ 3/72	5125	550	8.5	318	-	8196	-	-	-	-	10.6	-	-	74.3	610	-	15.84
63	168	"	17/ 4/72	4175	485	9.5	255	-	7562	-	-	-	-	9.9	-	0	71.6	615	-	14.63
64	76	"	8/ 5/72	4775	600	9.75	270	-	7945	-	-	-	-	10.8	-	-	112.7	590	-	13.52

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-39 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
65	76	"	9/ 6/72	4375	687	9.75	251	-	7979	-	-	-	-	10.0	-	11.8	84.5	502	-	10.80
67	0	"	30/ 4/73	4500	450	11	300	-	7727	-	-	-	-	10.3	-	n.d.	731	400	-	17.0
68	175	"	5/ 5/73	5062	737	n.d.	308	-	9752	-	-	-	-	17.9	-	-	-	650	-	11.7
69	295	Cono 3"	31/ 5/73	5031	560	-	344	-	9135	-	-	-	-	-	-	-	-	502	-	15.3
70	246	Cono 4"	1/ 6/73	4812	635	-	312	-	8850	-	-	-	-	-	-	-	-	413	-	12.9
71	155	Cono 5"	1/ 6/73	3425	690	-	220	-	6353	-	-	-	-	-	-	-	-	390	-	8.4
72	122	Cono 6"	4/ 6/73	1800	250	-	100	-	2359	-	-	-	-	-	-	-	-	190	-	12.2
74	100	S.V.	14/ 6/73	6000	785	-	351	-	10464	-	-	-	-	14.7	-	30	48	603	-	13.0
77 A	100	S. 54" φ	1/ 8/73	5940	895	-	480	1.3	11080	-	-	1.8	-	-	20	-	53	592	-	11.2
77	100	S.P.x.S.V.	22/ 9/73	6134	988	17.6	417	-	11279	-	-	-	-	-	-	-	-	593	-	10.5
78	100	"	22/ 9/73	5731	904	15.6	385	-	10362	-	-	-	-	-	-	-	-	520	-	10.8
79	85	"	12/ 2/74	6146	1090	17.4	421	-	11300	-	-	-	-	-	-	-	-	621	-	9.6
80	98	vertedor	30/ 4/74	6410	1098	12.1	419	-	12154	-	-	-	-	-	-	-	-	644	-	9.9
81	86	"	30/ 5/74	6037	1017	14.0	409	-	10733	-	-	-	-	-	-	-	-	-	-	10.9
82	85	"	10/ 7/74	6420	909	-	410	-	10889	-	-	-	-	-	-	-	-	578	-	12.0
83	81	"	30/ 8/74	6275	827	22.16	433	-	10698	-	-	-	-	-	-	-	-	-	-	12.9
119	30	P. 2" φ	11/ 4/76	198.8	35.98	-	-	-	335	-	-	-	-	-	-	-	-	-	-	9.39
120	48	P. 2"	13/ 4/76	4557.9	593.9	-	-	-	8300	-	-	-	-	-	-	-	-	-	-	13.05
121	165	P. 2" x Lat.	14/ 4/76	5283.4	875.6	11.67	437.3	-	9000	-	-	-	-	-	-	-	-	-	-	10.26
122	204	"	19/ 4/76	5394	873.1	12.19	439.2	-	10220	-	-	-	-	-	-	-	-	-	-	10.50
123	215	"	20/ 4/76	5419.6	854.0	12.01	442.9	-	10130	-	-	-	-	-	-	-	-	-	-	10.79
124	222	Cono 3-1/2"	21/ 4/76	5789.0	1007	13.61	428.6	-	10670	-	-	-	-	-	-	-	-	-	-	9.77

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-39 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
125	205	"	22/ 4/76	5577	930	12.91	418.5	-	10390	-	-	-	-	-	-	-	-	-	-	10.20
126	140	Cono 5"	22/ 4/76	4815	836	11.66	374.8	-	9400	-	-	-	-	-	-	-	-	-	-	9.79
127	135	"	23/ 4/76	4731	819	11.41	363.1	-	9220	-	-	-	-	-	-	-	-	-	-	9.82
128	200	Lat.Orif.3"	23/ 4/76	5595	925	12.82	419.2	-	10300	-	-	-	-	-	-	-	-	-	-	10.28
129	129	Cono 16"	23/ 4/76	530	48.7	4.6	45.9	-	200	-	-	-	-	-	-	-	-	-	-	18.5
130	180	Lat. Orif. 3" ϕ	26/ 4/76	5362	891	12.25	415.4	-	10180	-	-	-	-	-	-	-	-	-	-	10.23
131	90	Sep. 54"	3/ 4/76	5631	984	13.19	426.7	-	10550	-	-	-	-	-	-	-	-	516	-	9.73
132	94	"	24/10/76	5719	957	13.17	452.4	-	10500	-	-	-	-	-	-	-	-	-	-	10.16
133	94	"	12/ 8/76	5178	876	-	418.1	-	94429	-	-	-	-	-	-	k07.4	-	-	-	10.05
134	90	"	23/ 9/76	5417	901	12.20	404.0	3.24	10181	5.80	0.56	n.d.	0.32	14.12	8.00	1.26	147.79	611.0	8.05	0.21
135	90	Lat. 2"	21/12/76	4645	439	7.60	363.0	4.81	8483	-	-	-	-	-	-	-	-	453.0	-	18.5

Well M-42

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
1	38	Purga 1/4"	7/ 5/76	5179	1259	15.2	339	-	10200	-	-	-	-	-	-	-	-	-	-	6.99
2	110	"	11/ 5/76	5935	1400	17.1	369	-	11350	-	-	-	-	-	-	-	-	-	-	7.21
3	145	"	14/ 5/76	6181	1479	17.3	377	-	11550	-	-	-	-	-	-	-	-	-	-	7.10
4	190	"	18/ 5/76	6100	1498	17.5	377	-	11650	-	-	-	-	-	-	-	-	-	-	6.92
5	360	Purga 2"	24/ 5/76	6984	1646	18.6	429	-	12680	-	-	-	-	-	-	-	-	-	-	7.21
6	460	Purga 1"	14/ 6/76	6710	1628	19.4	430	-	12598	-	-	-	-	-	-	-	-	-	-	7.01
7	465	"	1/ 7/76	6774	-	-	434	-	12838	-	-	-	-	-	-	-	-	-	-	-

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-42 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
10	112	Purga 1/2"	11/ 8/76	4697	1178	-	328	-	9298	-	-	-	-	-	-	-	-	-	-	6.28
12	525	Purga 2"	15/11/76	7261	1701	-	455	-	12967	-	-	-	-	-	-	-	-	-	-	7.26
13	479	Orif. 3"	16/11/76	7184	1638	-	445	-	12996	-	-	-	-	-	-	-	-	-	-	7.46
14	290	Orif. 5"	17/11/76	7332	1669	-	455	-	12996	-	-	-	-	-	-	-	-	-	-	7.47
15	225	Orif. 6"	17/11/76	7184	1658	-	449	-	12948	-	-	-	-	-	-	-	-	-	-	7.37
16	137	Cono 7"	17/11/76	6611	1513	-	416	-	11949	-	-	-	-	-	-	-	-	-	-	7.43
17	485	Orif. 3"	19/11/76	7223	1658	-	455	-	13062	-	-	-	-	-	-	-	-	-	-	7.41
18	117	"	21/12/76	7442	1600	17.80	355	0.21	13815	-	-	-	-	-	-	-	-	929	-	7.91

Well M-51

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
1	317	P. 2" ϕ	24/ 8/73	6600	1920	-	224	-	12411	-	-	-	-	-	-	-	-	510	-	5.8
3	520	"	20/10/73	7975	2285	28	435	-	15245	-	-	-	-	-	-	-	-	999	-	5.9
4	510	"	22/ 9/73	7775	2238	27	385	-	14866	-	-	-	-	-	-	-	-	860	-	5.9
5	790	Cono 3"	1/10/73	8550	2470	-	408	-	15912	-	-	-	-	-	-	-	-	-	-	5.9
6	790	"	2/10/73	8112	2385	-	414	-	15593	-	-	-	-	-	-	-	-	1030	-	5.8
7	690	Cono 4"	5/10/73	8128	2407	-	417	-	15444	-	-	-	-	-	-	-	-	-	-	5.7
8	340	P. 1" ϕ	27/ 4/74	6180	1905	16	302	-	11184	-	-	-	-	-	-	-	-	785	-	5.5
9	300	"	20/ 1/75	5380	1618	13	256	-	10800	-	-	-	-	-	-	-	-	-	-	5.6
10	112	P.1/2" ϕ	11/ 8/76	2746	816	-	148.3	-	5448.8	-	-	-	-	-	-	-	91.5	-	-	5.72
12	230	"	21/12/76	5199	1551	13.0	208.0	0.06	10046	-	-	-	-	-	-	-	-	727	-	5.70

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-53

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
1	52.89	Purga 1/2"	31/10/74	5116	1548	-	281	-	9433	-	-	-	-	-		-	-	-	-	5.62
2	52.89	"	31/10/74	5127	1658	-	237	-	9850	-	-	-	-	-	-	-	-	-	-	5.26
3	64.9	"	31/10/74	4427	1652	-	246	-	8936	-	-	-	-	-	-	-	-	-	-	4.55
4	157.8	"	1/11/74	4612	1525	-	246	-	9334	-	-	-	-	-	-	-	-	-	-	5.14
5	125	"	2/11/74	4954	1673	-	264	-	9830	-	-	-	-	-	-	-	-	-	-	5.03
6	147.7	"	4/11/74	4849	1681	-	224		9830	-	-	-	-	-	-	-	-	-	-	4.9
7	162	"	5/11/74	5078	1716	-	220	-	10674	-	-	-	-	-	-	-	-	-	-	5.02
8	175	"	6/11/74	5154	1740	-	114	-	9929	-	-	-	-	-	-	-	-	765.7	-	5.04
9	184	"	7/11/74	4932	1728	-	220	-	9880	-	-	-	-	-	-	-	-	733	-	5.45
10	186	"	8/11/74	4908	1783	-	246	-	10525	-	-	-	-	-	-	-	-	762	-	4.68
11	268	"	11/11/74	5286	1790	-	241	-	10574	-	-	-	-	-	-	-	-	-	-	5.01
12	270	"	12/11/74	5290	1859	-	241	-	10922	-	-	-	-	-	-	-	-	715.5	-	4.87
13	274	"	12/11/74	5384	1912	-	233	-	11121	-	-	-	-	-	-	-	-	899.5	-	4.78
14	280	"	15/11/74	5002	1850	-	202	-	10624	-	-	-	-	-	-	-	-	466	-	4.6
15	301	"	18/11/74	5493	2016	-	246	-	11617	-	-	-	-	-	-	-	-	442	-	4.63
16	328	"	19/11/74	3500	1314	-	171	-	8043	-	-	-	-	-	-	-	-	442	-	4.53
17	315	"	21/11/74	4861	2011	-	277	-	11965	-	-	-	-	-	-	-	-	430	-	3.95
18	335	"	25/11/74	5014	2050	-	220	-	11746	-	-	-	-	-	-	-	-	-	-	4.15
19	429	"	26/11/74	5697	2138	-	244	-	13446	-	-	-	-	-	-	-	-	-	-	4.52
20	724	Purga 1/2 × 1" ϕ	27/11/74	6900	2678	-	300	-	14995	-	-	-	-	-	-	-	-	-	-	4.37
21	849	"	27/11/74	7055	2748	-	340	-	16295	-	-	-	-	-	-	-	-	-	-	4.36
22	909	"	28/11/74	7753	2801	-	352	-	16284	-	-	-	-	-	-	-	-	-	-	4.7

Table 4. Chemical Analyses (mg/l; Na/K Ratio is Atomic) in Repeatedly Collected Samples of the Wells.

Well M-53 (Continued)

Sample Number	Pc (psig)	Flow Conditions	Date	Na	K	Li	Ca	Mg	Cl	Br	I	F	As	B	$SO_4^=$	$CO_3^=$	HCO_3^-	SiO_2	pH	Na/K atomic
23	999	Purga 2"TA.	28/11/74	7742	2840	-	296	-	15986	-	-	-	-	-	-	-	-	-	-	4.63
24	979	Purga 2"VR	29/11/74	7905	2664	-	342	-	15986	-	-	-	-	-	-	-	-	-	-	5.04
25	1044	"	29/11/74	7963	2669	-	341	-	16185	-	-	-	-	-	-	-	-	-	-	5.07
26	1089	"	29/11/74	7843	2742	-	340	-	16483	-	-	-	-	-	-	-	-	1441	-	4.86
27	1089	"	29/11/74	7905	2801	-	348	-	16334	-	-	-	-	-	-	-	-	-	-	4.8
28	939	Purga 1/2 x 1" φ	3/ 3/74	7691	-	-	-	-	16495	-	-	-	-	-	-	-	-	-	-	-
29	922	Purgas A. 1/2 x 1"T.	7/12/74	7770	2726	-	333	-	16145	-	-	-	-	-	-	-	-	-	-	4.84
30	899	"	11/12/74	8318	1957	-	351	-	17325	-	-	-	-	-	-	-	-	-	-	-
31	930	"	18/12/74	9167	2211	-	349	-	16127	-	-	-	-	-	-	-	-	-	-	7.05
32	875	"	27/12/74	7245	2727	-	333	-	15877	-	-	-	-	-	-	-	-	1190	-	4.51
33	910	Reg. Purga 1/2" t.a.	2/ 1/75	8260	2750	-	333	-	19450	-	-	-	-	-	-	-	-	1187	-	5.10
34	895	"	6/ 1/75	7820	2781	-	321	-	16100	-	-	-	-	-	-	-	-	-	-	4.77
35	860	P. 1/2" t.a. 1" R.	14/ 1/75	8200	2751	-	-	-	16200	-	-	-	-	-	-	-	-	1216	-	5.06
36	830	"	20/ 1/75	7656	2691	-	320	-	15800	-	-	-	-	-	-	-	-	-	-	4.83
37	635	P. l y 1/2"	28/ 2/75	7436	2491	-	317	-	14179	-	-	-	-	-	-	-	-	-	-	5.1
38	1100	Lat. 3 x 3" φ	3/ 3/75	9583	3155	-	409	-	18064	-	-	-	-	-	-	-	-	1350	-	5.2
39	1150	Lin. Lat. 3 x 3-1/2"	5/ 3/75	9660	3157	-	397	-	18258	-	-	-	-	-	-	-	-	-	-	5.2
40	1040	Lin. Lat. 3 x 3" φ	5/ 3/75	9759	3216	-	393	7.3	18501	-	-	-	-	-	-	6.0	122	1502.4	-	5.2
41	690	P. 2"	28/10/75	8200	2660	23.5	347	-	15800	-	-	-	-	-	-	-	-	885	-	5.24
42	310	Purga 2" φ	12/ 8/76	4614	1184	-	241.4	-	9777.8	-	-	-	-	-	-	3.6	32.9	-	-	6.63
43	273	"	22/12/76	5405	1956	17.70	333.0	.07	11252	-	-	-	-	-	-	-	-	833	-	4.70

Table 5. Separator Flow, Enthalpy and Chemical Composition in Sets of Repeatedly Collected Samples of the Producing Wells. Sets are Numbered successively According to Sampling Dates.

	Well No.	Sample No.	Date	Separator Pressure Kg/cm ^{2}	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
Set 1	M-5	605	1-31-74	6.3	65.5	146.9	315	8749	2068	24.8	489	-	15,850	1035
	M-8	757	2-22-74	7.2	71.6	132.3	338	8070	2064	23.7	485	-	15,400	979
	M-9	745	2-26-74	5.8	22.0	82.9	265	6316	938	16.1	420	-	10,076	-
	M-11	284	2-18-74	8.7	35.7	118.7	283	8187	1876	26.0	566	-	15,300	682
	M-20	469	1-31-74	6.2	44.3	107.4	307	6573	1709	19.0	501	-	13,150	776
	M-25	26	1-22-74	6.7	59.0	146.2	304	8515	2052	24.6	563	-	16,000	878
	M-26	482	1-29-74	6.3	33.6	71.2	320	9474	2283	26.0	774	-	17,600	950
	M-30	8	1-29-74	7.9	81.8	231.5	295	8655	2033	27.2	567	-	16,000	920
	M-31	266	2-16-74	19.0	79.5	134.1	348	8047	2009	21.6	453	-	14,506	935
	M-34	233	2-16-74	5.6	25.0	125.0	241	7462	1247	22.0	595	-	12,849	553
	M-39	79	2-11-74	6.0	41.8	165.0	258	6552	1087	17.4	420	-	11,300	621

	Well No.	Sample No.	Date	Separator Pressure Kg/cm ^{2}	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
Set 2	M-5	608	4-29-74	6.7	65.0	123.0	336	8585	2052	14.4	481	-	15,241	611
	M-8	758	4-30-74	7.2	69.8	135.8	335	8515	1955	15.1	575	-	14,408	943
	M-25	27	4-30-74	6.6	6.6	131.3	307	8936	2052	14.6	563	-	16,418	948
	M-26	485	4-29-74	6.6	6.6	56.5	325	9356	2357	23.0	966	-	17,006	838
	M-30	9	4-30-74	7.5	7.4	204.3	307	9356	2099	28.6	619	-	16,565	778
	M-31	267	4-30-74	7.1	7.1	154.1	332	7859	2443	18.6	428	-	13,849	770
	M-34	234	4-30-74	6.2	6.1	108.2	245	6971	1192	25.0	888	-	12,644	566
	M-39	80	4-30-74	5.7	5.7	131.0	262	6409	1095	12.1	420	-	12,154	644

Table 5. Separator Flow, Enthalpy and Chemical Composition in Sets of Repeatedly Collected Samples of the Producing Wells.

Set 3

Well No.	Sample No.	Date	Separator Pressure Kg/cm ^{2}	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-5	609	7-10-74	6.1	64.6	118.0	337	8802	2028	25.9	500	-	15,720	1048
M-8	759	7-11-74	6.0	70.8	135.3	336	8213	1835	22.8	445	-	14,384	816
M-11	286	7-10-74	6.5	23.4	63.9	298	8599	1818	25.1	563	-	15,088	873
M-20	473	7-10-74	6.2	44.4	108.2	308	7151	1432	18.8	507	-	12,227	-
M-25	28	7-10-74	6.2	50.3	121.5	308	8950	2055	-	628	-	16,373	888
M-26	487	7-11-74	5.9	25.6	50.8	328	9874	2205	31.0	838	-	17,759	828
M-30	10	7-11-74	6.9	76.2	196.5	305	9373	1990	26.2	602	-	15,931	896
M-31	268	7-11-74	6.7	76.6	150.7	332	7988	1795	-	413	-	13,761	766
M-34	235	7-11-74	5.8	23.6	104.8	253	6975	1045	-	587	-	12,850	554
M-39	82	7-10-74	5.1	29.2	126.9	251	6419	909	-	410	-	10,889	578

Set 4

Well No.	Sample No.	Date	Separator Pressure Kg/cm ^{2}	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-5	610	8-30-74	6.4	64.0	128.9	328	9013	2066	26.2	451	-	15,834	-
M-8	761	8-29-74	6.9	65.0	68.2	423	7919	1893	20.8	408	-	15,158	-
M-11	287	8-30-74	6.3	19.0	53.7	293	8875	1834	24.4	527	-	15,284	-
M-15A	11	8-30-74	7.5	92.5	210.8	320	7731	1405	16.6	425	-	13,042	-
M-20	473	8-30-74	6.8	37.0	109.0	292	6950	1433	18.8	485	-	12,227	-
M-25	29	8-27-74	5.8	46.0	115.4	303	9238	1990	28.0	544	-	17,041	-
M-26	488	8-27-74	6.8	36.5	71.4	333	9863	2284	29.9	893	-	18,730	-
M-30	11	8-27-74	7.0	73.7	198.8	301	8825	1973	26.4	612	-	15,784	-
M-31	269	8-27-74	7.1	75.5	135.8	346	8100	1432	22.8	476	-	13,975	-
M-34	236	8-27-74	6.0	20.9	103.4	246	7613	1106	15.4	629	-	12,940	-
M-35	7	9-10-74	7.8	101.1	208.8	341	8600	2215	24.7	459	-	15,325	-
M-39	83	8-30-74	5.6	17.7	104.7	233	6275	827	21.2	434	-	10,698	-

Table 5. Separator Flow, Enthalpy and Chemical Composition in Sets of Repeatedly Collected Samples of the Producing Wells.

Set 5

Well No.	Sample No.	Date	Separator Pressure Kg/cm ^{2}	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-5	615	1-15-75	6.4	59.0	119.2	328	8070	1970	22	332	7.3	15,600	949
M-8	765	1-16-75	7.2	65.4	113.5	348	6535	1675	17	244	9.7	12,700	896
M-11	298	1-20-75	8.1	38.0	127.9	286	7504	1496	22	561	7.3	14.450	758
M-15A	17	1-15-74	6.6	60.2	188.3	286	6003	1125	15	321	13.1	11,500	678
M-20	482	1-10-75	5.9	40.0	100.0	303	6035	1222	15	451	-	11,496	606
M-21A	14	1-10-75	7.8	89.1	54.2	473	9602	2517	24	557	19.4	18,700	894
M-25	33	1-9-75	6.5	45.2	114.7	305	8525	1487	23	457	21.0	15,805	905
M-26	493	1-10-75	6.3	33.6	73.6	320	8663	2043	23	521	9.7	16,900	876
M-30	15	1-8-75	7.4	69.5	170.3	312	8430	1968	23	540	7.0	15,715	899
M-31	275	1-8-75	7.5	72.3	135.8	343	7241	1588	17	398	12.8	13,295	731
M-34	242	1-9-75	6.5	15.2	85.7	241	6925	1104	20	563	9.3	13,096	553
M-35	12	1-8-75	8.0	105.0	214.4	333	8506	2281	22	342	35.0	16,195	1029

Set 6

Well No.	Sample No.	Date	Separator Pressure Kg/cm ^{2}	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-5	620	3-10-75	6.4	56.4	125.5	318	8037	1994	-	463	-	15,005	884
M-8	768	3-12-75	7.1	65.0	119.2	342	6526	1557	-	324	-	11,994	893
M-11	311	3-10-75	6.9	35.0	116.2	282	7829	1510	-	639	-	14,791	-
M-15A	20	3-11-75	6.7	56.8	196.1	278	5992	1107	-	413	-	10,926	668
M-19A	14	3-10-75	6.4	55.4	138.5	306	8606	2157	-	525	-	16,025	923
M-20	186	3-10-75	6.4	33.2	90.4	297	6086	1222	-	465	-	11,265	606
M-21A	18	3-11-75	7.4	82.3	74.5	425	9177	2262	-	647	-	17,190	903
M-25	37	3-11-75	5.7	43.2	96.3	315	8211	1972	-	539	-	15,199	942
M-30	18	3-13-75	4.8	68.2	171.9	309	8111	1929	-	569	-	15,345	877

Table 5. Separator Flow, Enthalpy and Chemical Composition in Sets of Repeatedly Collected Samples of the Producing Wells.

Set 6

Well No.	Sample No.	Date	Separator Pressure Kg/cm ^{2}	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-31	278	3-12-75	7.4	69.0	138.4	333	6907	1604	-	413	-	12,470	657
M-34	245	3-13-75	4.3	16.8	84.0	247	6670	1161	-	569	-	12,528	557
M-35	15	3-12-75	7.4	105.0	218.7	331	8356	2122	-	473	-	15,665	1007

Set 7

Well No.	Sample No.	Date	Separator Pressure Kg/cm ^{2}	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-5	625	5-20-75	6.3	54.5	127.2	312	8001	1877	-	461	-	15,407	901
M-8	772	5-21-75	6.6	68.6	118.4	346	6656	1557	-	315	-	12,140	863
M-11	315	5-22-75	5.9	14.5	62.9	255	6332	801	-	645	-	12,160	551
"	316	5-27-75	N.D.	N.D.	N.D.	-	6360	772	-	653	-	11,994	-
M-15A	22	5-23-75	6.4	52.3	180.6	276	6141	1044	-	405	-	11,311	636
M-19A	19	5-20-75	5.8	50.9	108.4	319	8702	2105	-	517	-	16,431	680
M-20	491	5-21-75	6.4	36.4	91.2	309	6785	1437	-	491	-	12,969	686
M-21A	22	5-26-75	7.1	81.8	85.3	407	8989	2206	-	605	-	17,289	829
M-25	43	5-23-75	6.3	45.4	100.4	318	8510	1847	-	527	-	15,807	765
M-30	25	5-23-75	6.9	66.3	167.2	309	8993	1818	-	554	-	15,612	839
M-31	285	5-21-75	7.6	70.4	136.7	336	6965	1563	-	441	-	13,263	711
M-34	250	5-22-75	5.9	13.6	80.2	234	7202	1220	-	597	-	13,349	477
M-35	21	5-27-75	7.5	104.0	202.2	336	8337	2072	-	459	-	15,992	891

Table 5. Separator Flow, Enthalpy and Chemical Composition in Sets of Repeatedly Collected Samples of the Producing Wells.

Set 8

Well No.	Sample No.	Date	Separator Pressure Kg/cm ^{2}	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-5	632	7-15-75	6.4	54.5	112.1	326	7950	2950	22.3	461	-	15,150	958
M-8	773	7-17-75	6.9	59.9	127.6	325	6100	1664	18.0	303	-	11,800	873
M-15A	28	7-28-75	6.6	44.5	163.6	272	5980	1004	12.6	105	-	11,100	619
M-19A	23	7-15-75	7.21	85.3	116.0	375	8320	2260	24.3	525	-	16,950	975
M-20	495	7-15-75	6.0	37.7	115.8	286	5700	1216	11.9	470	-	11,350	595
M-21A	26	7-28-75	7.1	77.2	84.1	405	8020	2150	20.3	571	-	15,300	817
M-25	47	7-28-75	6.3	39.9	93.2	312	7630	1930	28.8	512	-	15,400	893
M-30	31	7-16-75	7.1	62.6	134.2	224	7600	1880	21.6	561	-	15,200	791
M-31	289	7-17-75	7.0	64.0	135.0	326	6320	1500	16.3	413	-	12,750	744
M-34	254	7-16-75	5.9	13.6	64.8	251	6650	1142	18.7	593	-	12,900	556
M-35	25	7-28-75	7.8	102.6	195.2	340	7840	2098	21.6	435	-	15,600	1010

Set 9

Well No.	Sample No.	Date	Separator Pressure Kg/cm ^{2}	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-5	651	9-22-75	6.6	176.9	49.9	304	7900	1950	21.2	456	-	15,466	1097
M-8	781	"	7.2	169.8	61.8	347	6420	1470	16.2	323	-	11,863	1089
M-9	754	"	7.4	118.3	28.9	290	6020	910	13.8	440	-	10,862	594
M-15A	32	"	7.0	266.1	50.4	262	6350	1010	13.0	432	-	11,315	717
M-19A	26	"	7.6	187.3	73.6	362	7580	1890	20.3	441	-	14,666	1296
M-20	500	"	6.7	124.0	30.9	289	6380	1200	12.8	450	-	11,412	641
M-21A	30	"	7.7	163.6	73.2	389	8500	2120	19.8	555	-	16,518	819
M-25	53	"	6.4	124.9	39.1	319	7960	1950	22.4	532	-	15,667	1171
M-26	512	"	7.8	226.6	84.5	354	8350	2040	19.0	780	-	16,418	962

Table 5. Separator Flow, Enthalpy and Chemical Composition in Sets of Repeatedly Collected Samples of the Producing Wells.

Set 9

Well No.	Sample No.	Date	Separator Pressure Kg/cm^2	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-30	35	"	7.4	218.4	61.3	307	8100	1850	21.0	560	-	15,466	1070
M-31	293	"	8.1	220.0	73.6	336	6450	1480	18.5	434	-	13,114	838
M-34	258	"	7.1	69.5	11.3	250	6700	1180	18.5	665	-	12,964	714
M-35	29	"	8.0	284.2	95.0	336	7500	2090	21.5	434	-	15,667	1070

Set 10

Well No.	Sample No.	Date	Separator Pressure Kg/cm^2	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-5	657	11-12-75	6.9	50.0	125.6	308	7550	1820	21.6	455	-	15,600	930
M-8	784	11-11-75	7.1	58.2	115.0	333	6300	1440	20.0	314	-	11,900	895
M-9			6.7	23.6	70.9	290	5800	944	14.2	422	-	11,100	495
M-15A	38	11-10-75	6.9	44.1	168.4	271	5830	1000	13.0	375	-	11,140	600
M-25	57	11-10-75	7.0	36.8	86.2	314	7880	2030	22.0	687	-	15,700	895
M-26	516	11-10-75	7.0	76.8	111.8	367	7830	1910	17.5	687	-	15,300	817
M-30	46	11-11-75	7.3	60.4	155.2	307	7620	1940	20.3	543	-	15,100	807

Set 11

Well No.	Sample No.	Date	Separator Pressure Kg/cm^2	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-5	662	3-8-76	6.2	48.1	106.7	317	7976	1892	21.8	445	0.5	15,210	1159
M-8	790	3-8-76	6.9	54.5	118.3	323	6435	1419	17.1	297	0.3	12,110	1045
M-15A	43	3-8-76	6.3	40.9	169.2	261	5810	984	13.3	381	1.5	10.900	717
M-19A	35	3-9-76	6.7	61.7	102.2	351	8232	2087	22.9	493	0.4	16,200	1121
M-20	510	3-8-76	6.3	29.0	72.4	307	5980	1254	13.5	445	2.1	11,580	735
M-25	62	3-8-76	6.3	35.4	77.1	320	8081	1935	22.3	465	0.8	15,380	1076

Table 5. Separator Flow, Enthalpy and Chemical Composition in Sets of Repeatedly Collected Samples of the Producing Wells.

Set 11.

Well No.	Sample No.	Date	Separator Pressure Kg/cm ^{2}	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-26	522	3-8-76	7.7	87.6	186.8	328	6830	1548	16.8	577	0.7	13,300	1000
M-29	127	3-8-76	6.3	26.8	220.2	219	6813	1088	19.2	513	1.4	12,510	708
M-35	53	3-8-76	7.1	89.4	196.0	322	7875	1969	21.7	414	0.5	15,160	1129

Set 12.

Well No.	Sample No.	Date	Separator Pressure Kg/cm ^{2}	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-5	663	5-24-76	7.35	47.7	112.2	312	7921	1922	18.9	523	0.48	14,990	900
M-8	791	"	7.35	56.4	90.2	358	5591	1371	15.3	281	0.10	10,580	840
M-15A	44	"	7.00	48.6	183.0	272	5822	1001	13.5	409	1.6	10,890	580
M-19A	36	"	7.56	63.4	108.0	350	8490	2110	23.4	572	0.25	16,110	-
M-20	514	"	6.65	27.9	85.3	287	6346	1361	14.7	545	.7	12,050	-
M-21A	39	"	9.10	77.3	114.0	370	8683	2186	20.9	699	0.3	16,880	-
M-25	63	"	7.35	33.2	84.4	305	7804	1918	23.1	557	0.46	15,060	-
M-26	526	"	22.32	85.4	184.4	328	6556	1509	16.7	610	0.61	13,480	-
M-29	129	"	7.00	28.2	246.6	6841	6841	1152	19.7	529	0.81	12,580	-
M-30	56	"	7.70	58.2	147.4	309	7952	1864	22.1	625	0.79	15,080	-
M-31	304	"	8.05	59.5	124.5	328	6551	1494	17.8	437	0.15	13,530	-
M-35	107	"	9.10	89.0	187.5	327	7781	2016	22.2	496	0.27	15,100	-
M-39	132	"	6.93	28.6	139.5	252	5719	957	13.2	452	5.63	10,500	-

Table 5. Separator Flow, Enthalpy and Chemical Composition in Sets of Repeatedly Collected Samples of the Producing Wells.

Set 13

Well No.	Sample No.	Date	Separator Pressure Kg/cm ^{2}	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-5	664	8-10-76	7.70	46.5	105.6	317	6914	1631	-	443	-	12,537	-
M-30	58	8-10-76	7.42	57.2	140.7	311	6913	1592	-	532	-	12,647	-
M-35	169	8-10-76	7.56	82.6	188.4	245	6831	1718	-	422	-	12,497	-
M-39	133	8-12-76	6.16	15.9	80.2	245	5178	876	-	418	-	9448	-

Set 14

Well No.	Sample No.	Date	Separator Pressure Kg/cm ^{2}	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-5	666	9-23-76	6.3	47.6	124.7	301	8016	1899	22.9	504	0.50	14,828	1318
M-8	792	"	6.5	38.9	77.3	330	5257	1310	14.5	258	0.04	10,128	971
M-11	331	"	6.5	-	-	304	8229	2032	25.20	550	0.34	16,129	1345
M-14	11	"	7.0	57.7	132.3	317	7079	1439	17.7	445	0.61	13,113	960
M-15A	45	"	6.7	48.3	170.0	276	5951	984	12.9	407	1.57	11,057	746
M-19A	37	"	7.2	56.6	142.8	308	8238	2058	24.4	556	0.21	16,329	1291
M-21A	40	"	7.1	63.9	89.9	372	8761	2252	21.7	679	0.18	17,271	1104
M-25	64	"	5.6	31.8	78.2	308	8063	1911	23.4	526	0.47	15,315	1141
M-26	528	"	7.4	7716	153.8	335	6686	1514	19.9	581	0.69	12,606	1006
M-27	24	"	7.2	50.1	37.2	-	5884	1384	13.1	361	0.04	11,366	960
M-29	130	"	6.5	30.4	253.7	219	6966	1156	20.3	554	1.39	12,971	739
M-30	90	"	7.1	56.5	170.9	291	7809	1833	22.0	596	0.82	15,173	1077
M-31	305	"	7.2	59.6	114.2	337	6913	1540	18.4	463	0.16	13,205	833
M-35	191	"	7.4	82.3	179.7	324	7658	1956	22.0	459	0.24	14,776	1207
M-39	134	"	5.6	13.5	67.0	245	5417	801	12.2	404	3.29	10,181	611

Table 5. Separator Flow, Enthalpy and Chemical Composition in Sets of Repeatedly Collected Samples of the Producing Wells.

Set 15

Well No.	Sample No.	Date	Separator Pressure Kg/cm^2	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-5	667	12-21-76	7.3	46.1	122.5	304	8487	1969	21.4	403	0.24	15,599	1034
M-8	793	"	6.9	31.2	78.6	305	6411	1456	18.6	382	0.14	11,945	920
M-11	332	12-22-76	7.0	17.0	47.3	298	8366	2124	23.6	389	0.22	15,588	1040
M-14	12	12-21-76	7.5	58.4	149.7	308	7375	1469	17.0	346	0.41	13,383	877
M-15A	46	"	6.3	21.2	81.0	267	5819	855	10.9	313	1.70	10,286	781
M-19A	38	"	7.5	57.4	140.8	315	8707	2118	21.3	440	0.180	16,148	1094
M-20	517	"	6.6	27.1	85.4	288	6266	1234	12.4	448	1.90	11,724	760
M-21A	41	"	7.2	64.2	111.3	351	8355	2000	17.5	537	0.23	16,058	972
M-25	65	"	6.9	29.3	72.1	312	8138	1942	21.4	372	0.28	15,263	984
M-26	529	"	7.4	73.8	213.	299	6562	1467	15.1	510	0.43	12,606	942
M-27	25	"	7.0	42.6	58.5	378	5752	1314	15.3	471	0.04	11,233	933
M-29	131	"	6.7	26.7	228.1	221	7072	1236	19.3	271	0.90	12,830	320
M-30	61	"	7.5	55.0	141.5	310	7881	1927	16.8	514	0.50	15,263	947
M-31	306	"	7.6	52.8	121.9	322	7104	1539	16.7	336	0.11	13,076	800
M-35	192	"	7.5	78.2	178.0	323	7987	2005	20.5	381	0.12	15.075	1037

Set 16

Well No.	Sample No.	Date	Separator Pressure Kg/cm^2	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-5	668	2-17-77	6.6	46.0	124.5	298	8167	1975	21.2	423	0.63	15,364	1066
M-8	798	2-10-77	6.4	25.9	53.6	326	6369	1525	16.2	285	0.21	11,863	973
M-11	333	2-17-77	6.9	18.5	48.6	321	8478	2044	24.0	471	0.44	15,751	1034
M-14	13	2-3-77	7.5	57.8	154.6	308	7212	1468	16.7	389	0.99	12,893	845
M-15A	48	2-4-77	6.3	12.3	49.5	264	5576	791	10.4	337	1.85	9,886	578
M-19A	39	2-7-77	7.3	52.1	124.2	312	8463	2318	22.6	481	0.44	15,892	1151
M-20	518	2-7-77	6.6	24.5	72.0	391	6392	1189	13.1	481	2.20	11,846	729

Table 5. Separator Flow, Enthalpy and Chemical Composition in Sets of Repeatedly Collected Samples of the Producing Wells.

Set 16

Well No.	Sample No.	Date	Separator Pressure Kg/cm^2	Separator Steam Flow Ton/Hr.	Separator Water Flow Ton/Hr.	Total Flow Enthalpy cal/g	Na mg/l	K mg/l	Li mg/l	Ca mg/l	Mg mg/l	Cl mg/l	SiO_2 mg/l
M-21A	42	2-9-77	6.8	63.3	116.2	340	8361	2096	18.5	533	0.36	15,740	948
M-25	66	2-8-77	6.3	29.8	69.7	314	8043	2029	21.6	461	0.68	15,249	990
M-26	530	2-9-77	7.0	72.5	193.2	304	6607	1572	15.6	493	0.74	12,409	903
M-27	26	2-10-77	7.1	41.0	64.3	359	5986	1468	14.6	293	0.12	11,041	963
M-29	132	2-9-77	6.5	28.2	235.3	219	7002	1312	19.4	501	0.91	12,915	682
M-30	62	2-10-77	7.2	55.3	140.7	307	8063	2005	20.7	595	0.81	15,225	960
M-31	307	2-11-77	6.7	52.6	116.4	320	6514	1647	16.8	373	0.22	12,260	824
M-35	214	2-11-77	7.4	78.9	179.1	319	7874	1980	20.4	399	0.31	14,585	1119

Table 6. Chemical and Physical Well Data by Reed (1975).

6a. Well Conditions during Sampling, for Producing Wells, in the Cerro Prieto Geothermal Field.

Well No	Date	Pressure (bar)		Separator Temperature (°C)	Separator Steam	Mass Flow (10^3 kg/hr)		Total	Total Enthalpy (cal/g)
		Well Head	Separator			Silencer Water	Silencer Steam		
M-5	1/30/74	7.49	7.22	166.1	65.5	146.9	21.1	233.5	305.9
M-8	2/22/74	7.91	7.84	169.6	71.6	132.3	20.1	224.0	327.8
M-9	2/22/74	6.67	6.18	160.0	22	(128)*	0	150	234
M-11	2/18/74	41.7	8.67	173.6	35.7	118.7	19.4	173.8	271.9
M-20	1/31/74	7.08	6.67	163.0	44.3	107.4	14.6	166.3	296.3
M-25	2/21/74	7.58	6.70	163.2	59.0	146.2	19.9	225.1	294.3
M-26	2/21/74	7.19	6.70	163.2	33.6	71.2	9.7	114.5	309.8
M-29	2/ 8/74	6.87	6.80	164.0	10	(54)*	0	64	242
M-30	2/21/74	8.74	7.63	168.5	81.8	231.5	34.7	348.0	285.5
M-31	2/16/74	19.6	7.91	170.0	79.5	134.1	20.6	234.2	337.8
M-34	2/16/74	6.53	6.39	161.2	25.0	125.0	16.4	166.4	237.1
M-39	2/12/74	6.87	6.53	162.1	41.8	165.0	22.0	228.8	254.0

* Separator water flow estimated from well records made prior to removal of the silencer.

6b. Chemical Composition of Separated Water Samples from Wells in the Cerro Prieto Field.

Well No	Lab. pH (at 25°C)	Concentration (mg/l)									
		Li	Na	K	Mg	Ca	HCO_3	Cl	SO_4	SiO_2	B
M-5	8.2	22.5	8350	2050	0.8	525	42.8	15,600	<5	1000	21
M-8	8.3	18.5	8000	2000	0.4	460	65	15,300	15	1000	20
M-9	8.0	12.5	5550	880	1.8	420	66	10,000	32	500	13
M-11	8.2	20.0	8200	1800	1.1	540	40	16,700	10	900	19
M-20	8.4	15.5	7100	1620	1.4	510	57.9	12,800	<5	800	17
M-25	8.1	23.0	8650	2000	0.6	585	44.0	16,900	7	900	20
M-26	8.0	20.5	9050	2200	0.9	840	39.6	16,800	<5	1000	19
M-29	8.1	15.0	6450	1200	3.7	480	54.7	12,100	15	500	18
M-30	8.1	22.0	8500	1980	0.9	585	36.4	16,400	16	950	19
M-31	8.3	19.5	7700	1930	0.2	500	48.4	15,400	6	850	19
M-34	8.3	18.0	7100	1200	3.0	645	48.4	13,100	40	600	16
M-39	8.4	14.0	6100	1080	1.9	455	60.4	11,300	47	650	18

6c. Composition of Separated Steam Samples from Wells in the Cerro Prieto Field.

Well No	Pressure (bar)		Steam Flow (kg/hr)	Composition (mg/kg)	
	Well Head	Separator		CO_2	H_2S
M-5*	21.7	7.91	67,000	6,200	1,420
M-8	8.60	7.98	73,000	8,060	1,950
M-9	8.18	8.18	32,000	5,500	1,300
M-11*	40.7	10.8	46,000	6,060	1,470
M-20	7.98	7.47	41,000	8,150	1,540
M-29*	7.56	7.36	57,000	10,100	1,450
M-31	20.7	7.22	78,000	6,530	1,750
M-34	6.87	6.24	42,000	7,960	1,630

* Analyses supplied by A. Mañon (personnal communication, 1974).

Table 7. Trace Elements and Sulfate in Producing Wells.

Well	Sample	Date	Rb	Cs	Sr	Ba	SO_4	Be	Mn	Fe	Co	Ni	Cr	Cu	Zn	Al	As	F	Br	I
M-5	666	9/23/76	11.2	39.5	15.4	9.39	13.0	<0.03	0.88	0.51	<0.01	<0.01	<0.5	<0.05	0.06	0.01-0.05	1.50	2.0	23.75	0.74
M-8	331	9/23/76	8.4	25.5	7.3	5.72	10.0	<0.03	0.04	- -	<0.01	<0.01	<0.5	- -	- -	0.01-0.05	0.60	- -	12.50	0.45
M-14	11	9/23/76	7.9	33.2	17.6	10.71	11.0	<0.03	0.02	0.80	<0.01	<0.01	<0.5	<0.05	0.01	0.01-0.05	1.50	2.38	17.50	0.59
M-15A	45	9/23/76	4.1	26.0	20.6	10.73	8.0	<0.03	0.39	1.87	<0.01	<0.01	<0.5	<0.05	0.01	0.01-0.05	1.20	- -	9.25	0.63
M-19A	37	9/23/76	12/0	42.3	15.1	10.94	12.0	<0.03	1.80	1.35	<0.01	<0.01	<0.5	0.5 - 0.1	0.01	0.01-0.05	1.11	- -	28.33	0.65
M-21A	40	9/23/76	13.3	45.2	13.3	12.10	13.0	<0.03	0.47	- -	<0.01	<0.01	<0.5	- -	0.01	0.01-0.05	2.55	3.16	26.80	0.67
M-25	64	9/23/76	11.1	41.6	15.7	10.82	12.0	<0.03	0.60	0.31	<0.01	<0.01	<0.5	<0.05	<0.01	0.01-0.05	0.84	2.50	30.75	0.63
M-26	528	9/23/76	9.4	30.6	13.4	14.30	12.0	<0.03	0.33	0.61	<0.01	<0.01	<0.5	0.91-0.05	0.07	0.01-0.05	2.63	- -	32.50	- -
M-27	24	9/23/76	9.3	29.4	8.2	6.13	14.0	<0.03	0.14	1.40	<0.01	<0.01	<0.5	*0.95	*0.19	0.01-0.05	1.98	2.44	22.00	0.57
M-29	130	9/23/76	6.7	32.5	25.2	10.44	10.0	<0.03	0.54	1.90	<0.01	<0.01	<0.5	- -	0.03	0.01-0.05	0.4	- -	17.50	0.48
M-30	90	9/23/76	11.0	38.9	18.8	8.03	13.0	<0.03	2.65	0.50	<0.01	<0.01	<0.5	*1.0	0.01	0.01-0.05	0.47	1.32	33.50	0.58
M-31	305	9/23/76	9.7	34.9	15.3	7.14	18.0	<0.03	0.15	0.26	<0.01	<0.01	<0.5	0.05	0.01	0.01-0.05	0.89	- -	13.00	0.54
M-35	191	9/23/76	11.5	38.6	14.6	8.90	10.0	- -	0.57	1.18	<0.01	<0.01	<0.5	0.05	0.02	0.01-0.05	1.00	1.28	21.00	0.66
M-39	134	9/23/76	3.0	23.9	20.0	9.05	8.0	<0.03	0.43	0.62	<0.01	<0.01	<0.5	0.05	0.01	0.01-0.05	0.32	- -	5.80	0.56
M-11	331	9/23/76	12.3	40.9	15.0	11.48	12.0	<0.03	- -	- -	<0.01	<0.01	<0.5	- -	- -	0.01-0.05	1.1	1.7	13.50	0.70

* Sample may be contaminated by brass parts of sampling vessel.

Table 8. Average gas contents in producing wells; percent of dry gas in the steam (and number of samples).

Well Nº	Years	CO_2	H_2S	NH_3*	CO_2/H_2S
M-3	66-70	2.44 (5)	0.19 (5)	-	12.84
M-5	67-75	1.43 (31)	0.18 (31)	0.009 (4)	7.94
M-8	67-75	3.38 (53)	0.30 (53)	0.009 (3)	11.26
M-9	67-75	1.32 (31)	0.17 (31)	-	7.76
M-10	67-70	4.73 (8)	0.25 (8)	-	18.92
M-11	67-75	1.83 (17)	0.24 (17)	0.009 (2)	7.63
M-15A	74-75	2.50 (10)	0.23 (10)	0.010 (3)	10.87
M-19A	75	1.51 (7)	0.20 (7)	0.009 (3)	7.55
M-20	68-75	2.62 (22)	0.233 (22)	0.010 (3)	11.24
M-21A	74-75	1.91 (9)	0.184 (9)	0.010 (3)	10.38
M-25	74-75	1.51 (9)	0.183 (9)	0.009 (3)	8.25
M-26	67-75	1.63 (28)	0.204 (28)	0.009 (1)	7.99
M-29	69-73	3.43 (13)	0.205 (13)	-	16.73
M-30	74-75	1.30 (8)	0.182 (8)	0.008 (3)	7.14
M-31	68-75	2.50 (21)	0.240 (21)	0.009 (3)	10.42
M-34	68-75	1.82 (17)	0.172 (17)	0.010 (3)	10.58
M-35	74-75	1.17 (8)	0.168 (8)	0.010 (3)	6.96
M-38	68-69	4.02 (46)	0.274 (46)	-	14.67
M-39	74	2.78 (1)	0.290	-	9.59

* NH_3 analyses of 1975.

Table 9. Chemical Composition of Springs in ppm (Mercado, 1968).

Spring No.	Temp °C	pH	Acidity CO_2	Na	K	Li	Ca	Mg	Cl	Br	SO_4	HCO_3	SiO_2	Na/K atomic	Na/Li	Na/Ca	Cl/SO_4	Ca/Mg
1	51	6.8	15	4,050	655	12.6	359	49	8,360	4.3	41	308	123	10.5	97	19.7	553	4.4
2	75	6.35	20	4,050	642	11.5	405	63	8,640	4.6	30	366	112	10.7	106	17.4	782	3.9
3	94	6.85	15	4,200	680	14.7	375	25	10,000	6.6	39	290	81	13.0	107	24.2	702	9.1
4	82	6.50	18	3,300	510	12.7	459	91	9,250	12.1	21	414	93	11.0	78	12.5	1,212	3.0
5	41	2.0	410	1,700	160	2.5	468	98	2,900	0	225	0	295	18.1	205	6.2	35	2.9
6	68	6.15	20	4,050	662	8.5	296	53	9,000	6.1	92	122	87	10.4	135	24.4	270	3.4
7	93	7.55	22	3,950	688	10.2	304	12	9,050	25.5	62	98	114	9.7	117	22.6	403	15.8
8	85	7.08	15	3,830	640	10.2	329	18	8,650	9.1	76	110	120	10.2	113	20.4	302	11.4
9	16	4.60	85	19,000	1,850	61.0	2,710	568	41,000	6.5	3,650	244	138	17.4	94	12.2	33	2.9
10	32	6.20	28	3,900	447	12.0	440	92	8,280	7.5	143	488	159	14.4	98	15.3	158	2.9
11	29	3.60	110	7,000	1,044	17.4	760	206	13,760	21.1	1,060	0	119	10.8	121	16.0	35	2.2
12	36	2.60	110	2,930	570	8.3	246	22	6,730	-	260	0	273	8.7	106	20.7	71	6.7
13	74	3.73	38	4,170	741	-	327	13	8,500	-	186	6	222	9.6	-	22.3	125	15.2
14	79	4.25	30	4,150	598	-	454	3	8,000	8.7	328	6	253	11.8	-	15.8	67	86.0
15	16	5.85	900	79,800	6,890	220.0	5,880	2,020	183,000	-	1,275	732	36	17.1	109	23.5	395	1.7
16	19	5.95	230	48,000	3,700	105.0	4,170	1,730	99,500	2.5	3,640	132	71	22.0	138	20.0	75	1.5
17	40	6.05	30	3,750	546	10.0	340	51	7,570	6.9	88	224	96	11.7	113	19.1	235	4.0
18	20	5.50	70	27,800	2,430	69.0	2,680	948	58,400	3.7	3,310	584	81	19.4	121	18.1	48	1.7
19	45	5.57	40	6,400	1,030	19.0	622	120	12,340	21.9	630	122	166	10.6	101	17.9	53	3.1
20	44	6.25	40	3,140	390	8.9	392	65	6,450	8.2	115	488	130	13.7	106	13.9	154	3.6
21	80	7.02	15	5,150	670	13.2	400	46	10,500	-	130	194	87	13.1	118	22.4	221	5.3
22	75	6.48	20	4,250	535	11.6	340	24	8,600	12.3	20	98	101	13.5	110	21.7	1,215	8.5
23	80	6.65	0	4,970	555	11.8	720	96	10,050	14.3	350	352	59	15.2	127	12.0	82	4.5
24	30	5.05	42	13,200	1,180	28.2	1,625	292	26,300	19.0	2,960	84	186	19.0	141	14.3	24	3.4
25	37	5.55	38	4,620	695	10.9	335	39	9,100	13.3	45	74	162	11.3	128	24.0	553	5.1
26	78	6.28	40	4,100	540	11.3	358	51	8,040	11.4	4	452	100	12.9	109	20.0	718	4.2
27	66	6.65	20	4,080	545	9.9	360	64	7,900	8.4	21	388	108	12.7	124	19.6	895	3.4
28	75	6.45	30	4,270	603	10.8	410	56	7,930	6.9	19	388	121	12.9	119	18.1	1,145	4.4
29	78	8.15	0	4,250	610	10.9	380	17	8,300	13.0	13	74	94	11.8	118	19.5	1,705	13.8
30	56	7.33	15	4,000	537	9.5	364	19	7,930	12.3	17	114	88	11.7	127	19.1	1,273	11.6
31	83	8.35	0	4,350	657	10.8	354	8	8,400	-	17	30	70	11.2	124	21.4	1,355	27.3
32	54	6.35	40	3,770	664	11.4	394	55	7,120	1.4	91	438	134	9.6	100	16.7	216	4.3
33	60	6.48	30	3,380	580	10.2	348	80	6,890	1.0	55	438	103	9.9	100	16.9	342	2.6
34	85	6.75	10	3,850	757	10.8	325	53	7,700	6.4	244	98	114	8.7	107	20.5	86	3.7
35	73	6.75	10	4,100	990	11.9	316	24	8,360	14.6	102	48	100	7.0	104	18.1	242	8.0
36	36	6.70	28	3,660	540	9.9	344	39	7,600	5.8	8	282	130	11.4	111	18.3	2,670	5.3
37	27	6.40	38	6,000	800	18.4	1,436	105	12,250	16.6	1,920	204	80	12.8	99	7.2	17	8.2
38	65	4.68	70	4,370	425	8.0	1,060	753	9,950	17.6	378	12	95	17.5	165	7.2	72	0.8
39	25	1.65	240	3,950	420	9.0	612	332	8,000	10.9	702	0	126	16.0	132	11.2	31	1.1
40	65	4.05	75	6,000	670	13.5	1,160	706	13,700	18.0	264	12	104	15.0	134	9.0	142	1.0

Table 9. (Continued)

Spring No.	Temp °C	pH	Acidity CO_2	Na	K	Li	Ca	Mg	Cl	Br	SO_4	HCO_3	SiO_2	Na/K atomic	Na/Li	Na/Ca	Cl/SO_4	Ca/Mg
41	40	2.40	180	4,100	1,010	12.1	407	81	8,410	9.4	690	0	247	7.0	102	17.4	33	2.8
42	37	6.55	20	5,800	1,110	20.0	641	71	11,950	21.9	8	390	375	9.0	87	15.7	390	5.5
43	60	6.70	20	3,700	567	10.8	391	68	7,350	7.8	18	268	114	11.1	103	16.4	1,120	3.5
44	33	1.56	218	6,020	600	10.6	698	347	13,150	15.6	429	0	172	17.5	172	15.1	98	1.2
45	26	7.75	10	5,000	1,040	16.2	450	28	10,000	-	20	122	80	8.3	93	19.5	138	9.6
46	63	6.55	20	4,620	565	13.4	415	55	8,820	11.4	6	212	93	13.9	101	19.5	382	4.5
47	46	6.35	25	4,450	540	13.9	435	49	8,500	-	7	232	125	14.0	97	17.6	3,600	5.9
48	69	6.44	30	3,700	500	10.7	358	61	7,070	9.4	5	484	80	12.5	104	18.0	3,730	3.6
49	57	6.50	40	1,350	233	4.4	283	20	2,930	-	960	128	45	9.8	92	10.1	8	8.5
50	69	7.10	30	250	91	1.0	34	2	793	0	225	340	40	4.6	75	12.7	9	8.6
51	65	8.0	0	4,860	1,200	15.8	381	7	10,150	17.2	28	60	92	6.9	93	22.0	987	35.0
52	33	1.32	3,605	510	305	0.6	116	-	0	-	7,025	0	395	2.8	256	7.6	-	-
53	56	5.70	88	4,760	1,210	16.0	416	19	10,160	-	172	158	114	6.7	90	19.8	162	14.0
*54	98	7.4	0	3,700	400	8.0	492	38	6,700	-	130	42	92	15.5	139	13.0	141	7.9
*55	100	8.1	0	4,010	430	8.5	488	39	7,070	-	112	22	81	15.8	145	14.3	173	7.8
*56	100	7.8	0	3,900	410	8.0	480	48	6,930	-	107	36	74	16.1	147	14.1	178	6.2
*57	100	7.5	0	3,700	415	8.3	458	35	6,510	12.0	132	40	80	15.1	135	14.1	136	7.9
58	35	6.65	58	3,780	495	10.8	360	82	7,240	14.7	5	624	80	13.0	106	18.3	3,750	2.7

* Tulecheck; 100°C Springs, 17 km N-W of Cerro Prieto Volcano.

Table 10. Chemical Analyses of Springs Sampled Six Times During One Year (mg/l).

Spring	Sample Number	Date	Temp °C	Flow Conditions	Na	K	Ca	Cl	B	SiO_4	Na/K atomic
Spring No. MF-1	580	21-III-72	-	-	4625	512.5	294.5	8001	8.8	350.2	15.34
	585	20-V-72	-	-	3500	355.0	335.4	7925	8.6	-	16.76
	609	12-XIII-72	-	-	3750	365-0	352.4	7985	7.9	345.0	17.46
	614	11-IX-72	92	11 lts/Min	4175	475.0	328.0	8123	8.3	325.0	14.93
	626	29-XI-72	94	-	4175	887.5*	336.0	8167	9.0	360.0	7.99*
	636	20-XIII-72	88	-	4300	937.0*	330.0	8167	8.5	340.0	7.8*
				Averages:	4100	585.	329.	8060	8.5	344	12.0
Spring No.H-1-20	603	9-VIII-72	93	N.D.	3850	500.0	295.1	6866	5.3	-	13.0
	613	9-IX-72	98	N.D.	3837	543.7	276.0	7126	7.7	117.5	12.0
	618	16-X-72	85	N.D.	3775	531.2	264.0	6842	6.2	110.0	12.07
	623	24-XI-72	95	N.D.	3812	487.5	292.0	7021	9.7	105.0	13.29
	632	15-XII-72	96	N.D.	3726	487.0	276.0	7022	14.7*	110.0	13.1
				Averages:	3800	510.	280.6	6975	7.2	111.	12.7
Spring No. 17	593	10-VII-72	47	10 lts/Min	3912	425	390.6	7072	5.2	153.3*	15.64
	605	9-VIII-72	-	-	4000*	587.5*	624.9*	23150*	9.7*	100*	39.0*
	616	13-IX-72	50	5 lts/Min	4000	450.0	272.0	7275	6.9	125	15.10
	617	16-X-72	44	-	5435	562.0	272.0	7341	6.5	115	16.44
	622	24-XI-72	44	-	4000	412.5	272.0	7270	9.5	100	16.48
	630	15-XII-72	36	-	3875	395.0	272.0	7470	9.3	105	16.7
				Averages:	4244	449.	296.	7286	7.5	119	16.1
Spring No. 21	571	29-I-72	61	low	3000	407.5	192	5280	10.9	105	12.5
	573	18-II-72	64	low	3000	405.0	214	5516	6.8	110	12.6
	577	15-III-72	67	low	3437	675.0*	216	5806	8.1	145	8.65
	581	28-LV-72	68	-	3300	425.0	212	5773	8.6	120	13.2
	583	18-V-72	71	4 lts/Min	4012	470.0	249	6604	8.0	135	14.5
	590	22-VI-72	68	4 lts/Min	3675	452.5	250	6649	8.0	125	13.8
	597	20-VII-72	64	minimal	3687.5	490.0	206.4	6730	6.2	110	12.8
	601	8-VIII-72	-	-	3750	475.0	256.0	6600	N.D.	13.4	
	602	9-VIII-72	-	-	4000*	537.5*	390.6*	7289.7*	6.4*	12.65	
	631	15-XII-72	56	N.D.	3500	462.0	248	6225.0	8.6	90	12.9
				Averages:	3536	458.3	227	6131	7.3	122	12.8

* Not included in the averages.

Table 10. Chemical Analyses of Springs Sampled Six Times During One Year (mg/l).

	Sample Number	Date	Temp °C	Flow Conditions	Na	K	Ca	Cl	B	SiO_4	Na/K atomic
Spring No. 22	2	11-I-67	48	-	5050	570	324	8220	53.8	118.5	15.0
	46	11-II-67	32	-	5275	615	315	8560	34.1	121.0	14.6
	78	17-III-67	38	-	5450	650	317	8650	N.D.	N.D.	14.2
	101	11-IV-67	42	-	5830	684	316	8800	N.D.	N.D.	14.5
	125	12-V-67	48	-	5575	675	320	8920	N.D.	N.D.	14.0
	149	8-VI-67	50	-	5500	690	342	8780	58.9	N.D.	13.5
	173	3-VII-67	41	-	5625	690	336	8940	42.4	N.D.	13.8
	209	8-VIII-67	55	-	5675	750	336	8120	38.8	N.D.	12.80
				Averages:	5497	665	326	8624	45.6	119.7	14.05
Spring No. 31	9	18-I-67	62	-	5325	660	344	8930	35.9	103.5	13.7
	48	17-II-67	62	-	5400	685	357	8900	44.7	86.0	13.4
	79	17-III-67	62	-	5750	700	347	8900	N.D.	N.D.	13.96
	102	11-IV-67	67	-	5400	710	336	9040	N.D.	N.D.	12.9
	126	12-V-67	69	-	5625	740	364	9100	N.D.	N.D.	12.9
	150	8-VI-67	70	-	5800	724	344	9060	63.9*	N.D.	13.6
	174	3-VII-67	70	-	5650	736	348	9050	33.0	N.D.	13.0
	210	8-VIII-67	69	-	6050	730	356	9120	40.2	N.D.	14.10
				Averages:	5625	711	349	9012	38.4	94.7	13.45
Spring No. 31B	594	10-VII-72	94	10 lts.Min	4812	737.5	329.8	8289	8.7	137.5	11.08
	604	9-VIII-72	-	-	4300	675.0	329.8	8235	6.8	90.0	11.83
	612	9-IX-72	100	-	4562	681.0	316.0	8372	8.9	100.0	11.4
	624	24-XI-72	49	-	4425	725.0	324.0	8366	10.1	95.0	10.37
	633	15-XII-72	92	-	4550	712.0	316.0	8416	11.5	120.0	10.9
				Averages:	4556	715	323.	8370	8.7	106.	11.0
Spring No. 45	567	29-I-72	61	Fair	4550	480.0	436	8866	11.2	190.0	16.1
	574	18-II-72	54	Fair	4800	487.5	448	8737	10.3	145.0	16.7
	578	15-III-72	58	Fair	5187	762.0*	396	8685	10.5	135.0	11.57*
	586	20-V-72	58	0.5 Lts/Min	4625	487.0	451	8806	9.1	175.0	16.05
	593	23-VI-72	55	1 Lt/Min	4525	440.0	472.6	8865	9.2	160.0	17.5
	598	20-VII-72	55	0.8 Lts/Min	5000	495.0	464.0	8681	8.0	137.5	17.1

* Not included in the averages.

Table 10. Chemical Analyses of Springs Sampled Six Times During One Year (mg/l).

Spring	Sample Number	Date	Temp °C	Flow Conditions	Na	K	Ca	Cl	B	SiO_4	Na/K atomic
Spring No. 45	606	9-VIII-72	61	N.D.	4887.5	572.5	451.3	8668	7.8	125.0	14.5
	615	11-IX-72	65	4 lts/Min	4675	587.5	440.0	8770	815	115.0	13.52
	620	17-X-72	63	-	4625	500.0	424.0	8740	8.3	120.0	15.73
	628	29-XI-72	59	-	4875	505.0	432.0	8814	10.8	155.0	16.41
	634	18-XII-72	64	N.D.	4750	550.0	426.0	8864	9.7	135.0	14.7
				Averages:	4773	510.	440.	8772	9.4	145.	15.8
Spring No. 48	4	11-I-77	58	-	4400	500	358	7400	36.6	120	14.96
	49	17-II-67	56	-	4725	532	374	7650	32.3	86	15.10
	77	11-I-67	58	-	4675	520	352	7470	N.D.	N.D.	15.30
	103	11-IV-67	64	-	4876	552	368	7600	N.D.	N.D.	15.00
	127	12-V-67	62	-	4875	540	360	7560	N.D.	N.D.	15.30
	151	8-VI-67	65	-	4850	530	360	7540	44.9	N.D.	15.5
	175	3-VII-67	64	-	4700	540	356	7470	26.9	N.D.	15.00
	211	8-VIII-77	63	-	5250	555	352	7500	27.3	N.D.	16.10
				Averages:	4794	34	360	7524	33.6	103	15.3
Spring No. 60	565	28-I-72	50	Regular	7100*	905*	644*	14747*	15.6	100	13.3
	575	18-II-72	68	Regular	3625	3375	244	6235	8.7	120	18.3
	579	15-III-72	70	Regular	3787.5	592*	232	6177	9.0	110	10.9
	589	28-V-72	51	1.2 Lts/Min	5250*	915*	267	6262	7.2	200	9.75
	591	22-VI-72	78	2 Lts/Min	3800	375	290.8	7092	8.7	182.5	17.2
	596	20-VII-72	72	1.2 Lts/Min	3675	350	256	6145	6.0	190	17.8
	607	9-VIII-72	71	N.D.	3625	362.5	269	6403	6.2	115	17.0
	610	9-IX-72	68	N.D.	3250	347	246	6249	5,7	152.5	15.9
	621	17-X-72	82	N.D.	3625	350	236	6193	5.3	165.0	17.60
				Averages:	3627	354	255	6344	7.10	148.3	15.2
Spring No. 61	600	27-VII-72	79	Fair	3575	475.0	N.D.	6584	N.D.	120.0	12.79
	608	12-VIII-72	89	-	3675	482.5	556*	6600	5.6	110.0	12.55
	611	9-IX-72	86	-	3437	543.0	264	6718	6.0	127.5	10.7
	625	29-XI-72	90	-	4062	500.0	252	6723	8.1	165.0	13.81
	635	20-XII-72	90	-	3875	475.0	260	6673	7.5	170.0	13.9
				Averages:	3725	495	258.7	6659	6.8	138.5	12.75

* Not included in the averages.

Table 11. Gas Analyses of Fumaroles (percent volume of dry gases).

Fumarole Number	Sample Number	Date	Temp. °C	CO_2	H_2S	NH_3	Residual Gas	Moles Total Gas / Moles Water
FV-1	36	25/ 3/72	100	50.1	11.9	0.27	35.8	0.027
	37	25/ 3/72	100	56.5	12.0	0.27	31.3	0.028
	41	19/ 5/72	-	58.7	12.1	0.30	28.9	0.022
	45	26/ 6/72	-	59.9	12.9	0.30	28.9	0.028
	47	22/ 7/72	-	57.8	13.0	0.35	28.5	0.023
	52	14/ 8/72	-	49.6	7.8	0.50	42.1	0.029
	54	12/ 9/72	-	54.6	11.6	0.32	33.6	0.033
	67	22/12/72	-	57.7	10.3	0.26	31.7	0.036
MF-1	34	23/ 3/72	91	26.9	10.3	-	62.8	-
	35	23/ 3/72	91	33.5	9.8	-	56.7	-
	42	20/ 5/72	92	25.3	6.7	-	68.0	-
	44	23/ 6/72	92	9.0	2.3	-	88.8	-
	48	24/ 7/72	83	5.3	1.7	-	93.0	-
	49	27/ 7/72	83	15.9	3.9	0.31	79.9	-
	51	12/ 8/72	92	23.3	5.7	0.02	71.0	0.218
	53	11/ 9/72	92	13.0	3.0	0.003	84.0	1.13
	63	20/12/72	88	8.2	1.8	0.003	90.0	1.22
F-42	31	3/ 3/72	-	45.8	27.0	2.5	24.8	0.0061
	32	3/ 3/72	-	38.8	27.4	2.1	32.3	0.0064
	33	6/ 3/72	-	52.6	21.8	1.8	23.8	0.0056
	38	27/ 3/72	-	48.7	12.9	1.9	36.5	0.0045
	39	28/ 4/72	-	52.2	14.2	2.1	31.6	0.0056
	40	18/ 5/72	-	44.5	10.2	2.3	43.0	0.0047
	43	22/ 6/72	-	43.4	12.3	1.3	43.0	0.0060
	46	21/ 7/72	-	46.3	11.2	3.8	38.7	0.0058
	50	11/ 8/72	-	50.0	7.7	2.1	40.2	0.0061
	56	14/ 9/72	-	39.3	4.9	2.1	53.7	0.0077
	61	4/11/72	-	46.9	9.6	3.5	40.0	0.0040
	65	21/12/72	-	68.4	9.7	5.0	16.9	0.0030